



Project portfolio formation as an organizational routine: Patterns of actions in implementing innovation strategy

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ABSTRACT

Implementing strategy through an innovation project portfolio starts with project portfolio formation. The routine of project portfolio formation is especially influential, as it includes identifying, screening, and prioritizing the projects that shape the eventual portfolio. Comprehensive understanding of the project portfolio formation routine is important for addressing the simultaneous pressures for continuity and renewal when implementing innovation strategy. This study explores portfolio actors' behavioral patterns in the project portfolio formation routine to understand their contextuality and implications on innovation strategy implementation. A multiple-case study with innovative companies reveals a comprehensive framework of governing and empowering actions and organization-specific patterns of actions. Differences between organizations in the combination of governing and empowering actions may be explained by innovation types, and the size and history of the organization. The behavioral patterns of project portfolio formation can provide organizations with a foundation for implementing both continuity- and renewal-oriented innovation strategies.

1. Introduction

Implementing an organization's innovation strategy through projects requires the formation of a project portfolio that balances both continuity and renewal. Project portfolio management (PPM) literature often focuses on the ways that projects are selected to the project portfolio, that is, project portfolio selection and decision making (Linhart et al., 2020; Vieira et al., 2024). Later stages of PPM include monitoring, steering, and control (Beringer et al., 2012; Mosavi, 2014; Nguyen et al., 2018), and adjustment and reconfiguration (Gomes et al., 2023; Petit, 2012; Petit & Hobbs, 2010). However, key actions concerning a project portfolio take place much before official decision making, already when early ideas for prospective projects emerge. This study concerns the routine preceding project portfolio selection and decision making, here labeled project portfolio formation. The position of PPF as part of PPM is illustrated in Fig. 1.

Project portfolio formation (PPF) is the first stage of PPM (Gomes et al., 2023). During PPF, project ideas are identified, evaluated, and compiled into a prospective portfolio, before formal selection and decision making. Sometimes portfolio decision making and resource allocation are included as part of PPF (Gomes et al., 2023), or merely the

operative action of portfolio or project selection and decision making are considered without attention to portfolio formation as such (Kester et al., 2011, 2014; Killen et al., 2020; Linhart et al., 2020). However, there is a need to understand PPF actions preceding decision making, because possibilities for strategic continuity and renewal emerge already when identifying ideas for innovation projects. The processes in setting direction for a project portfolio cannot be viewed merely as technical prioritization tasks, but they are social and political leadership tasks, too (Kortantamer, 2024; Röth et al., 2019). Especially with innovation project portfolios, there is a need to enable the continuity-oriented and renewal-oriented innovation projects to emerge, thereby facilitating optimal, balanced project portfolio decisions.

In this paper, we adopt the lens of organizational routines to study PPF in innovation. Organizational routines are the repeated practices, behavioral patterns, and standard operating procedures used to implement tasks (Feldman, 2000), generally "bound by rules and customs that do not change very much from one iteration to another" (Feldman, 2000, p. 611). PPM has already earlier been viewed as organizational capability that contains various routines, enabling the evolution and adaptation of the project portfolio with its surroundings (Bredillet et al.,

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2018). The use of formalized PPM routines is associated with PPM success (Gemünden et al., 2018; Kock et al., 2020; Teller et al., 2012). However, the use of formalized routines does not always yield the expected outcomes, particularly in turbulent conditions (Kock & Gemünden, 2016), raising questions about the contextual and situational nature of routines in PPM. There is a need for further empirical research to better understand the unfolding of organizational routines for PPM (Clegg et al., 2018; Martinsuo, 2013; Martinsuo & Geraldi, 2020), and for PPF in particular.

Our interest is in the strategically important organizational routine of PPF. It includes various actions that portfolio actors use to identify opportunities, explore potential new projects (Kopmann et al., 2017), and prepare for portfolio selection and decision making (Gomes et al., 2023). Organizations use a range of actions for identifying, evaluating, and prioritizing projects for consideration in project portfolio decisions (Jonas et al., 2013; Teller et al., 2012), such as workshops and events to produce innovative ideas (Gupta et al., 2022); templates and information systems to create and register project proposals (Annosi et al., 2020); evaluation criteria to compare project proposals (Aghajani et al., 2023; Martinsuo & Poskela, 2011; Spieth & Lerch, 2014); and steering committee meetings to evaluate the project proposals (Christiansen & Varnes, 2008; Mosavi, 2014). Through these actions, PPF prepares an organization for the selection of those projects that would best support the organization's innovation strategy. Although many actions in the PPF routine have been explored previously, the actions have emerged across separate studies.

Some research has challenged the assumption that portfolio actors follow formalized routines by noticing portfolio actors' flexibility and proactiveness when responding to situation-specific requirements (Bredillet et al., 2018; Jerbrant & Karrbom Gustavsson, 2013; Kortantamer, 2024). There have been calls for more research on aspects such as voice behaviors and extra-role behaviors in connection with the strategic management of project portfolios (Clegg et al., 2018; Kopmann et al., 2017), requesting attention to the informal aspects of PPF.

This study is motivated by the need to understand the complete behavioral patterns of actions in the organizational routine of PPF across different contexts. The goal is to understand the way organizations pursue continuity and renewal in implementing their innovation strategy through their PPF actions. This is achieved by investigating the following research question: *How do portfolio actors implement the PPF routine in different contexts?* Of interest are the types and patterns of actions used in the PPF routine by portfolio actors (i.e., managers, committees, coordinators, and other experts involved in forming the innovation project portfolio). We argue that differing organizational contexts influence the combination of actions used in the PPF routine, affecting the project portfolio decisions and the ways innovation strategy is implemented. The analysis specifically focuses on innovation project portfolios (i.e., research and development, technology

development, business development), and it does not cover the other types of projects in the firms' business (system deliveries).

Our study gives shape to PPF as a central mechanism for implementing innovation strategy: PPF simultaneously enacts existing competences efficiently in the pursuit of continuity and allows novel, entrepreneurial behaviors to drive renewal. PPF is not merely a governing task of filtering the right projects with the right contents into the project portfolio, but it is also an empowering task where portfolio actors take social and political actions to expand and enrich the portfolio scope beyond the extant capability base. Our findings reveal an interplay between governing actions and empowering actions and demonstrate their contextual variation. As the patterns of actions in the PPF routine appear related with innovation type, company size, and PPM maturity, the organizational routine evolves constantly through how portfolio actors react to or anticipate the stimuli from the context. We argue that organizations adjust the relation between governing and empowering actions of the PPF routine situation-specifically and, thereby, modify the extent of innovativeness when implementing their innovation strategy through the project portfolio.

The following chapter introduces the theoretical framing of organizational routines and prior research on actions in the PPF routine. Next, the qualitative four-case study is established and a framework is developed for mapping the actions used in each organization's PPF routine. Two types of actions are identified: governing and empowering. Governing actions include strategic directing, managing ideation, and preparing for decision-making, whereas empowering actions include strategic influencing, stimulating ideation, and informing decision-making. The differences in the companies' patterns of actions are revealed, and the alignment between these patterns and the innovation type and company size and history are examined. The combination of governing and empowering actions as part of the organizational routine of PPF is discussed as a foundation for enabling strategy implementation, and propositions are made to guide further research.

2. Literature review

In this study, we adopt the lens of organizational routines to study PPF. Organizational routines represent the microfoundations of resources and capabilities (Felin et al., 2012), that is, organizations use routines to build, exploit, and renew their capabilities and achieve their goals. Organizational routines tend to contain standard behaviors that are repeated in the same way and in the same order in different situations (Feldman, 2000). The regularities and recurrences may also represent norms or rules of behavior in given circumstances, or rules of thumb (Becker, 2005). As organizational routines take place in the organizational context, they are collectively known and used by different organizational actors (Becker, 2005; Feldman & Pentland, 2003). Organizational routines have been suggested as relevant to PPM

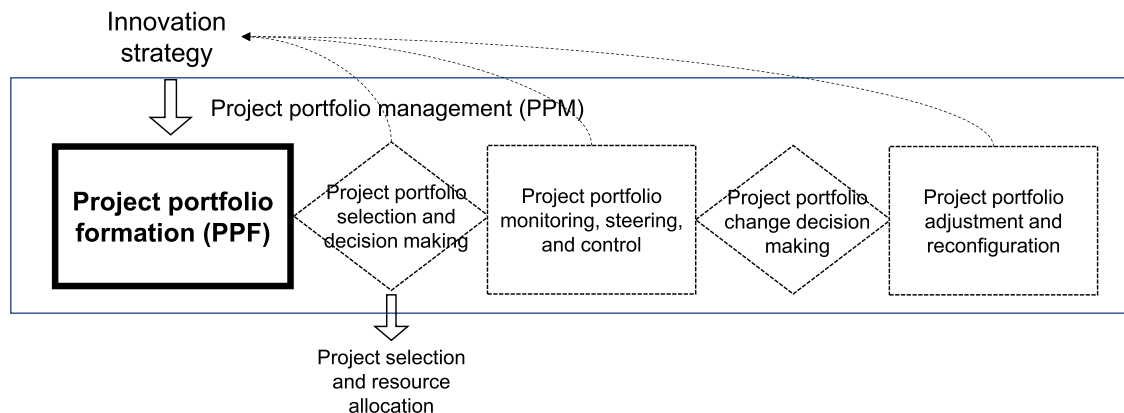


Fig. 1. The position of PPF as part of PPM.

(Bredillet et al., 2018), and we concentrate on PPF as an organizational routine.

Of particular interest to us is the understanding that organizational routines have been portrayed as mechanisms for continuity and renewal at the same time. The definition of organizational routines as patterns of action (cf., Feldman, 2000) draws attention to the actions that comprise the routine, and Feldman (2000) already quite early advocated that routines are a source of continuous change, even if they are believed to be stable. Ostensive routines are the generalized, official ideas of routines, but all routines are performed differently and through the actions of people in given circumstances (Feldman, 2000; Feldman & Pentland 2003). Thereby, individuals' way of performing the routine generates variation and change in the routine itself and, therefore, in the organization's capabilities. The evolving and change-generating aspect of employees' agency in performing organizational routines has been researched broadly (Aroles & McLean, 2016; Pentland et al., 2012; Yi et al., 2016), and it is relevant in the context of innovation project portfolios, too.

2.1. Innovation strategy, continuity and renewal, and routines

Innovation project portfolios pursue a balance of continuity and renewal to implement the organization's innovation strategy. Organizations implement innovation projects with an ambition to exploit their existing capabilities efficiently, while at the same time exploring and creating new capabilities (as in ambidexterity, Brasil et al., 2021; Killen et al., 2023). This implies also the need to balance short-term and long-term interests in the project portfolio (Hoffmann et al., 2020). Organizations must be able to select such radical and incremental innovation projects that can guarantee desirable innovation outcomes from the entire portfolio, even if the decisions are complex and uncertain (Kester et al., 2011, 2014). They could also regulate the portfolio to augment and reduce uncertainties, acknowledge different stakeholders' viewpoints, and enable the simultaneous pursuit of competing goals (Gomes et al., 2023). The actions taken have consequences on the decisions and the degree of a portfolio's innovativeness (Globocnik et al., 2022; Röth et al., 2019). This dual intent of continuity and renewal is apparent in innovation strategies that guide PPF.

The lens of organizational routines ties schemas such as innovation strategies with action, and action must be treated situation-specifically to understand routine performances. Innovation strategy can be considered as an interpretive schema that creates a common base of action (Rerup & Feldman, 2011), here in the form of PPF. Actions create resources to enact schemas and create new resources (Feldman, 2004) and individuals may perform the actions differently in implementing the routine (Pentland & Feldman, 2005), thereby implementing strategies. The innovation strategies are typically featured in the portfolio optimization models (Meifort, 2016) and strategy, market, and technology assessment criteria used to evaluate and prioritize the innovation projects (Martinsuo & Poskela, 2011), but people may interpret and act on such criteria and models differently. Such criteria represent capabilities developed in the past and a causal logic (Nguyen et al., 2018) and they tend to advocate continuity in implementing strategy, using the existing capability base.

Irrespective of the portfolio model and criteria used, organizations need to be adaptive in their innovation project portfolios (Kaufmann et al., 2020), stay alert to changes in the environment (Bechtel et al., 2023; Kock & Gemünden, 2016; Röth et al., 2019), and use entrepreneurial reasoning (Nguyen et al., 2018). Indeed, the strategic alignment of innovation projects continues over time, as projects and their circumstances change (Martinsuo & Anttila, 2022), and also the criteria for assessing project may evolve in dynamic contexts (Nguyen et al., 2018). Innovation projects have a role to play not only in implementing a formal strategy but also in guiding future strategy emergence as they can reflect trends not yet incorporated in a formal strategy (Kopmann et al., 2017). The recent attention to leadership in project portfolios echoes the

need for flexibility, in setting direction for the project portfolio (Kortantamer, 2024). PPF can both enable the delivery of plans and provide mechanisms to keep strategies relevant in dynamic environments.

Previous routine research offers evidence of the dual pursuit of continuity and renewal (efficiency and novelty) through the context-specific actions. For example, the study of Maalouf et al. (2020) on franchising indicated that the franchisor's strategy choice is connected with their franchisee selection and, consequently, the tendency of franchisees to either replicate or adapt certain organizational routines. In turn, trial-and-error learning in the enactment of routines may lead to schema change when individuals cope with the requirements of circumstances (Rerup & Feldman, 2011). The same routines may also be used for achieving simultaneous, conflicting goals. For example, Salvato and Rerup (2018) reported how organizational members used a product development routine to achieve the conflicting goals of efficiency and novel design. The context may constrain how the routine is performed (Howard-Grenville, 2005). The organizational routine literature has already acknowledged the actors' context-specific adaptation (Maalouf et al., 2020), and deliberation and use of their own discretion in routine performances (Møller, 2021). Such studies, however, have not concerned the context of innovation project portfolios.

While current studies of project-related routines do not cover PPF explicitly, some of them suggest routines as a key enabler for the simultaneous pursuit of continuity and renewal in organizations that implement projects. Bresnen et al. (2005) explored the enabling and constraining aspects of extant project management routines and learning in four project-based organizations. Hedborg et al. (2020) covered the emergence of coordination practices and routines in inter-organizational settings. The conceptual study by Bygballe et al. (2021) emphasized individuals' agency, routines' relationship with artifacts, and situation-specific implementation as important aspects of routine dynamics in project-based organizations. The case study by Bredillet et al. (2018) revealed the co-evolution of project management offices and PPM stemming from changes in PPM routines. As such studies do not concern PPF specifically, we next analyze extant knowledge about the actions and action patterns within PPF in project portfolio research.

2.2. Actions in the PPF routine

While the dominant understanding of innovation portfolio management concerns finding the optimal composition of projects, turning the strategic plans into action, and making and updating portfolio decisions, some studies also concern *how* this takes place in practice among the organizational actors (Meifort, 2016). Actions included in the formal (ostensive) routine of PPF have been covered by Stettina and Hörz (2015) as domains of practice: 1) strategize and roadmap; 2) identify and funnel; and 3) review, prioritize, and balance. They add a fourth domain, allocate and delegate, which relates more to the portfolio decisions. Previous research in these topics shows evidence of some performative aspects of the PPF routine, as summarized below.

2.2.1. Directing strategically

A key action covered in prior research concentrates on specifying the strategic areas of emphasis (e.g., strategic goals, strategic buckets, or strategy guiding innovations) that define the boundaries between the project portfolios. It is generally understood that projects should be planned and selected so that they fit the strategy of the organization (Clegg et al., 2018; Kopmann et al., 2015). Innovation strategies often provide guidance on the need to balance project types in the portfolio. This is particularly important to ensure that the risks from uncertain or radical, renewal-oriented projects are balanced by projects pursuing continuity in a lower risk, incremental fashion (Killen et al., 2023; Sun et al., 2020). Some survey studies use constructs such as strategic clarity or formal innovation strategy to offer evidence on portfolio actors using an explicit, communicated, and understandable strategy to guide project

portfolio decision-making (Bechtel et al., 2022; Globocnik et al., 2022; Kock & Gemünden, 2016). Other constructs associated with research on directing strategically include ideation strategy – deducing goals and conditions for ideation from the strategies and goals of the organization (Kock et al., 2016); translating strategy – breaking down strategic goals into portfolio goals to set direction (Gupta et al., 2022); and strategic buckets – dividing funding to reflect strategy (Spieth & Lerch, 2014).

2.2.2. Managing project ideation

While idea generation is extensively studied at the level of single innovation projects and as part of innovation processes (Chamakiotis et al., 2020; Eling et al., 2014), only a few studies tackle it from the perspective of PPF. In PPF, an organization's actions encompass how ideation is organized and how the ideas are documented in preparation for their assessment and selection. Some studies draw attention to identifying new project opportunities required to achieve the strategic goals (Gupta et al., 2022), whereas other studies concentrate on collecting the ideas, for example through competitions or games, and registering them into idea management systems such as web-based tools or other platforms (Globocnik et al., 2022). Recently, there is increased attention in documenting the business cases of proposed innovation projects (Bechtel et al., 2022; Gupta et al., 2022; Kopmann et al., 2015).

2.2.3. Screening project proposals

A significant proportion of extant research on PPF actions deals with assessing, screening, and prioritizing the project proposals, so that they together implement the innovation strategy, maximize the portfolio value, and achieve balance in innovation types (Meifort, 2016). Some studies consider general approaches to screening such as following organizational structures and responsibilities (Stettina & Hörz, 2015) or following standard operating procedures (Spieth & Lerch, 2014). Other studies involve the use of steering committee meetings (Christiansen & Varnes, 2008; Kock & Gemünden, 2016) or using question lists, scoring models, and assessment criteria (Gupta et al., 2022), or a combination of some of these factors (Kock et al., 2015, 2016). Increasingly, there is an emphasis on the importance of visualizing the project portfolio data to assist in portfolio decision-making (Kock et al., 2015; Killen et al., 2020; Spieth & Lerch, 2014).

The above PPF actions are well known as good practices preceding innovation project portfolio selection, and the empirical examples suggest that the ostensive PPF actions are also implemented in practice by the organization's actors. However, the actions tend to be explored in separate studies each, instead of a comprehensive framework. Also, some studies focus on project portfolio performance generally, rather than the implementation of the innovation strategy specifically. Valuable insights could be gained by developing a comprehensive understanding of the behavioral pattern constituting the entire PPF routine in connection with differing types of innovation strategies or organizational contexts.

2.3. Additional actions in the PPF routine

Some of portfolio actors' situation-specific actions deviate from the ostensive, formal routine of PPF. Portfolio actors are shown to respond to situation-specific information by improvising (Jerbrant & Karrbom Gustavsson, 2013); attempting to increase flexibility (Sweetman & Conboy, 2018); and engaging in situation-specific negotiation and adjustments (Blichfeldt & Eskerod, 2008; Christiansen & Varnes, 2008). Such flexibility in behavioral patterns is relevant in the innovation contexts where PPF can drive strategic renewal by, for example, offering employees and managers the flexibility to consider new ideas and new ways of working (Kopmann et al., 2017; Martinsuo & Poskela, 2011). There is also an increasing discussion on agility and agile project portfolios that reflects the idea of flexibility in PPM (Bechtel et al., 2022, 2023; Kaufmann et al., 2020, 2021; Sweetman & Conboy, 2018), but as with the other studies, this stream of research tends to concentrate on

PPM generally, rather than on PPF specifically.

Only a few studies touch on managers' informal actions in relation to PPF, and the treatment of such actions is fragmented across research settings (Appendix 1, Table 1). The broad interview study by Röth et al. (2019) drew attention to managers' political behavior and the actions of preparing the stage, orchestrating others, and developing a political coalition as part of the political sensemaking process in innovation portfolio management. Kaufmann et al. (2020, 2021) used the construct entrepreneurial orientation to cover proactiveness, risk acceptance, and innovativeness in the business unit's PPM. Kaufmann et al. (2020) covered the constructs agile capabilities, voice behavior, and emerging strategy recognition. However, they investigated the antecedents of project portfolio success generally, not strategy implementation or renewal during PPF. Kortantamer (2024) studied leadership in the practice of shaping the direction for the project portfolio, particularly in bringing together different stakeholders' views. Some studies use constructs such as senior management involvement, which covers anything from setting strategic direction, project initiation, and project selection to portfolio management and evaluating innovation performance (Globocnik et al., 2022). Globocnik et al. (2022) found that senior management involvement is negatively associated with bootlegging tendency, and that management support and idea management systems are positively related with bootlegging tendency. However, their focus was on bootlegging tendency rather than PPF.

Holistic studies covering the behavioral patterns of action in the organizational routine of PPF and in different contexts have not been reported, so far. Kock et al. (2016) combined process formalization, ideation strategy, and creative encouragement and associated them with front-end success and project portfolio success, but did not comprehensively cover PPF. Some research on innovation portfolios acknowledged the necessity for managers to interpret the environment skillfully (Petit, 2012; Petit & Hobbs, 2010); revealed the use of evidence, power, and opinions in the decision-making processes (Kester et al., 2011); and encouraged managers to combine portfolio mindset, focus, and agility in decision-making (Kester et al., 2014). The types and behavioral patterns of actions require further attention in order to understand PPF comprehensively.

3. Research method

3.1. Research design and cases

A qualitative multiple-case study strategy was used in this research to expand and develop the theory regarding the PPF routine. A case study is considered ideal when studying a phenomenon in a real-life context (Yin, 2009). Selection of a case study strategy is justified by the nature of the performative PPF routine as something taking place in the organizations' real practice and our focus on the performative PPF routine as experienced by the portfolio actors. In this study, the unit of analysis (i.e., the case) is an organization's performative PPF routine, and the phenomenon is studied at the level of actions through the experiences of portfolio actors (i.e., managers and other experts). A multiple-case study was designed to enable comparison across cases and theory building (Eisenhardt, 1989). Each case was studied as an entity and then compared with the other cases to identify context-specific issues and to enable replication.

When selecting the cases, we followed the theoretical sampling principles of multiple-case studies (Eisenhardt, 1989). Guided by the focus of our study (i.e., the PPF routine in innovation project portfolios), we focused on highly innovative, growth-oriented organizations that are acknowledged in their industry for their innovativeness. Another search criterion was the implementation of innovation activities as projects. To promote empirical richness, enable cross-case comparison, and seek differentiating factors between the cases, we sought organizations with different types of businesses (i.e., different industries) and varying sizes (i.e., both large and medium-sized), as well as a range of maturity and

history in PPM. Following these search criteria, four companies from four different industries were selected. These companies are referred to as ConstructionCo, SoftwareCo, HitechCo, and NetCo. In addition to industry and size, the nature and target of their innovation project portfolios also differentiate the companies from each other. Background information on the companies and the nature of their innovation projects is presented in Table 2. The information in Table 2 is presented at the time of the data collection; the relative differences between the four companies have remained similar since then.

ConstructionCo offers solutions, services, and software for the construction industry (housing and renovations in the private and public sector). Their approach is innovative as they perceive construction “as a service” rather than assembly, and they strive for leadership in service and software business in the construction industry. Their business is divided into three main areas: construction, services, and smart solutions. ConstructionCo wants to be perceived as visionary in the conservative construction industry, and they have established an innovation-oriented strategy, which is reflected in their definition of related processes and management roles.

SoftwareCo sells, develops, and implements software and offers related consulting and support services for organizations in a business-to-business market. They have an innovative core product, which is tailored for different uses. The company has various technology partners with whom they develop compatible software solutions. The company has received several awards and recognitions for being innovative and visionary in their field. It is also one of the fastest growing European companies in its industry.

HitechCo develops and sells high-technology products and associated services worldwide. As a market and technology leader in a fast-growing industry, it places strong emphasis on its research and development (R&D) capability. HitechCo has global operations with sales, services, development, and manufacturing spread between its regional headquarters and several other locations. They originally developed and sold an innovative product and has since steadily diversified its range of products and services in a highly dynamic market. The company’s position as an innovation leader is demonstrated by their numerous patents and awards, which underpin their ongoing success in product and service development.

NetCo is an international company in the dynamic and increasingly competitive communications and internet industry. They recently increased their focus on innovation, which was influenced in part on the rapidly shortening product lifespans. In addition, a customer-centric view has replaced the previous focus on technology and physical assets. The company has launched various innovation initiatives such as an innovation lab for internal ideas, an innovation hub that embraces partnerships, and an innovation unit responsible for planning technologies for the next three to five years.

3.2. Data collection

The primary form of data collection was interviews. Purposive

sampling was used when choosing the participants to gain first-hand experience and knowledge about PPF actions in the companies. The contact person in each company identified potential participants and arranged the interview dates. All interviews were held face-to-face, with the exception of one telephone interview.

Participants were predominantly from the director and manager level, with some project-level personnel included to add different viewpoints. The interviewees covered a representative range of key actors responsible for managing innovation project portfolios in the four companies. In the smaller firms, we were able to interview the majority of the key actors, whereas in the larger firms, we ensured the sample included a representative range of perspectives. Data saturation was achieved with these informants, and we therefore consider the sampling sufficient. The interviews lasted between 26 and 93 min (average 58 min). The interviewees’ backgrounds and interview data are summarized in Table 3.

An interview guide was developed in English for HitechCo and NetCo and translated into the Finnish language for ConstructionCo and SoftwareCo. The interview started informally with background information about the research and an overview of the participants’ job position and experiences related to PPM. The interview guide covered several themes related to innovation, strategy, and project and portfolio management activities. Participants were asked to explain their organization’s strategy and capability for innovation; the nature of change in their competitive environment; and the actions used to manage innovation and align projects with strategy. As sub-questions within the main themes, we asked how their processes enabled flexibility and response to change, explored differences in approaches for different circumstances, and discussed their impressions and ideas about managing innovation portfolios. Despite the structured thematic guide, the questions were discussed in a flexible order depending on the issues that emerged based on the participants’ experience. The interviews were recorded and transcribed. The researchers also took notes for the purposes of verification.

In addition to the interviews, document data such as annual reports, company websites, and public news were reviewed, to familiarize with the firms’ innovation investments and activities (Table 3). During the interviews and in other communications with the companies’ main contact persons, some company internal documents were reviewed, such as innovation project portfolio tables, a matrix of innovation types, process models for innovation projects, and organizational charts. The documents were used as background information in the early phases of the research, to form an overarching view of innovation types, project portfolios, and their management in the companies, and also later to understand the contextuality of PPF actions. After the data collection, key contact persons had a chance to review and comment on some preliminary findings, which enabled the researchers to confirm, or upon need update, their preliminary understandings from the data.

Table 2
Background information of the companies.

	ConstructionCo	SoftwareCo	HitechCo	NetCo
Country	Finland	Finland	Australia	Australia
Industry and business type	Construction projects and related services and software	Software solutions – projects and services	High-technology products and services	Internet and communication solutions
Company history	< 20 years	> 20 years	< 40 years	> 50 years
Net sales	> 200 MEUR	> 50 MEUR	> 500 MUSD	> 500 MUSD
Number of employees	> 250	> 400	> 4000	> 4000
Nature of the innovation projects	Innovative business models and new business openings	Product development and patenting	High-technology research and patenting; product, service, and system development	Innovative service offerings, new business models, partnerships to develop and deliver services
Target of innovation	Business logic	Core offerings, products	Core offerings, products	Business logic

Table 3
Interview and document data in the target companies.

	ConstructionCo	SoftwareCo	HitechCo	NetCo
Number of interviews	6	4	4	5
Participants' job profiles:	2	2	1	2
Top managers (e.g., vice president or chief innovation officer)				
Middle managers (e.g., team leader, or unit or portfolio manager)	1	–	1	2
Project-level managers (e.g., innovation experts, product managers, programme managers)	3	2	2	1
Average duration (range) of interviews (minutes)	60 (29–93)	55 (46–59)	60 (54–70)	55 (53–58)
Public documents	Annual report, company website, news on product launches and strategy	Annual report, company website, news on product launches and strategy	Annual reports, company website, news on product launches and strategy	Annual reports, company website, news on product launches and strategy
Internal documents (shown during interviews)	Project portfolio matrix; innovation project playbook; innovation process chart; innovation types matrix	Project portfolio matrix; product strategy; product development process	Innovation strategy; organization-related presentations	Innovation strategy; organization-related presentations

3.3. Data analysis

The transcribed interviews were coded following a systematic, qualitative content coding approach. Before the actual coding, an overall understanding of the PPM processes used in the companies was summarized and a rough comparison of their specific features was developed.

Coding was conducted in four phases. In the first phase, the *relevant areas of the interviews focusing on PPF* and related actions were identified. We tentatively recorded the involvement of different actors in PPM more broadly before narrowing the focus to the actions included in the routine of PPF. This phase was highly inductive, and the number and labelling of codes was not yet a concern, with the analysis process staying very close to the participants' responses (cf., Gioia et al., 2012; Gioia, 2021). Two action categories were identified as some actions tended to relate to overseeing and governing the creation of the project portfolio (governing actions), whereas other actions tended to deal with involving and engaging oneself or other people in the creation of the project portfolio (empowering actions). Following this inductive observation, we chose to start the systematic coding based on this distinction.

In the second phase of the coding process, all the different *actions within the routine of PPF* were identified and coded in a systematic way and the framework for the analysis was developed. Each action was coded either as governing or empowering based on the action type. Quotes from the interview data were coded on the first level; these first-level codes were aggregated into second-level themes (cf, e.g., Sankaran et al., 2023); and these second-level themes were formed into six broader main categories divided into governing and empowering actions (see Fig. 2). While coding, we cycled between the empirical data and the literature iteratively and abductively to benefit from previous knowledge and to enable the emergence of new codes from the inductive analysis. We also discussed illustrative labels for the codes, themes, and aggregate categories (cf., Gioia et al., 2012). Notably, during the second analysis phase, we moved from very close to the empirical data and the participants' responses towards a theoretical realm, similar to the process described by Gioia et al. (2012) and Gioia (2021).

In the third analysis phase, we sought *validation and verification for the analytical framework* by exchanging coding experiences among the researchers, experimenting with and testing alternative labels for the categories, and purposive reflection on previous literature. This kind of

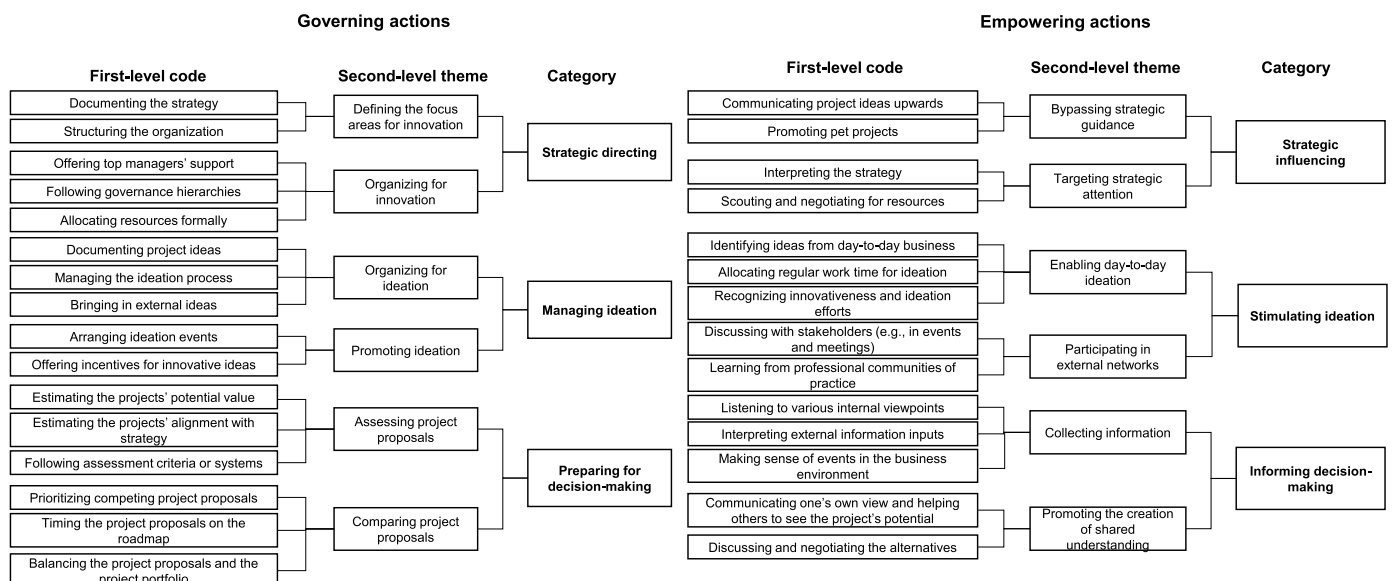


Fig. 2. Coding framework for governing and empowering actions in the PPF routine (see Appendix 2 for quote examples).

reflection and exchanging of experiences between the researchers throughout the coding process resembles the experiences of Sankaran et al. (2023) in applying the Gioia methodology to qualitative project management research. Following the interplay between the previous knowledge and the empirical data, some of the identified actions and selected labels were found to have a clear connection with the literature on PPF (especially the governing actions), whereas others took shape from the empirical data. A coding table and thematic structure were developed to enable consistent coverage across the cases. The coding framework is summarized in Fig. 2. The structure of the findings section follows the division into governing and empowering actions, both of which are divided into three main categories. A table of illustrative quotes from the data is included in Appendix 2.

In the fourth and final analysis phase, key *behavioral patterns of actions* in the PPF routine were examined in each of the four cases. Specifically, we looked for insights into the combinations of and relationship between the governing and empowering actions, and the factors differentiating the cases from each other. The researchers responsible for coding and analyzing the interview data created summary vignettes of the empirical findings for each case. These vignettes were interpreted individually, and the interpretations were then discussed, compared, and coordinated among all the authors when documenting the resulting patterns (cf., Sankaran et al., 2023).

4. Findings

4.1. Governing actions in PPF

4.1.1. Strategic directing

All four companies used several governing actions for strategically directing PPF and invested effort into **defining the focus areas of innovation**. For this purpose, *strategies for innovation were documented* in various ways. The position of innovation in the strategy documents varied between the medium-sized and large companies. The two smaller companies did not have explicit innovation strategies and processes in place, but several participants noted related documents for guiding PPF; for example, the innovation playbook in ConstructionCo, and a product strategy and an IPR (intellectual property rights) strategy in SoftwareCo. The two larger companies (HitechCo and NetCo) had defined and documented formal innovation strategies at multiple levels such as at the enterprise and divisional levels.

Innovation focus areas also appeared in how the companies had *structured their organizations* to guide PPF. ConstructionCo, for example, had set up strategic innovation programs that offered a mechanism for allocating and targeting the significant external innovation funding they received from a public funding agency. The two larger companies had multiple levels and types of organizational structures designed to guide PPF. In NetCo, innovation labs supported ideation from the business divisions by focusing on early idea development and testing using a design thinking approach. HitechCo had multiple structures dedicated to initiating and developing innovation, including an innovation division for developing early-stage technologies before transfer to product development.

Another category of strategic directing related to **organizing for innovation**. Various types of management groups, steering groups, and support units were involved in PPF in all four companies; for example, in HitechCo, a team of executives were responsible for steering innovation and making related decisions across the organization. This type of approach is an example of the common governing actions of *offering management support for innovation work* and *following governance hierarchies*. Participants from the two smaller companies (ConstructionCo and SoftwareCo) believed that management support was relevant: it was “easy to seek permission from the [top] management, if needed,” and described characteristics such as “the company culture” and “the flat organization” as contributing to this perceived ease of seeking management support. Although established avenues for decision-making

were in place in all four companies, the governing action of *following governance hierarchies* was most evident in the two larger companies. These companies operated on a tiered governance structure where authority was delegated from higher levels of the hierarchy; for example, at NetCo, approvals for smaller projects could be made in the originating business unit, whereas larger projects were referred up one or more organizational levels for the final approval.

Closely related to governance hierarchies, all four companies had governing actions in place for *allocating resources formally* to project portfolios, both in terms of human resources and funding. In SoftwareCo, regular meetings were tied to the phases of an agile project management framework, and one regular agenda item was the allocation of project tasks among personnel. In ConstructionCo, resources were allocated either by top directors or a specific management group. In the two larger companies, resource allocation was undertaken at multiple levels (following the hierarchical governance), where the level was largely defined by the budget but also included consideration of strategic importance, risk, and market impact. Both larger companies followed innovation gate approval processes with a formal approach to resource allocation, and NetCo also explained how they regularly reviewed and adjusted their formal processes.

4.1.2. Managing ideation

The case companies have **organized for ideation** through several governing actions to enable a systematic approach for creating and harvesting new project ideas. In SoftwareCo, the core action is *documenting the project ideas* in an information technology (IT) system (i.e., an idea portfolio). Although the ideas originate from many places, both internal and external, most of the identified project ideas are stored in this centralized IT system. Innovation project ideas are also captured and managed systematically in NetCo and HitechCo, but due to the larger size and complexity of these companies, ideas are spread across multiple systems and databases.

All four companies are either designing or already *follow defined processes for managing ideation* to identify and initiate new innovation projects. The participants from SoftwareCo described “a very clear process that we follow” regarding inventions and patents. ConstructionCo was also considering a process (called “an idea garden” by some participants) by which ideation could be accelerated and managed in a more systematic way. The two larger companies both have established and relatively mature ideation processes in place, but they also recognized that not all ideas follow the same path. To cater to differing divisions and technologies, they have developed different versions of ideation and idea filtering processes.

The case companies also organized for ideation by *bringing in external ideas for innovation projects*. ConstructionCo had an organizational structure that brought in external ideas from customers or partners and identified potential partners, potentially leading to new innovation projects. The two smaller companies were both committed to joint development projects with external partners, whereas the two larger companies appeared to be more active in setting up formal joint ventures for external collaboration and co-development. NetCo had specific divisions and joint ventures for specific markets to initiate, evaluate, and develop new ideas, and formalize if warranted. HitechCo’s business included customer-facing collaborative structures that served a dual purpose: to serve customers and to generate feedback for ensuring continuous alignment of ongoing product development with evolving customer needs. HitechCo also had a division for innovation that assessed and provided input on potential project ideas.

Some governing actions dealt with **promoting ideation**. The case companies *organized regular project ideation events* to identify and discuss new project ideas. SoftwareCo, NetCo, and HitechCo offered examples of regular events known as “innovation afternoons,” “innovation expos,” or “invention hunts.” ConstructionCo also experimented with ideation events, but not as regularly as the other three companies. Three of the case companies also explicated *offering formal incentives for*

innovativeness. SoftwareCo awarded monetary incentives to inventions and patents. Incentives at the larger companies included recognition and prizes for innovation, both at the team and individual level; for example, the participants from HitechCo described “a number of prizes” related to exceptional innovativeness.

4.1.3. Preparing for decision-making

When the case companies prepare for decision-making during PPF, typically they first **assess the project proposals**. They *estimate the projects’ potential value and strategic alignment* when determining whether to include a prospective innovation project in the portfolio. The participants from ConstructionCo discussed these governing actions in connection with the types of innovation projects. In SoftwareCo, this type of assessment was linked to inventions and patents, and the assessment of project value was typically tied to the top management’s emphasis on commercial or monetary value: “development work must create cash flow.” In a similar vein, questions such as “What is the value of that particular project?” were asked at HitechCo due to the high number of competing project proposals. Regarding strategic alignment, the participants from the two smaller companies described how the defined strategies should, at least in principle, guide innovation work in the companies. The participants from ConstructionCo described an evaluation process where top management assessed the suitability of project goals proposed by a project manager. In SoftwareCo, due to the nature of the company’s innovation work, it was considered quite natural for the product strategy to be used to assess new projects proposed for the portfolio. However, participants from the two smaller companies also noted the competing issues of vagueness or separateness, leading to the need for interpreting the strategy.

The case companies *followed specified assessment criteria or systems* when assessing project proposals from multiple perspectives. The participants from ConstructionCo described how the company used “various tools and templates” and had “numerous measures in place” for assessing innovation project proposals. In the two larger companies, additional assessment perspectives included technological readiness and potential volumes of prospective project ideas for commercialization. An important aspect of assessing project proposals is the use of certain criteria in specific phases of the established innovation process, such as the stage-gate process for managing innovation projects (HitechCo) and the process for inventions and patents (SoftwareCo and HitechCo). NetCo used a business case template for project proposal assessment and as a linkage of this assessment protocol to the governance structures of the company.

Comparing the project proposals directs the companies’ attention to a group of potential and competing innovation projects by comparing them with each other and verifying the strategic suitability of the portfolio. The actions of *prioritizing and timing on roadmaps* were emphasized by participants from SoftwareCo, which is potentially explained by the focus of the company’s innovation projects on products and software. This comparison brought together competing ideas and proposals stemming from multiple sources, such as the product strategy and direct customer requests. HitechCo’s processes for prioritization and timing addressed the challenge of comparing a variety of project types and stages, including technology projects transferred from the innovation division and new ideas coming from the product development divisions. Roadmaps were one of the tools used to compare projects: “take the ideas to the roadmap and prioritize them” (SoftwareCo) and “[follow] a process to align [projects through] a roadmap” (HitechCo).

The action of *balancing competing project proposals and the portfolio*, which emphasized the balancing of risks and rewards, was discussed more by the participants from the two larger companies. Standard business case templates and processes enabled the enactment of this action, where the decision-makers compare the projects on factors such as their strategic merit, customer need, technology and market risks, technology leadership, and return on investment and consider trade-offs between them. Complex balancing decisions were referred directly to

higher-level decision-makers. Established governance structures such as the annual planning cycle of the two larger companies featured the action of balancing the portfolio. In turn, the action of balancing project proposals at SoftwareCo included consideration of R&D resources. In this way, several governing actions appeared to be linked with each other.

4.2. Empowering actions in PPF

4.2.1. Strategic influencing

Portfolio actors discussed their experiences where innovation processes **bypassed the strategic guidance**. Although the guiding role of the governing actions was considered stronger in the two larger companies, the participants from these companies revealed that these actions were sometimes bypassed. In fact, participants from all four companies noted their experiences of innovation projects bypassing strategic guidance, which originated from both the lower levels of the company and the personal ideas of the top managers.

Employees sometimes *communicated project ideas from the bottom of the organization upwards* to promote their ideas for innovation. This was evident in ConstructionCo, where several participants expressed the importance of convincing decision-makers and promoting the progress of project ideas through “informal lobbying discussions” and “the need to use one’s elbows.” Some participants discussed the opposite direction, that is, the “top-to-bottom” role of key managers in strategic directing. Some managers were active in *promoting pet projects* by expressing their personal preferences and paying more attention to emerging project ideas that matched their interests. Participants attributed such activity to key managers (SoftwareCo) or to top management more generally (NetCo and HitechCo) and commented on the company being “driven from that sort of executive’s perspective” (NetCo).

There were some empowering actions that dealt with **targeting strategic attention** in the project portfolio. Participants discussed sensemaking among the managers and personnel when *interpreting innovation strategy* and setting up the project portfolio. According to the participants from the two smaller companies, the need for interpretation could lead to such challenges as personnel not understanding or “buying” the strategy (ConstructionCo), or it being “possible to link almost any innovation activities to the [too abstract or general] strategy, if we wanted to” (SoftwareCo). Developing comprehensive understanding about the strategy and using it purposely to guide innovation therefore required translation to be useful in PPF. In contrast to the two smaller companies, strategic directions were reported as being better understood by the participants from the two larger companies.

Occasionally, employees and managers engaged in *scouting and negotiating for resources* for the project portfolio quite early in the PPF process, as noted by the participants from ConstructionCo. They described resource availability as a key challenge for innovation projects (“whether a person should be at a construction site or participate in an innovation project”), which implied that managers needed to settle project priorities and negotiate for resources not only when planning and selecting the projects but also when acknowledging the resource constraints in the project portfolio. In the two larger companies, negotiation and scouting concentrated more on the allocation of funds and strategic positioning than human resources.

4.2.2. Stimulating ideation

The companies used some empowering actions for **enabling day-to-day ideation** in their everyday businesses; for example, the participants expressed new ideas arising “when we are developing the [company’s core product]” (SoftwareCo) or originating “from our own core business” (ConstructionCo). Similarly, “people responsible for products” were considered important sources of ideas in NetCo. This way, *identifying ideas from day-to-day business* can provide fruitful starting points to be developed further or potentially used as starting points for innovation projects to be included in the project portfolio. In some of the case

companies, this type of day-to-day ideation is boosted by *allocating regular work time for ideation* with few constraints or rules; for example, an informal culture of allowing “some time to work on one’s own pet projects” was noted up by participants from HitechCo. The project ideas arising in the day-to-day work or as part of the companies’ core business were often connected to or boosted by the governing actions discussed earlier, that is, documenting ideas in IT systems or organizing ideation events. In the two larger companies, the feeding of these types of ideas into the formal processes may require a demonstration of the concepts and gaining the managers’ support.

Besides the formal incentives discussed earlier (e.g., monetary incentives such as bonuses), the participants discussed less tangible forms of *recognizing innovativeness informally*. The participants discussed issues such as “company culture that promotes or motivates innovation” and “receiving recognition [for innovation].” The participants considered the company culture as one that allowed employees to spend time on their own ideas and as an informal promotor for innovativeness.

The collection of external project ideas involved improvised aspects, such as when managers participated in external networks for innovation. Examples of *discussing with stakeholders* included top management’s “activeness in the market” and “networking with stakeholders” (e.g., ConstructionCo). Some of such networks involved *established professional communities*, which enabled long-term “engagement with professional and specialist ‘communities of practice’,” particularly in the two larger companies. Informal ideation was further enhanced at NetCo through external input gained through partnerships with external organizations and “thought leading” workshops, in addition to their strong marketing and customer input programs. HitechCo collaborated on customer-facing ventures, which provided a wealth of insights to prompt ideas for future products.

4.2.3. Informing decision-making

The empowering actions of informing decision-making highlight their interactive nature. Preparations required **information collection**, with the participants describing several occasions of managers collecting internal and external input while preparing for decision-making. While information collection involved some formalized actions (such as the use of templates), the improvised nature meant *listening to internal viewpoints*. The participants described the importance of having discussions with “representatives from various viewpoints” to assemble knowledge on the project proposals (ConstructionCo), and how it is “the responsibility of the product manager to collect that information and feedback and comments from different stakeholders” to enable project prioritization decisions (SoftwareCo). *Interpreting external viewpoints*, on the other hand, highlighted the importance of “getting input from subject matter experts” and “sensemaking” of the outside world and the competitive environment, which was emphasized by the participants from the two larger companies. According to one participant from HitechCo, “we need to be very alert to what’s happening and also adapt to any changes and react to how things change now, in the market.” A special form of the external viewpoint to informing decision-making was the action *making sense of events in the business environment*. This action was noted in HitechCo, where the participants described the need to sense the outside world, to “assess where the company is with the competitors” and “what our customers need.” The actions of interpreting external viewpoints and making sense of events in the business environment have clear connections with the empowering action of bringing in ideas from external sources, as discussed in the previous section.

Informing decision-making also entailed the creation of a shared understanding, which occurred partly through individuals *communicating their own view*. This meant individuals’ attempt to influence the common understanding of the projects separately or their justifications as part of the portfolio. While communicating one’s view resembles the practice of bypassing strategic guidance, here the participants discussed the importance of “having discussions” and “clarifying one’s own ideas” to influence the thinking of other people (specifically the decision-

makers); for example, comments such as “to really bring up what this potential project is all about” and “to create the understanding how a potential project could create value” were used by one participant from ConstructionCo. *Discussing and negotiating alternatives* implied the necessity for people to share their opinions and impressions when preparing for decision-making. The interview data highlighted characteristics of bi-directional discussion and teamwork, back and forth negotiation, and generally a high number of discussions and negotiations. For example, negotiations between a sponsor team, project team, sponsor chairperson, and executive team were described by a participant from HitechCo. Due to the complexity of organizational structures (multiple business divisions), discussion and negotiation were more evident in the two larger companies. The interplay between empowering and governing actions was evident. For example, one participant from HitechCo described how there can be “lots of discussion” and that they may “organize a session” but “ultimately something needs to happen, it needs to be placed on a roadmap and needs to go through that process of being approved where there’s a certain of money that’s allocated to it [the formal, defined process].”

4.3. Patterns of governing and empowering actions across the cases

All four companies demonstrated a parallel use of governing and empowering actions in PPF, but their action patterns differed, as illustrated in Fig. 3.

Three main patterns can be observed, which differ based on the companies’ starting points and orientation regarding governing and empowering actions. SoftwareCo and HitechCo represent the pattern *governing-centric PPF*, where governing actions dominate and empowering actions are enabled, but are somewhat less apparent. The governing-centric PPF seems to characterize innovation strategy implementation in a structured, efficient manner, through exploiting extant procedures, capabilities, and strengths. This pattern may be explained by the focus of the innovation project portfolios – the development of product offerings – with established development processes and a solid formal routine that is obediently followed. In HitechCo, the governing actions offered a structured framework that also served to set the stage for empowering actions.

ConstructionCo is clearly different from the other case companies in its active use of empowering actions and pursuit of a more formal routine, which represent the pattern *empowering-centric, governing-oriented PPF*. The empowering-centric PPF has a more renewal-oriented implementation of the innovation strategy, through enabling employees to experiment, take entrepreneurial actions, and search for new capabilities. While the participants from ConstructionCo had only limited experiences with a formal routine and engaged in situation-specific novel actions, they emphasized the need and future intent to establish formal PPF actions. This unique approach could potentially be explained by the nature of the innovations (i.e., radical business development) and the company’s relatively short history, smaller size, and limited experience and resources for PPM.

Both NetCo and ConstructionCo targeted innovations relating to business logic more than product offerings, but they differed from each other in their starting points and orientations regarding PPF. NetCo’s PPF initially appeared as governing-centric, but the interviews revealed its pursuit of flexibility, which represents the pattern *governing-centric, empowering-oriented PPF*. In this pattern, governing actions have a strong influence, which could be expected in a large company with a long history, but the company also manages to allow space for empowering actions in PPF. NetCo employees’ desire for added empowerment and ConstructionCo employees’ wish for more formal governing represent opposite expectations, potentially suggesting the direction of the next move in innovation strategy and demonstrating the dynamic character of the PPF routine.

		ConstructionCo	SoftwareCo	HitechCo	NetCo
Governing actions	Strategic directing	++	++	+++	+++
	Managing ideation	+	+++	+++	+++
	Preparing for decision making	++	+++	+++	+++
Empowering actions	Strategic influencing	+++	+	++	+
	Stimulating ideation	++	+	++	+
	Informing decision making	+++	++	++	++
	Overall pattern in the PPF routine	Governing: moderate Empowering: high	Governing: high Empowering: low	Governing: high Empowering: moderate	Governing: high Empowering: low

Fig. 3. Patterns of governing and empowering actions in the four cases. Note: + indicates less evident presence in PPF and +++ indicates more evident presence in PPF, according to the interview data.

5. Discussion

We endeavored to understand the way in which organizations use PPF actions to implement their innovation strategy and differences in the patterns of actions. The main research question was: *How do portfolio actors implement the PPF routine in different contexts?* Fig. 4 summarizes an overview of the PPF routine, its general composition in our findings, and its significance in opening up the pathways to implementing the innovation strategy.

5.1. Framework of actions in the PPF routine

Building on and complementing earlier research, our findings offer a comprehensive framework of actions within the organizational routine of PPF, including the governing actions of strategic directing, managing ideation, and preparing for decision-making, and the empowering actions of strategic influencing, stimulating ideation, and informing decision-making (Fig. 4). While confirming the existence of the three governing actions earlier discussed in IT portfolios (Stettina & Hörz, 2015) and renaming them, the developed framework offers a more comprehensive coverage of actions and detailed evidence from innovation project portfolios. As the literature review indicated, prior studies discussed various governing actions in PPF separately, including

strategic directing (Bechtel et al., 2022; Globocnik et al., 2022; Kock & Gemünden, 2016; Spieth & Lerch, 2014); managing ideation (Bechtel et al., 2022; Globocnik et al., 2022; Gupta et al., 2022); and proposal screening (Kock et al., 2015; Spieth & Lerch, 2014). In contrast, our findings reveal the spectrum of governing and empowering PPF actions and their active and different uses in four innovation-oriented companies.

The results especially offer new knowledge regarding the variety of empowering actions portfolio actors use in PPF and bring clarity to the earlier fragmented views on such actions. Whereas prior research concentrated on improvisation *after* selecting the project portfolio (Jerbrant & Karrbom Gustavsson, 2013), our findings demonstrate the use of empowering actions already during PPF, with an intent to expand and renew business. The key observation is that portfolio actors engage in strategic influencing, stimulating ideation, and informing decision-making in conjunction with enacting the task-centric governing actions. While some of the empowering actions in this study resemble the concepts of bootlegging (Globocnik et al., 2022), political behavior (Röth et al., 2019), leadership (Kortantamer, 2024), and agility (Kaufmann et al., 2020, 2021), these findings emphasize the behavioral and social aspects of PPF more comprehensively and offer a detailed sub-structure for the empowering actions, which may be useful for future research.

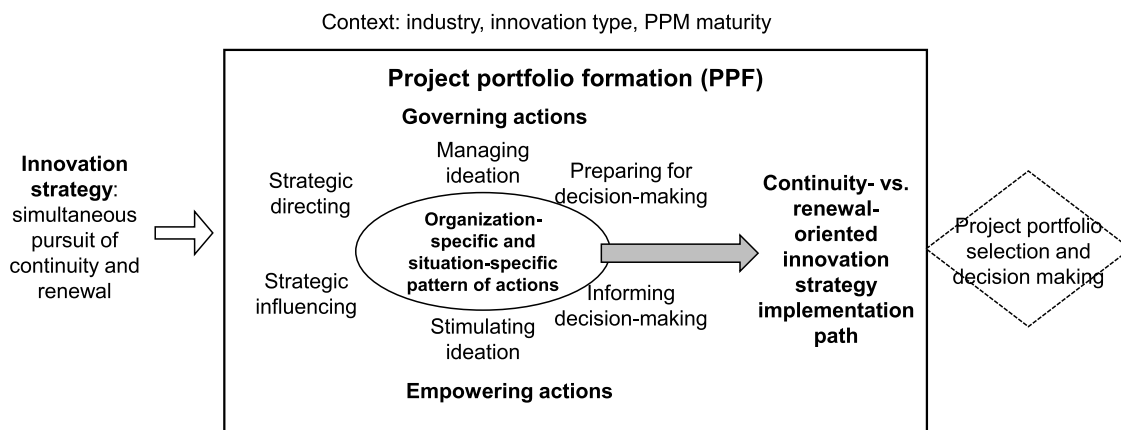


Fig. 4. Summary of actions in the PPF routine and its role in implementing innovation strategy.

Our findings demonstrated that portfolio actors use their agency not just to interpret and implement the governing actions, but also to encourage and involve (i.e., empower) others to use their agency in PPF. Previous routine literature has introduced employees' agency as a force driving change in organizational routines (Aroles & McLean, 2016; Feldman, 2000, 2004; Feldman and Pentland, 2003; Pentland et al., 2012; Yi et al., 2016). Bresnen et al. (2005) also reported a project-level example where certain actors engaged and involved others in changing the project management routine. Our evidence on PPF actions suggests that distributing PPF agency through the empowering actions may mobilize change readiness in the organization. By enabling other actors' agency during PPF, portfolio actors distribute deliberation and discretion use more broadly in the organization and, thereby, empower them for situation-specific action. Individuals' deliberation has been reported as a way to justify decisions and alleviate uncertainty concerning decisions (Møller, 2021), and our results offer new knowledge concerning the distribution of agency through portfolio actors' empowering actions, specifically in PPF.

5.2. Patterns of action in the PPF routine in different contexts

The different combinations of governing and empowering actions in the four companies revealed that governing and empowering approaches coexist, adding complementary and structured evidence to earlier studies in other contexts (Bredillet et al., 2018; Jerbrant & Karrbom Gustavsson, 2013). Our empirical evidence indicates that the ostensive PPF routine, that is, capability learnt and developed in the past, provides the scaffolding for governing actions that tend to rely on continuity and exploitation of the existing competence base. The governing actions, in turn, create an environment where empowering actions are used to offer solutions for situation-specific stimuli, explore new knowledge, and drive renewal in implementing the innovation strategy. For example, the governing action of holding meetings for assessing project proposals was enacted in the case companies, but it also opened up space for situation-specific empowering actions to consult stakeholders, communicate portfolio actors' own insights, and negotiate and discuss alternatives as part of and outside the formal meeting. In this way, the empowering actions were not contradictory to the goals of the governing actions, but often served to enhance the effectiveness of the governing actions through ensuring situation-specific adjustments. While the governing actions employ learnings from the past (continuity), empowering actions distribute deliberation and allow the organization to respond to situation-specific cues through entrepreneurial personal and negotiated judgement (renewal).

Proposition 1. *The routine of PPF creates an environment where portfolio actors use both governing and empowering actions, and their combination is necessary in forming a project portfolio in alignment with the innovation strategy. In innovation project portfolios, filtering the right projects with the right contents into the project portfolio (governing) needs to be supported with portfolio actors taking social and political actions to expand and enrich the portfolio scope (empowering), as innovation project portfolios pursue continuity and renewal simultaneously.*

The patterns of PPF actions could be explained by the innovation type and the company size and history (reflected in the maturity of PPM), showing PPF-specific evidence of the contextuality of implementing the organizational routine. This offers new knowledge to overcome the contextual ignorance typical to practice-related routine research (Parmigiani & Howard-Grenville, 2011, p. 443) and thereby also builds a connection to treating routines as capabilities. We demonstrated that governing-centric PPF dominated in the companies that concentrated on product-related innovations. These companies had formalized, established product innovation processes and related routines which were also followed. In contrast, an empowering-centric and oriented PPF approach dominated in those companies that pursued

innovation primarily through business development. Larger company size and longer history and PPM maturity were connected with a higher use of governing actions (compared with empowering actions) in these companies. The diversity of contexts in the studied companies enabled insights into why patterns of action in PPF differ, which would not have been revealed in single case studies or studies with just two organizations. Such insights would also not be possible through survey studies, where each practice factor is associated with performance separately.

Proposition 2. *Organizations differ in their patterns of using governing and empowering actions in PPF based on the innovation type, company size, and PPM maturity. Governing-centric PPF builds on capabilities developed over time and is more typical to firms that are large, have a long history in PPM, and focus on developing their existing product offering. Empowering-centric PPF builds on proactive pursuit of new future capabilities and is more typical to firms of any sizes that have a short history in PPM and focus on developing new business.*

5.3. PPF routine in implementing the innovation strategy

The combination of governing and empowering actions may explain how and why the PPF routine can enable implementation of innovation strategies both in terms of continuity and renewal. Our empirical evidence suggests that the pursuit of more radical renewal (business development, instead of offering development) in the strategy was reflected in empowering-oriented PPF actions, especially in the case of ConstructionCo. The patterns among the four cases offer PPF-specific evidence of how interpretive schemas and goals are reflected into actions (Feldman, 2004; Rerup & Feldman, 2011; Salvato & Rerup, 2018). During PPF, organizations strategically develop options for investing in innovation; separating the continuity-oriented incremental and the renewal-oriented radical innovation can assist with balancing the portfolio and boosting innovation (Brasil et al., 2021). Strategies associated with both continuity and renewal are crucial in innovation project portfolios; therefore, project options need to be available for both purposes.

Proposition 3. *Governing-oriented PPF is more likely to promote a continuity-oriented implementation of innovation strategy, whereas empowering-oriented PPF drives renewal. The balance between governing and empowering actions evolves over time, when portfolio actors respond to new events and stimuli in the organization and its environment and when the organization changes its innovation strategy.*

While this study did not examine the portfolio decisions, the analysis offers knowledge on how portfolio actors prepare for such decisions through thinking and acting and, also, enabling and constraining other portfolio actors' deliberation during PPF (cf. Møller, 2021). These findings indicate that the situation-specific alertness, responsiveness, and ability for action stemming from empowering actions is crucial in dynamic environments, even with an established PPF routine. These observations resonate with recent discussion on the centrality of ambidexterity in innovation project portfolios (Brasil et al., 2021; Killen et al., 2023) and offer evidence concerning mechanisms driving ambidexterity particularly in the early phase of PPM. We found that the action patterns varied between organizations, and that empowering actions can be efficiently exploited when informed by previous learnings embodied in the ostensive PPF routine. With these findings we suggest that when managers deviate from the documented, formal PPM systems (Blichfeldt & Eskerod, 2008; Christiansen & Varnes, 2008; Loch, 2000), they are not diverging from the strategic aims, but performing a necessary function of uncertainty monitoring and response in a dynamic business environment (supporting Korhonen et al., 2014; Petit, 2012; Petit & Hobbs, 2010).

Proposition 4. *A balanced, context-specific combination of governing and empowering actions for PPF enables both continuity-oriented and renewal-oriented innovation strategy implementation. Empowering actions enable*

an organization to respond to uncertainty in dynamic business environments, but organizations also require the efficiency and structure stemming from the governing actions included in the PPF routine. Organizations can reorient their innovation strategy implementation by modifying the balance between governing and empowering actions in the PPF routine.

6. Conclusions

6.1. Contributions

The findings offer four main contributions and thereby supplement previous routine-related studies in project-based organizations (Bredillet et al., 2018; Bresnen et al., 2005; Bygballer et al., 2021; Hedborg et al., 2020). Firstly, we have specified PPF as an organizational routine and as the crucial early phase of PPM, which has a decisive role for innovation strategy implementation. With its intricate pattern of actions, it is a complex phase preceding project portfolio selection and decision making, although sometimes formation and decisions are viewed as merged (Gomes et al., 2023) or the focus is just on the decision making (Kester et al., 2011, 2014; Killen et al., 2020; Linhart et al., 2020). We have demonstrated the necessity to cover both things (projects) and behavioral and social forces (people) during PPF, to enable the simultaneous pursuit of continuity and renewal in innovations and achieve readiness for decision making. Our findings thereby build a bridge between studies emphasizing formality and criteria (Gemünden et al., 2018; Kock et al., 2020; Martinsuo & Poskela, 2011; Spieth & Lerch, 2014) and studies emphasizing leadership and flexibility in PPM (Bechtel et al., 2022, 2023; Jerbrant & Karrbom Gustavsson, 2013; Kortantamer, 2024).

Secondly, the findings offer a comprehensive framework of governing and empowering actions that portfolio actors use during PPF, extending the dominant governing-centric view represented by current research (Stettina & Hörz, 2015) and aggregating the fragmented, versatile aspects of empowering actions (Globocnik et al., 2022; Jerbrant & Karrbom Gustavsson, 2013; Kaufmann et al., 2020, 2021; Loch, 2000; Röth et al., 2019) into a logical structure. The framework suggests a way to structure and systematize the treatment of both governing and empowering actions in future research. The combination of actions is required in governing the innovation tasks as well as in empowering people to creating a future-oriented project portfolio, and can enable both continuity-oriented and renewal-oriented strategy implementation.

Thirdly, the findings draw attention to the agency of various portfolio actors in enabling and disabling innovation strategy implementation through the PPF actions and also activating variation in them. Organizational routine research emphasizes such agency as a source of stability and change (Howard-Grenville, 2005; Parmigiani & Howard-Grenville, 2011) and portfolio research has already revealed the situation-specific flexibility and practice in portfolio actors' behavior (Bredillet et al., 2018; Clegg et al., 2018; Jerbrant & Karrbom Gustavsson, 2013; Kopmann et al., 2017). Specifically, our findings contribute by showing that portfolio actors applied judgement in either using the known governing actions based on their previous learnings or empowering their own or others' thinking based on situation-specific needs and cues. Also, we demonstrated the wishes and aspirations that they had, with regards to PPF actions in the future. With their situation-specific choice of actions, portfolio actors can anticipate and respond to uncertainties and facilitate both continuity and renewal in innovation strategy implementation, when forming the project portfolio.

Finally, the review of the four companies' approaches to PPF revealed differences in the patterns of actions, which highlights the contingent nature of PPF. The three different patterns of governing and empowering actions, each used in successful and highly innovative companies, suggests that some degree of balance is needed in governing and empowering actions, but that balance differs across organizations and circumstances. The findings suggest that the innovation type and

organization size and history in terms of PPM maturity differentiated the companies' patterns of actions. Also, the findings indicated that governing-oriented actions may be related with continuity in innovation strategy implementation and empowering-oriented actions may be related with renewal in innovation strategy implementation. Future research could treat the actions of PPF more holistically as combinations and packages instead of isolated and separate from each other, and test their linkages with implementing different innovation strategies.

6.2. Practical implications

The findings have implications for portfolio management practitioners. The separation of PPF from the latter PPM phases such as portfolio decisions, coordination of parallel projects, and monitoring and control encourages practitioners to pay careful attention to the full lifecycle of PPM and the routines and actions in each of its distinct phases. Where earlier research represents PPF as a highly routinized phase with formalized steps, we reveal that managers can influence how they implement the governing actions to suit their circumstances, and suggest benefits from the increased awareness of the possibilities for empowering actions. With empowering actions, managers can activate their own as well as other employees' agency, deliberation, and uncertainty-awareness, which are particularly relevant in the pursuit of a renewal-oriented strategy.

The analysis framework of governing and empowering actions offers a model for designing a PPF approach that best fits the specific innovation context of the organization. The variety of patterns, each with their own spectrum of actions, suggests that governing and empowering actions can and should be combined, and that the approach used to combine these actions should be tailored to suit the organization's context and circumstances. This study proposes that innovation type and company size and history may be relevant in identifying appropriate PPF actions. Portfolio practitioners, therefore, cannot settle with textbook guidance when determining their actions for PPF, but should adjust their choices to fit the context and the organization's strategic orientation.

6.3. Limitations and possibilities for future research

In line with qualitative studies in general and case studies in particular, this study has some validity limitations to be considered. The chosen focus on innovative contexts limits the validity, as does the choice of cases. With four case companies in different industries and with different sizes, the analysis is restricted to these case companies and their specific contexts. We have offered background information on the cases and their business types to help readers assess the applicability of the findings more generally. The low number of participants limited the data collected. All project and product managers were not interviewed, nor were all types of portfolios covered in the two larger companies, and the portfolio actors' experiences may be more varied than was reported here. When seeking participants, however, we sought variety and coverage of different levels, and that was achieved. Furthermore, the analysis framework evolved during the study and the inductive approach may cause limitations to validity. Further refinement and broader use of the analysis framework may be required to verify the findings.

As the practice-oriented view to projects and project portfolios is increasingly represented in research, we expect the interest in organizational routines to continue to grow. In line with Bredillet et al. (2018), we suggest that all routines involved in PPM – including PPF; portfolio selection and decision-making; monitoring, steering, and controlling; change decision-making; and project portfolio adjustment and reconfiguration – could be treated as organizational routines and studied in their context (i.e., routine as a “black box”); as patterns of action (i.e., routine as the unit of analysis); and through their micro-level dynamics across their internal elements and processes. This study also has drawn attention to the different portfolio actors' involvement in the use of

routines when implementing PPF. This path could be explored further by studying the use of routines more broadly, not only across different actor types but also in terms of the routine variation and improvisation in different portfolio circumstances.

CRedit authorship contribution statement

Miia Martinsuo: Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Lauri Vuorinen:** Conceptualization, Formal analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing. **Catherine P. Killen:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Validation, Visualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

NA

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Supplementary materials

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