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Designing managerial work in production: front-line managers' job crafting

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Abstract

Purpose – Front-line managers act as co-designers of their work, but empirical evidence regarding how this bottom-up influence impacts operations remains limited. The purpose of this paper is to expand the knowledge of front-line managers' work in production and how they respond to and influence their work design.

Design/methodology/approach – Using a qualitative multi-case design including 4 production plants in northern Europe, this study is based on in-depth interviews with 15 front-line managers and 12 senior managers.

Findings – Findings show that front-line managers in production actively engage in job crafting practices not out of personal initiative alone but as a response to misalignment between prescribed and perceived work characteristics. We introduce the compensatory job crafting model, which conceptualises these practices not as self-enrichment but as a necessary mechanism to counterbalance work design deficits.

Practical implications – For bottom-up redesign to become proactive and align with organisational strategies, it is essential to ensure a sustainable work design in production where job crafting can evolve from compensatory mechanisms to learning and future-oriented practices.

Originality/value – The model contributes to the operations management literature by nuancing the prevailing view that work design in production is a top-down endeavour. It depicts work design as a co-constructed yet unequal process and reveals how compensatory job crafting creates unmanaged variation in front-line manager practices that sustains operations but challenges standardisation principles.

Keywords Work design, Job crafting, Work characteristics, Front-line managers, Managerial behaviour, Multiple case study

Paper type Research article

1. Introduction

A recent study showed that when the formal implementation of technical systems falters, leaders at lower organisational levels must initiate practical adjustments and social adaptations to bridge the gap (van Dun *et al.*, 2026). In work design literature, such bottom-up responses are conceptualised as job crafting. Job crafting refers to bottom-up work redesign whereby individuals proactively alter aspects of their jobs, highlighting that work design is not only specified top-down but also enacted and modified in practice (Tims and Bakker, 2010). This paper examines front-line manager work characteristics in production contexts and how front-line managers influence their work design through job crafting. Drawing on Wrzesniewski and Dutton's (2001) view of job crafting as task, relational and cognitive crafting, we conceptualise these situated adjustments as changes to the content and organisation of work tasks, activities, relationships and responsibilities – core elements of work design (Parker, 2014). Attending to front-line managers' job crafting is particularly relevant in contemporary production settings, where work design has moved beyond task specification and control to

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function as a lever for resilience, continuous improvement and human sustainability (Hines *et al.*, 2025).

Moreover, the human-centric "Industry 5.0" perspective complements Industry 4.0 by emphasising that technology-intensive systems must also be designed for people and resilience, not just automation and efficiency (European Commission, 2021). This aligns with recent arguments for a more humanistic, people-centred paradigm in operations (Giménez-Thomsen and Sancha, 2026), including a human-centric approach to aligning lean practices and I4.0 technologies (Frank *et al.*, 2024; Hines *et al.*, 2025). As digitalisation and data-driven coordination intensify, production systems face tighter interdependencies and greater variability, making local practices regarding how people adapt, prioritise and solve problems increasingly consequential for performance and well-being (van Dun and Kumar, 2023; Frank *et al.*, 2024), which further points to the importance of work redesign strategies (Petropoulos *et al.*, 2025). Daily autonomy has been linked to better task and contextual performance, underscoring the value of bottom-up work design and its positive outcomes for employees and organisations over time (Sørlie *et al.*, 2022). However, while top-down work design remains foundational in operations management (e.g., De Treville and Antonakis, 2006; Hasle *et al.*, 2012), research on bottom-up mechanisms, notably job crafting (Wrzesniewski and Dutton, 2001; Tims and Bakker, 2010; Berg *et al.*, 2010; Petropoulos *et al.*, 2025), is still scarce. Existing research has largely focused on operators' job crafting (Cullinane *et al.*, 2017) and, more recently, middle and senior managers' job crafting in production as a pandemic-related response was studied (Wojtczuk-Turek *et al.*, 2024). Even though front-line managers have an important role in production, their job crafting has not been explored. Front-line managers are the ones who create daily resilience by responding to uncertainties and interruptions (Karltun *et al.*, 2023). They are a link between management strategy and daily production (Townsend and Kellner, 2015), for example, by supporting lean practices on the shop floor (Simões *et al.*, 2024). They are also important for employee well-being (Huo *et al.*, 2022), learning and development (Wallo *et al.*, 2013). Front-line managers are critical in production, and yet there is much we do not know about how they shape their work and for what reason.

Previous research on managers' job crafting has focused on managerial crafting in service contexts (Ali *et al.*, 2020) and projects (McKevitt *et al.*, 2022). Shin and colleagues (Shin *et al.*, 2020a, b; Hur *et al.*, 2022) found that restaurant store managers' job crafting was positively associated with performance and negatively related to turnover intention, while Zhao *et al.* (2023) showed that supervisor job crafting trickles down to frontline employee job crafting, engagement and performance. However, the job crafting of front-line managers in production, a context which is highly standardised and operationally constrained, remains empirically understudied. Specifically, there is limited theoretical understanding of how their work characteristics shape context-specific job crafting practices. Work characteristics, which are work attributes or features that describe what the work is like and how it is structured (according to top-down work design), can enable, constrain and shape individual job crafting (Parker *et al.*, 2025). While the motivational underpinnings of job crafting have been well documented (Wrzesniewski and Dutton, 2001; Lazazzara *et al.*, 2020), situational and structural drivers such as work characteristics (Parker *et al.*, 2025), disruptive events (Wojtczuk-Turek *et al.*, 2024) and role overload (Chen and Du, 2023) are increasingly acknowledged to also affect job crafting. Indeed, scholars emphasise the need to better understand the dynamic interplay between work characteristics and job crafting forms (Parker *et al.*, 2025). This is particularly salient in a production context when introducing new management approaches such as lean production, where role ambiguity and operational intensity can lead to unsustainable work practices (Huo and Boxall, 2017; Wallo *et al.*, 2013).

To address this gap, we conduct a study of front-line managers in production contexts and draw on job crafting theory and work design theory to conceptualise how they influence their work design. This motivates the following research questions:

(1) What are the perspectives of senior managers and front-line managers respectively on front-line manager work in production?

(2) How do front-line managers respond to and influence their work design?

To address these research questions, we deployed an explorative, inductive multi-case study. An inductive approach is well-suited to enabling the discovery of the interplay between work characteristics and front-line managers' situated influence on their work. By assembling four complementary cases that vary in production attributes, we prioritise theoretical coverage over representativeness. Drawing on job crafting and work design theory, we conceptualise front-line managers' work and how they influence their work design, and develop an empirically grounded model of job crafting in production that incorporates context-specific work characteristics.

We found that senior managers' perspectives on front-line managers' work characteristics were "insufficient support commanding self-reliance" and "flexibility demanding self-organising", while front-line managers described their work characteristics as "overwhelming scope and role conflict" and "inadequate support structures". We identified three job crafting practices used by front-line managers to mitigate the insufficient work characteristics: "task organising", "attending to relationships" and "altering perspectives". These job crafting practices led to redesigned work such as "reconfigured task structure", "expedient interaction modes" and "adjusted view of work and self-image", which enabled the front-line managers to maintain daily production and handle immediate disturbances. Based on these findings and connecting them to the theory on job crafting (Wrzesniewski and Dutton, 2001) as well as work design (Tims and Bakker, 2010; Parker *et al.*, 2025), we developed a model of compensatory job crafting. This model depicts how front-line managers compensate for misalignment regarding work characteristics through job crafting practices. The model contributes to job crafting literature by proposing that job crafting in a production context serves a compensatory function. Furthermore, it extends job crafting theory by examining front-line managers' job crafting in production, an empirically important yet underexplored context. By moving beyond the dominant focus on service and knowledge-work settings, we broaden the contextual scope of job crafting and surface boundary conditions linked to standardisation and operational constraints, highlighting a distinct form of crafting driven by compensatory necessity rather than enrichment. Finally, it contributes to operations management literature by nuancing the prevailing view that work design in production is a top-down endeavour.

This paper is structured as follows. After this introduction, we provide a theoretical background on work design and job crafting. Next, we present the methodology used for the study. The empirical results are then described, followed by a discussion of the findings. Finally, we present managerial implications and suggestions for future research.

2. Work design and job crafting – theoretical background

2.1 Characteristics of front-line managers' work

Work design in operations management has traditionally been viewed as a structure determined by a top-down process from higher organisational levels. This perspective is rooted in Hackman and Oldham's (1976) job characteristics model, which emphasises motivational factors like autonomy and task significance. Humphrey *et al.* (2007) expanded this framework to include broader task and social work characteristics, such as problem-solving and social support. Parker (2014) further contributed to this literature by adding factors such as emotional demands and technical prerequisites. Subsequently, Parker *et al.* (2017) emphasised that the work of the individual employee is embedded within a broader context, shaped by organisational design, technology, culture and globalisation.

The front-line manager role is often called the "first level of white-collar workers" and differs from blue-collar workers (such as operators and team leaders) who do the manual

labour in production. The title of managers in this role varies; examples of titles include first-line managers, supervisors, line managers, production managers, production supervisors and production leaders. Generally, the front-line manager's work in production has expanded and become more complex over the last few decades to include increased responsibilities as well as a higher administrative workload (Lowe, 1993; Seppälä, 2004; Wallo *et al.*, 2013).

Front-line managers have an important role in production, not only for operational performance (Kathuria *et al.*, 2010; van Dun and Wilderom, 2021) but also for employee well-being (Huo *et al.*, 2022), as well as development and learning (Wallo *et al.*, 2013). They are the link between senior managers' long-term strategies and daily production output (Townsend and Kellner, 2015). For example, in a lean production environment, front-line managers have a key role in securing daily delivery and quality, and solving problems, while also supporting production workers in daily issues as well as long-term learning and development (van Dun *et al.*, 2017; Camuffo and Gerli, 2018). Here, the work of front-line managers is changing from being task-oriented towards being relational-oriented (Reynders *et al.*, 2022). However, there is a risk that lean production can lead to work overload for front-line managers, and subsequently to exhaustion and declined well-being (Huo and Boxall, 2017). Consequently, their ability to reach their full potential may be hindered by a heavy workload and administrative tasks (Wallo *et al.*, 2013), especially when team sizes are large (Tortorella *et al.*, 2018).

There seems to be a trend of shifting more human resources (HR) responsibilities from the HR department to front-line managers (Renwick, 2003; Larsen and Brewster, 2003; Hales, 2005; Bos-Nehles *et al.*, 2013), which has led to an extended front-line manager role (Hales, 2005), and in turn to increased role conflict and ambiguity, as well as increased workload and stress (Hutchinson and Purcell, 2010; Evans, 2017). Other business management responsibilities, such as performance and budget management, have also been shifted from middle managers to front-line managers, leading to an expanded role and increasing demands and pressures (Hales, 2006). There are some indications that individual managers experience their work as almost constantly intense (Palm and Eriksson, 2018). Consequently, many managers perceive their work as stressful (Lundqvist *et al.*, 2012), which affects both their health and their leadership (Wallo *et al.*, 2013; Lundqvist *et al.*, 2012).

2.2 Job crafting

While the literature on top-down work design describes design choices and their consequences, it describes less about how the work is shaped by the individual performing the job. We therefore apply job crafting theory, as it provides an opportunity to investigate how front-line managers shape their work to manage an extended role in a production context characterised by standardised procedures and processes. Job crafting refers to the process through which individuals actively reshape, modify and customise their work, i.e., a bottom-up work redesign. Employees have long been considered passive performers of the job they are assigned, and research has neglected the influence of employees on their work design (Tims and Bakker, 2010). According to Wrzesniewski and Dutton (2001), job crafting practices can be described in terms of changing task boundaries (type and number of work tasks), changing cognitive work boundaries (altering the view of work as parts or whole) or changing relational boundaries (altering the nature of interactions at work and with whom). In these ways, job crafters adapt their jobs to fit their individual needs, which may have positive or negative effects on the organisation depending on the adaptation (Wrzesniewski and Dutton, 2001). As such, bottom-up job crafting contrasts with top-down work design in that job crafting entails the practices of the individual employee, while top-down work design is a more structured organisational practice.

Wrzesniewski and Dutton (2001) claim that job crafting arises from three individual needs – the need for control over job and work meaning, the need for positive self-image and the need for human connection with others. When these needs are not being met in their work situation,

employees will be motivated to craft their job to better fulfil their needs (Wrzesniewski and Dutton, 2001). Similar needs are raised by scholars applying the Self-Determination Theory, where the satisfaction of the basic psychological needs for autonomy, competence and relatedness is seen as important for work motivation, performance and well-being (Deci *et al.*, 2017). Tims and Bakker (2010) describe job crafting as a specific form of proactive behaviour by which the employee initiates change in relation to job demands and job resources to fit their job to their personal knowledge, skills and abilities, as well as their needs and preferences. An increase in proactive job crafting behaviour is found to be related to the combination of the need for a positive self-image and work experience, as well as the need for human connection when self-efficacy is high (Niessen *et al.*, 2016). According to Lazazzara *et al.* (2020), motives for job crafting can be reactive or proactive. Reactive motives mean that employees job craft mainly to cope with adversity, such as high competitiveness or lack of validation (structural adversity), or pressure, lack of autonomy, high workload or conflicting demands (job-related adversity). Proactive motives, on the other hand, are linked to individuals trying to reach their desired goals at work, such as increasing meaningfulness, creating a positive work identity, developing knowledge or reaching a better work-life balance.

Job crafting possibilities and behaviours may be limited by contextual factors, such as task interdependency and close monitoring. In turn, they are enhanced by autonomy and flexibility (Wrzesniewski and Dutton, 2001). How supportive or constraining the context is, together with the proactive or reactive motives for job crafting, influences the type of job crafting practices that an individual uses (Lazazzara *et al.*, 2020). Berg *et al.* (2010) show how different ranks affect the possibilities, challenges and responses in job crafting, where higher-rank employees, such as managers, differ from lower-rank employees in perceived opportunity and freedom to craft their jobs. Specifically, the authors found that managers were struggling with balancing job crafting intentions and achieving higher-end goals, while experiencing more psychological constraints than lower-rank employees (Berg *et al.*, 2010). An overview of types of crafting, contexts and antecedents/drivers studied in the job crafting literature is presented in Table 1.

As synthesised in Table 1, the existing literature on job crafting covers a diverse range of occupations, predominantly focusing on service sectors, healthcare and knowledge-intensive industries. While these studies provide valuable insights into how individuals shape their work, the findings may not be directly transferable to the specific context of production. Unlike knowledge-intensive work, which is often characterised by high autonomy and flexibility, production environments are typically more constrained. As shown in the table, research within the manufacturing context is sparse and primarily addresses the job crafting of operators (Cullinane *et al.*, 2017). Conversely, studies examining managers' job crafting tend to focus either on upper-level management (e.g., Ali *et al.*, 2020; Wojtczuk-Turek *et al.*, 2024) or managers in the service sector (e.g., Shin *et al.*, 2020a; Hur *et al.*, 2022). This leaves a gap in job crafting theory. Front-line managers in production operate in an environment where constraints and demands create a unique setting for job crafting that differs fundamentally from both blue-collar work and white-collar knowledge work.

2.3 Summary of our theoretical background

To address the need for more research on front-line managers' job crafting in production, we apply a perspective positioning job crafting as closely related to work characteristics and as being embedded in the broader concept of work design. Accordingly, our theoretical perspective aligns with previous scholars (Parker *et al.*, 2025; Tims and Bakker, 2010; Wrzesniewski and Dutton, 2001) and considers job crafting as bottom-up work redesign impacted by the top-down work design manifested through specific work characteristics.

Top-down work design is driven by organisational motives such as organisational design, management style or technology (Parker *et al.*, 2017, 2025), while motives for bottom-up job crafting are on the individual level and have mainly been recognised as meeting individual

Table 1. Overview of job crafting literature

Author(s)	Type of crafting	Context	Antecedents/drivers
Wrzesniewski and Dutton (2001)	Task crafting Relational crafting Cognitive crafting	Conceptual paper Examples from hospital cleaners, hairdressers, engineers, nurses, IT, restaurants	Individual needs
Tims and Bakker (2010)	Changes in the level of job demands and resources	Conceptual paper	Person-job misfit
Berg *et al*. (2010)	Task crafting Relational crafting Cognitive crafting	Higher-rank vs lower-rank employees Non-profit and for-profit organisation	Proactive motives Adaptive moves
Niessen *et al*. (2016)	Task crafting Relational crafting Cognitive crafting	Diverse industries	Individual needs Self-efficacy Job autonomy
Cullinane *et al*. (2017)	Seeking resources Seeking challenges	Operating and support teams in lean manufacturing	Skill utilization
Ali *et al*. (2020)	Task crafting Relational crafting Cognitive crafting	Upper-level managers in service sector SMEs	Manager ambidexterity
Lazazzara *et al*. (2020)	Approach crafting Avoidance crafting Crafting in other domains	Meta-synthesis Supportive/constraining context	Proactive motives (reach desirable goals) Reactive motives (cope with adversity)
Shin *et al*. (2020a) Shin *et al*. (2020b) Hur *et al*. (2022)	Increasing resources Increasing challenges	Restaurant store managers	–
McKevitt *et al*. (2022)	Task crafting Relational crafting Cognitive crafting	IT project managers	Task or value-based perspective on PM
Chen and Du (2023)	Not specified	Diverse industries	Role overload
Masood *et al*. (2023)	Approach crafting Avoidance crafting	Across occupations and ranks	Career outcome expectations Work-related external regulations
Zhao *et al*. (2023)	Changes in the level of job demands and resources	Hospitality organizations (hotels)	Supervisor job crafting affects employee job crafting
Wojtczuk-Turek *et al*. (2024)	Changes in the level of job demands and resources	Middle and senior managers in production	Disruptive events Demands
Parker *et al*. (2025)	Approach/avoidance Behavioural/cognitive Resources/demands crafting	Conceptual paper	Work characteristics and their change

needs (Wrzesniewski and Dutton, 2001), skills and abilities (Parker *et al.*, 2025), decreasing person-job misfit (Tims and Bakker, 2010) and reaching individual goals (Lazazzara *et al.*, 2020). However, it has been increasingly acknowledged that contextual factors are also important antecedents for job crafting (Masood *et al.*, 2023), but it is still unclear how work characteristics shape job crafting practices (Parker *et al.*, 2025), although there are indications that job-related adversity may serve as a reactive motive for job crafting (Lazazzara *et al.*, 2020). In line with this, we expect the prevailing work characteristics (Hackman and Oldham, 1976; Humphrey *et al.*, 2007) to affect the bottom-up work redesign that front-line managers

undertake to shape and mould task boundaries (task crafting), cognitive work boundaries (cognitive crafting) and relational boundaries (relational crafting) (Wrzesniewski and Dutton, 2001) to influence their work design (Tims and Bakker, 2010). There are both personal and work outcomes of job crafting and work characteristics, such as job performance, well-being, work engagement, turnover rates, experiences and work identity (Hackman and Oldham, 1976; Parker *et al.*, 2025; Tims and Bakker, 2010; Lazazzara *et al.*, 2020; Wrzesniewski and Dutton, 2001), underscoring the importance of how work is designed and redesigned.

We use this theoretical perspective in the later stages of our analysis to further conceptualise the job crafting practices that front-line managers use to redesign their work and thus influence their work characteristics. While this background is not intended to be extensive or exhaustive, it serves to help understand the data in relation to existing theory (Gioia *et al.*, 2013).

3. Methodology

3.1 Research design

Although the phenomenon of job crafting is conceptually recognised, front-line managers' job crafting in production settings remains empirically understudied and theoretically underarticulated. In line with this, we adopted an explorative, inductive, multi-case design. This design offers a strong methodological fit for exploring a nascent phenomenon and "how" questions that require the discovery of mechanisms rather than hypothesis testing (Edmondson and McManus, 2007; Eisenhardt and Graebner, 2007). Production plants are complex sociotechnical systems in which front-line managers operate under tight temporal, safety and interdependence constraints; understanding job crafting in this context demands rich, contextualised data gathered close to the work (Voss *et al.*, 2002; Yin, 2018). Using multiple cases allowed us to assemble complementary contexts that differ in operations design and work organisation, detailed in Table 2 (e.g., product/process type, production layout, automation, shift structure). By selecting cases with diverse operations design and work organisation, we ensured a broad contextual variation for our inductive exploration, thereby increasing theoretical coverage while reducing the risk that insights are idiosyncratic to a single site (Stake, 2013; Ketokivi and Choi, 2014). Thus, the aim was not to conduct a comparative analysis but to identify recurrent perceptions and practices across cases. Within each case, we used a multilevel perspective on front-line manager work characteristics and captured both senior managers' perspectives (top-down work design) and front-line managers' perceptions of and responses to work characteristics (bottom-up work redesign), which became the foundation of the analysis. We employed an inductive approach in our data collection and analysis. Following this approach, the theory of job crafting practices did not govern data collection; instead, we carried out open-ended, in-depth interviews to elicit narratives that provided rich insights into front-line managers' work situations and how they shape their work design. Non-participant observations complemented the interviews by revealing the actual work conducted by front-line managers during the day, and we arranged a focus group meeting with front-line managers to capture reflections and explanations of findings emerging from the interviews and observations. We conducted within-case analyses and then built an integrative, contextually grounded account of how work characteristics drive front-line managers' job crafting, thereby enabling analytical generalisation to theory (Langley, 1999; Gioia *et al.*, 2013).

3.2 Cases and sampling

In line with theory-building case research, we adopted a theoretical sampling logic to illuminate how context shapes front-line managers' job crafting and to probe the boundary conditions of emergent theory (e.g., Eisenhardt, 1989; Eisenhardt and Graebner, 2007; Voss *et al.*, 2002). We focused on production plants because front-line managers' job crafting in a production context is comparatively understudied and because production settings are

Table 2. Overview of case companies and data collection

		Case A	Case B	Case C		Case D
	Company size	Large-sized enterprise	Medium-sized enterprise	Large-sized enterprise		Large-sized enterprise
Operations design	*Manufacturing process types*	Mass process	Batch process	Mass process	Batch process	Mass process
	Basic layout types	Cell/product layout (AGVs/ line)	Cell layout	Cell layout (mini lines)	Cell layout	Product layout (conveyor belt)
	Type of planning	Assembly to order	Make to stock	Make to stock	Make to stock	Assembly to order
Work organisation	*Operators' main job tasks*	Assemble	Control, load and unload	Assemble	Control, load and unload	Assemble
	Work shifts	2–4	4–5	1–4	1–4	2
	Cycle time	≈1 min	Variation	≈1 min	Variation	≈7 min
	Daily management	Yes	Yes	Yes	Yes	Yes
	Front-line managers' span of control	≈40–45	≈30	≈25–50		≈35–40
	Front-line managers' peer cohort size	2–5	4	2–10		8–10
Data collection	*Interviewed participants*	5 Front-line managers (FLMs) Middle manager Senior director Operations development manager HR manager Engineering manager	2 Front-line managers Plant manager Procurement manager HR manager CEO	4 Front-line managers Middle manager		4 Front-line managers Middle manager Plant manager
	Observations	2 FLM, 15 h				
	Focus group	3 FLM, 100 min				

characterised by high formalisation, interdependence, safety and time constraints – features that plausibly condition both the opportunities and limitations of job crafting. The multiple-case study approach offered variation in the empirical context (see Table 2, offering an overview of the included production plants) and thus enabled a broader exploration of job crafting practices within the production conditions (Eisenhardt and Graebner, 2007; Stake, 2013). We included four production plants from four different manufacturing companies, all located in northern Europe. As a secondary strategy, we used convenience sampling (Eisenhardt and Graebner, 2007) since we selected production plants where we had established research relationships. This was important given our interest in individuals' perceptions of triggering conditions and work redesign moves, which demand access to individuals working in the production plants and the ability to engage with the organisational context.

An overview of the four production plants included in the study, and data collection at these case companies, is presented in Table 2.

Case A: The production plant includes both machining and assembling. However, the scope of this case study is limited to assembly, where there is both cell layout and product layout for different parts of the assembly process. The assembly cells have intermittent automated guided vehicles (AGVs) moving between manual assembly stations, while the line has a combination of manual assembly stations and robot stations. The cycle time is approximately 1 min. The main planning strategy is assemble-to-order across three work shifts (varies between two and four depending on demand). Each front-line manager oversees 2–3 teams (around 40 operators) and belongs to a managerial group of 2–5 colleagues. The company has practised lean manufacturing for more than 20 years, implementing tools and methods such as daily management, standardised work, andon cord, 5S and kaizen.

Case B: The production plant consists of machining, e.g., CNC, drilling and grinder machines, but there are no robots. There are mini lines connecting machines, and operators' main job tasks are to control, load and unload the machines, as well as doing changeovers. The main planning principle is a make-to-stock strategy across four to five work shifts. A front-line manager has a span of control of around 30 operators from all the work shifts. Consequently, the front-line manager has limited contact with subordinates on some shifts. The front-line managers work in a managerial group with four colleagues. The company is working with lean tools and methods, e.g., daily management, kanban systems and value stream mapping.

Case C: The production plant includes both machining and assembling. The assembly is carried out in mini lines (cells) with approximately a 1-min cycle time, and the machine processing has a separate cell layout. The main planning strategy is make-to-stock, and there are one to four work shifts depending on customer demand. Each front-line manager oversees 25–50 operators and belongs to a managerial group of 2–10 colleagues. The company is working with lean, e.g., daily management, standardised work, 5S and kaizen.

Case D: The production plant has a product layout design with a long assembly line with limited buffer capacity. The planning strategy is assembly-to-order across two work shifts. This case study focuses on a part of the assembly line which consists of 50 assembly stations; the cycle time at each station is approximately 7 min. Typically, two operators are working simultaneously at each station. Each front-line manager is responsible for 4 production teams, making the span of control about 40 operators. Front-line managers have a managerial group of 8–10 colleagues. The company has been working with lean for more than 20 years, and consequently, many lean tools and methods have been introduced, such as daily management, standardised work, andon cord, 5S and kaizen.

3.3 Data collection

In all four cases, we collected data from both senior managers and front-line managers. In-depth interviews were the primary method, complemented by non-participant observations and focus groups to capture front-line managers' work characteristics and their work redesign. The interviews aimed to elicit perceptions and attitudes – often resistant to direct observation (Bell *et al.*, 2019) – from each role to enable comparison across roles. We used two interview guides, one for front-line managers and one for senior managers. Consistent with our inductive approach, the guides were not anchored in pre-specified job crafting categories (e.g., Wrzesniewski and Dutton, 2001). Instead, open-ended questions probed the work context; whether and how particular conditions triggered the shaping of any aspect of work design; and the outcomes of such shaping. Both guides covered core topics related to front-line managers' work, including how the work is designed and what the job entails, the resources and support

provided and organisational expectations of the front-line manager role. Front-line managers were additionally asked about their perceptions of their work situation and the conditions provided by the organisation to conduct the job, what they find rewarding and challenging and what they do to influence their work. This semi-structured format balanced comparability across interviews within each role category with openness to new ideas and perspectives (Patton, 2015).

We interviewed 12 senior managers – including middle managers, plant managers, operational development managers and HR managers – and 15 front-line managers (see Table 2 for respondent details). Most interviews were conducted via Microsoft Teams or Zoom and lasted approximately 1 h. Video-based interviews offer advantages over face-to-face interviews, including time efficiency and participant preference (Archibald *et al.*, 2019). All interviews were recorded and transcribed verbatim. We conducted participant observations, shadowing two front-line managers at Case A for one full workday each. Observations were documented in time-stamped field notes that recorded task sequences and durations; in total, 15 h of observation were completed. We also held a focus group with three front-line managers from Case A to elicit reflections on and explanations of themes emerging from the interviews and observations, thereby deepening insights into work characteristics and work redesign practices. In addition, to get further insights into work design and work characteristics, we collected secondary data, in terms of documents, describing the production strategy, production system, work organisation, organisational structures and work practices at each plant. All four plants reported that formal job descriptions for front-line managers were not up to date and therefore not available.

3.4 Data analysis

Consistent with the research design, we used a systematic four-step inductive approach in our data analysis (inspired by the Gioia methodology; Gioia *et al.*, 2013), grounding our theory development in the empirical data. Accordingly, the stepwise data analysis shows how the constructs in our model are grounded in the data. Firstly, we conducted a first-order analysis, followed by a second-order analysis and an iteration with theory. Lastly, the themes and aggregated dimensions generated through the first three steps were further analysed considering the contextual knowledge and insights gained through the in-depth interviews, observations and focus group, which generated a compensatory job crafting model. We analysed the two respondent groups – senior managers and front-line managers – separately using the same steps. In the following, the four steps will be outlined in detail.

Firstly, a first-order analysis comprising open coding (Strauss and Corbin, 1998) of data from interview transcripts and time-stamped field notes from the shadowing days was carried out. One author was responsible for conducting the initial coding, and the emerging concepts were then discussed by all authors; the initial coder presented the essence of each concept, and the team refined labels and boundaries. Interview transcripts were read closely, noting accounts of front-line managers' work characteristics, what the role entails, the support provided and organisational expectations. For the front-line manager interviews, additional coding was done regarding perceptions of the work characteristics, sources of reward and challenge and actions taken to influence their own work design. The coding of the field notes was used for temporal bracketing of work characteristics (Langley, 1999), which helped identifying triggering conditions (e.g., task conflicts, insufficient support) and practices used to redesign the work (e.g., re-sequencing tasks, delegation, support seeking) as they unfolded. The coding stayed close to informants' language and practice, generating a large set of *in vivo* first-order concepts. This stage surfaced the key elements in each group's meaning-making about front-line manager work characteristics and about how front-line managers influence their work design.

In the second step, the second-order analysis – akin to axial coding (Strauss and Corbin, 1998) – the same author grouped first-order concepts into second-order themes within each

respondent group, by seeking patterns and relationships. The author formulated tentative theme labels that clarified (1) the work characteristics of front-line managers from both the senior-manager and front-line-manager perspectives, respectively, and (2) the actions front-line managers took to influence their work. All authors discussed the tentative themes and iteratively refined them, resulting in 10 second-order themes.

In the third step, all authors were involved in analysing the concepts and themes on a higher level of abstraction, iterating between the data, work design theory (Tims and Bakker, 2010; Parker *et al.*, 2025) and job crafting theory (Wrzesniewski and Dutton, 2001). This work yielded four aggregate theoretical dimensions: (1) prescribed work characteristics, (2) perceived work characteristics, (3) job crafting and (4) redesigned work. Since formal job descriptions were not available, observations provided behavioural ground truth on the prescribed vs enacted role, enabling us to refine the second-order themes "prescribed work characteristics", "perceived work characteristics" and "redesigned work".

As a final step, we built an inductive model grounded in the data (as exemplified by the data structure) to demonstrate the relationships among emergent concepts that explain front-line managers' job crafting and work redesign in production, and to make clear data-to-theory connections to enable theoretical insights that are not possible by only inspecting the static data structure itself. We did this by first considering the contextual knowledge and insights generated from the interviews, observations and focus groups, as well as integrating secondary data (internal documents describing production strategies). This allowed us to understand respondents' experiences in relation to their specific production environments. In practice, this meant that all authors discussed and compared senior managers' accounts of prescribed work characteristics with front-line managers' perceptions, and went back to the interview transcripts from which the first-order concepts were generated to get a broader understanding of the front-line managers' work context. We also read the field notes from the shadowing observations and the notes from the focus group, after which we discussed how senior managers' perspectives and front-line managers' perceptions were related. By going back to the details and nuances in our data (i.e., the thickness), we identified that there seemed to be a misalignment in the work characteristics of front-line managers' work. We also identified that the misalignment was a reason for front-line managers' job crafting and that the job crafting resulted in redesigned aspects of the work, which enabled the front-line managers to conduct the work. All authors met to discuss how the identified links between the emergent concepts could be illustrated to capture the process that they seem to be part of. We consulted the literature on job crafting and work design, which helped us place work characteristics (including both prescribed and perceived work characteristics) and job crafting (including job crafting practices and redesigned work) as elements of work design. From the data, particularly the data that was derived from the focus group, we identified that front-line managers perceived that work characteristics were impacted by the redesigned work. By considering the in-depth insights about not only front-line managers' job crafting but also the broader context of their work design that we had gained through our research design, we generated the compensatory job crafting model. This model explicates how front-line managers actively compensate for work design deficits through situated crafting practices.

4. Findings

Figure 1 illustrates the structure and representation of the first- and second-order analysis generating the overarching theoretical dimensions. It shows 29 first-order concepts (to the left in Figure 1) stemming from the interviews with senior managers and front-line managers, 10 second-order themes (in the middle of Figure 1) depicting the essence of their constituent first-order concepts and 4 main theoretical dimensions (to the right in Figure 1) that emerged from the analysis relating the second-order themes to theory. In the following sections, the four theoretical dimensions "prescribed work characteristics", "perceived work characteristics", "job crafting practices" and "redesigned work" will be outlined. In doing this, the second-order

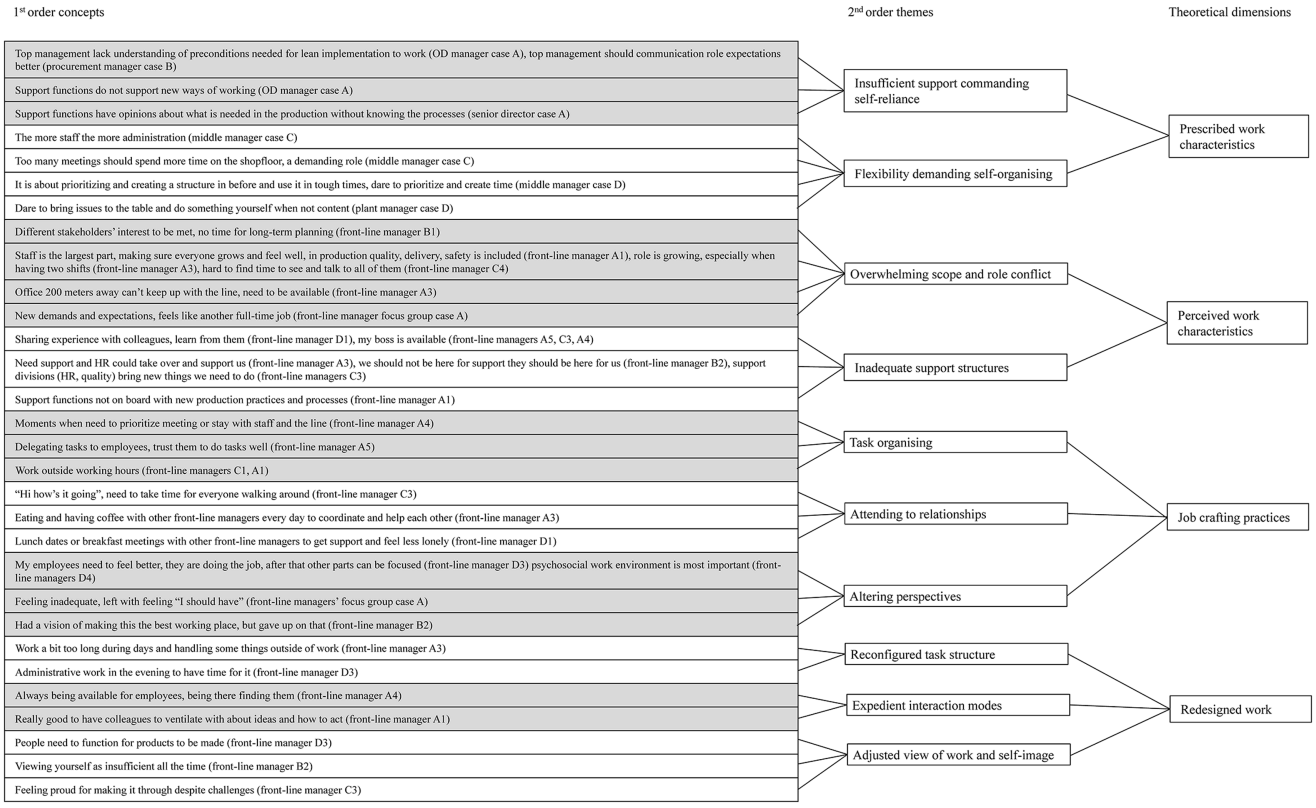

Figure 1. Data structure outlining the empirical grounding of concepts, themes and dimensions. Source: Authors' own work

themes for each dimension and related quotes (represented by first-order concepts in the data structure) will be presented, providing further illustrations of the analysis and grounding of our claims. The verbatim quotes substantiating the identified first-order concepts are limited in scope, detail and representativeness, but their value lies in being descriptive and illustrative (Buchanan and Badham, 1999). In the last section, a model of compensatory job crafting (see Figure 2) will be proposed.

4.1 Prescribed work characteristics: senior managers' perspective on front-line managers' job

"Prescribed work characteristics" is the theoretical dimension that emerged from the interviews with senior managers. This dimension is labelled "prescribed" as it depicts senior managers' perspective, stating front-line managers' work characteristics and expectations on how the work should be carried out. Conceptually, this draws on Parker *et al.*'s (2025) framework regarding how top-down influences and organisational processes shape work characteristics. As is illustrated below, senior managers, on the one hand, state that top management provides insufficient prerequisites for front-line managers to conduct their work, and they also seem to be aware of the lack of support available for front-line managers. On the other hand, senior managers state that front-line managers' work is characterised by flexibility and autonomy, and it is the front-line managers' own responsibility to prioritise.

All senior managers across the four production plants spoke appreciatively about the hard work of front-line managers and highlighted the importance of their work. They emphasised that front-line managers are responsible for leading, developing and operating the production – the area where, senior managers claimed, value for the firm is created. All senior managers underlined that there are high requirements on front-line managers to have deep knowledge of their production process as well as the performance measures used to monitor and evaluate efficiency, quality and output.

One second-order theme that emerged, depicting the prescribed work characteristics of front-line managers' work according to senior managers, was "insufficient support commanding self-reliance". The following four quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. Top management decisions about implementing new features in the work design were described as occasionally being uninformed and economically based, not considering what is best for the front-line

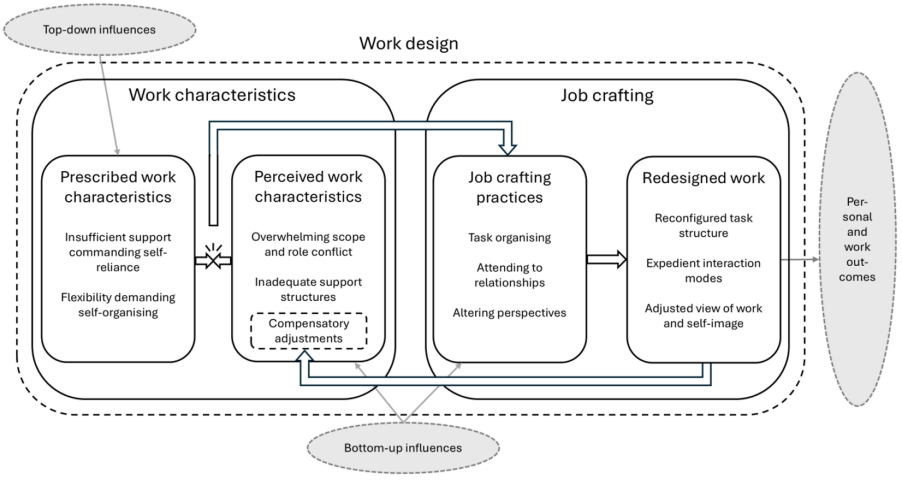

Figure 2. The compensatory job crafting model. Source: Authors' own work

managers leading the operations. Senior managers recognised top management's lacking understanding of the production environment and how this had negative consequences for front-line managers, as explained by this account from an operations development manager in Case A: "*Top management needs to learn more and understand, as there are different perspectives on what is efficient. They do not understand our model for lean implementation and the preconditions for it to work. This leads to many wrong decisions leading to deprived prerequisites for front-line managers, team leaders, and operators. They [top management] think it will be too expensive, but in fact, it is the other way around*". A procurement manager in Case B also mentioned unclear communication about role expectations: "*Top management should communicate their expectations better. Front-line managers have a tough role; it would help if role expectations were clearer*". Whether support is offered or not was also discussed during the interviews. In Case A, senior managers admitted that the support function is deficient, as this operations development manager explained: "*The support functions are using old perspectives, which means that they are not really supporting our new ways of working*". This opinion was echoed by a senior director from the same case plant: "*The support functions have opinions about what is needed in production without knowledge about the process. They don't understand the full picture; instead, they are trying to optimise their own function*".

Another second-order theme that emerged, depicting the prescribed work characteristics of front-line managers' work according to senior managers, was "flexibility demanding self-organising". The following four quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. Front-line managers' role is described as broad and their work as rather unstructured, providing front-line managers with flexibility to organise their own workdays. In addition to having technical knowledge about the operations, they need to have an interest in people and their development. Front-line managers are expected to spend time in the production environment with their employees, as well as meet their employees in individual meetings. Senior managers acknowledged that the size of the span of control (i.e., the number of operators per front-line manager) impacted the amount of administrative work that the front-line managers needed to do. One middle manager from Case C said that: "*I have now hired a couple of extra [front-line managers] to decrease the size of the groups, because they have about 25 to 45 employees and that is a big difference. The more staff you have, the more administration you get*". However, senior managers stated that the needed interest in people as well as the large number of employees per front-line manager resulted in too much time spent in meetings, which decreased the time out in production, which was not in line with the prescribed work characteristics, as illustrated by this quote from a middle manager in Case C: "*They get drawn into many different meetings; one of the bigger challenges is to free up time to spend on the shopfloor. It varies, but generally, too many meetings. They should be there more, especially when it's extra busy in production. Preferably, at least 40–50% of their time should be spent in operations, but far from all reach this level . . . It's a demanding role, not everyone can do this job*".

The work characteristics demanded that front-line managers organised themselves and prioritised among tasks. Senior managers acknowledged that front-line managers had a lot of different tasks to attend to, and they claimed that prioritisation was part of the job and that front-line managers must dare to prioritise and create the prerequisite for themselves to get the job done as one middle manager in Case D explained: "*Again you can always say – yes, but I don't have time today. But it is about prioritising and understanding the importance of having a structure (for your work). Building a structure beforehand will help you when there's a tough situation . . . Thus, it is very important to dare to prioritise. Because if you wait to have the spare time to do it, it will never come. In the environment we live in, there is always something to do, so you will never get the time you need. You have to create the time yourself. Ask for it if needed*". The expectation on front-line managers to take responsibility for their own work design was mentioned by all senior managers. A plant manager in Case D even put forward that when not satisfied with how the work was supposed to be carried out, front-line managers were expected to implement changes instead of complaining and expecting the organisation to

handle it: *"Just go and do it and agree with your colleagues on the same level that you will try it out. Dare to have a healthy conflict, dare to highlight, and bring issues to the table. You shouldn't give up. . . . Instead of 'it is always like this and that, and we are not allowed . . .' Well, what have you done yourself?"*.

In sum, senior managers across the four plants affirmed the centrality and difficulty of the front-line manager work – tasked with leading, developing and running value-creating operations under high pressure – and emphasised high expectations for deep process knowledge, command of performance metrics and people-orientation. Their accounts prescribed two core work characteristics: "insufficient support commanding self-reliance", whereby front-line managers are largely left to manage and shape their own work amid limited and uneven support from functions such as HR, logistics and quality (and occasional top-management decisions perceived as misaligned with production realities); and "flexibility demanding self-organising", reflecting a broad, relatively unstructured role that requires balancing technical oversight with people development. Span of control was seen to inflate administrative workload, while proliferating meetings were viewed as crowding out desired shopfloor presence (with a target of roughly 40–50% time in operations rarely met).

4.2 Perceived work characteristics: front-line managers' perspective on their job

Perceived work characteristics is the theoretical dimension that emerged from the interviews with front-line managers. We label this dimension "perceived work characteristics" as it illustrates front-line managers' perspective on their work characteristics and the expectations on how their work should be carried out. Theoretically, this corresponds to what Parker *et al.* (2025) describe as the "existing work design" – representing the boundaries and conditions within which employees must operate. As illustrated below, front-line managers perceived, similar to senior managers' perspective, that their work is characterised by a lack of support from functions such as HR and quality control. Front-line managers also perceived their work to be characterised by overwhelming scope and role conflicts. However, they did not perceive the autonomy and flexibility that was emphasised by senior managers. Thus, there seems to be a misalignment between the prescribed and perceived characteristics of front-line managers' work.

All interviewed front-line managers felt that their job was meaningful and that they were proud of the results that they accomplished together with their employees. The front-line managers consistently emphasised that their primary responsibilities are employees, quality, delivery and safety. While they mentioned that the latter three come with demands which always need to be lived up to, they mainly spoke about personnel issues. Taking care of the employees is considered a very important responsibility, but also something complex, taking up a good part of the time and effort of the workdays.

One second-order theme that emerged from the interviews with front-line managers depicting the perceived work characteristics was the "overwhelming scope and role conflict". The following six quotes, represented by first-order concepts in the data structure (Figure 1), illustrate the grounding of this theme. Front-line managers described that they have tasks related to employees, including both administrative (e.g., staffing, job allocation, rehabilitation plans and salaries) and leadership aspects (e.g., coaching, supporting, holding appraisal talks and chatting with operators and team leaders). Various internal functions as well as external stakeholders are engaged in deliveries, demanding that requirements are met, making the job more complex and time-consuming and leaving little space for preparations or planning, as front-line manager B1 said: *"But there are so many stakeholders each day who have their interests in deliveries which have to be met. That's just how it is. In the unlikely event that there is some time left, you still don't have the chance to focus on long-term planning"*. The managerial role has been expanding with the introduction of new models for work in production, and consequently, the job content has increased. Front-line manager A1 said: *"It's really staff that's the largest part. Making sure that everyone grows and feels well, thrives, and*

the work environment, everything like that, because that's what makes us produce well. But then in production, it's also quality, delivery, safety, everything's included". It is hard to keep up with all the work that needs to be done, as articulated by front-line manager A3: *"The role is constantly growing so you can't keep up with everything, I would say. Especially when having two shifts, by yourself. It's hard to keep up then, I'd say that"*. Most front-line managers were responsible for 35–50 operators, regardless of the various operational contexts across the cases (e.g., process types, layouts, operators' work tasks and number of work shifts). The span of control being this large left front-line managers little time to meet with every employee, as illustrated by this quote from front-line manager C4:*"With 50 people . . . it's hard to have the time to see and talk to all of them"*. The physical workplace of the front-line managers is mainly in production. They are supposed to and aim to be present in production as much as possible, but when working with more sensitive or complex administrative tasks, such as sick leave, wages, etc., they need to be in a quieter place, like an office or the coffee room (where the operators spend their breaks), to work on such tasks. Some of the front-line managers could easily access their office without moving far from production, while others had an office space in another part of the factory which would not be practical for them to use or close enough to their line, as expressed by front-line manager A3:*"I feel like if you walk away and sit in an office 200 meters away, then you can't keep up with the line. And that's not really how it's supposed to be; you should be available, so I'm mainly out here all the time. And do most things offhand out there you know"*. Front-line managers being present on the shopfloor and following up on production continuously (e.g., every hour) is a strategy intended to quickly attend to any problems in production when they appear, instead of piling them up and handling them in a separate meeting. While the respondents who used continuous follow-up (mainly Cases A and B) found it to be a positive way of working which brings many benefits, the new demands also made their work situation unsustainable, as stated in this quote from a focus group meeting in Case A: *"I just feel like I had a full-time job as a manager two years ago as well, and now with these new demands and expectations on top of that. It's almost another full-time job, just that part"*.

The other second-order theme that emerged from the interviews with front-line managers depicting the perceived work characteristics was the "inadequate support structures". The following eight quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. The main sources of received assistance for the front-line managers were from colleagues and from their superiors. Particularly, the support from colleagues was highly appreciated and considered to positively influence work conditions. Contact with colleagues was frequent, with a small number of front-line managers working in the same or a nearby physical area, while contact with colleagues in other areas of production was scarce. These close colleagues were considered essential for support in daily tasks, especially when it came to handling difficult staff issues. Front-line manager D1 explained: *"Sharing experiences, if a colleague has had the same issue, hearing how they handled it so you can learn from them"*.

The experience of support from their superiors differed between respondents. Although all mentioned it as important, they had somewhat different levels of exchange. Those who had their superior present regularly in production received more continuous support and feedback rather than requesting support when needed; respondent A5 said: *"My boss is always at the morning meeting, and he's really present out in the line, so it feels like, we're following up all the time"*. Conversely, respondent C3 had a different situation: *"After a reorganisation my boss has his office in another building, so we don't meet as much as before when he was here every day"*. This was also connected to whether they worked only day shifts (like the superiors do) or other shifts, as illustrated by front-line manager A4: *"He only works day shifts . . ., I know that I can call him if something's up. And then maybe he can't answer right away, but he's always available and can be contacted if needed. He calls me back when he has the chance"*.

Supporting functions in the organisations, such as HR or quality, were not always viewed as being helpful. The respondents mentioned that they would want to be relieved of some

administrative tasks by supporting divisions, such as the HR division taking a larger responsibility for rehabilitation plans or the quality division taking over more complex quality improvement cases, as explained by A2 in this quote: *"We'd like some support and help there, when you come to a point where you know, HR or something could take over and support us more than they do today"*. And further clarified by B2: *"We are dependent on the supporting divisions, and they must understand that they rely on our production. We should not be here for them; they should be here for us"*. Support functions were perceived as adding new demands on front-line managers. Respondent C3 explained: *"These supporting divisions, they're handing out new things to do. It's like 'we need to do this now' or 'this should be implemented', so sometimes it leads to additional work. So, you can both get support with how to do certain things, but also that they bring new things for me to carry out"*. Some of the respondents mentioned that when new lean practices were implemented, engineering, quality and maintenance divisions were not as quick to respond as needed in production, but rather held on to old (slower) practices, as illustrated by this quote from respondent A1: *"They wonder 'why do we have to do it like this when we could have waited a week before and now you want it done in two hours', so yeah, but it gets better and better. But the supporting divisions are not always on board"*.

In sum, our findings suggest that front-line managers perceived that their work characteristics were insufficient to conduct the job. These accounts coalesce into two themes: "overwhelming scope and role conflict" and "inadequate support structures". Front-line managers have large groups of employees that require administration – often pulling them from the production space to an office – while they are simultaneously expected to be present on the shopfloor to handle on-demand issues around quality and safety. They think it is important to spend time with employees, but do not find enough time for this; their autonomy is limited by a large, often overwhelming, number of mandatory tasks and responsibilities combined with time constraints, and yet they are still expected to shape their own work situation. Their self-image as leaders – how well they feel they can perform the job – is also influenced, and even senior managers recognise that the role is tough and not everyone is suited for it. Front-line managers reported that they have inadequate resources, which implied that they often do not get support from divisions such as quality, maintenance and HR as quickly as they need or on the issues they want; the need to connect with employees is not fulfilled because large staff numbers lead to vast administrative work and insufficient assistance from support functions.

4.3 Job crafting practices of front-line managers in production

Job crafting practices is a theoretical dimension that emerged from the interviews with the front-line managers. This dimension is labelled "job crafting practices" as it depicts front-line managers' practices to shape the task boundaries, cognitive work boundaries and relationship boundaries (Wrzesniewski and Dutton, 2001). As is illustrated below, our analysis showed that job crafting practices were used to be able to conduct the job even if the work characteristics were perceived as insufficient and not as flexible and autonomous as prescribed by senior managers. Thus, the empirical data show a relationship between the perceived work characteristics and job crafting practices.

All interviewed front-line managers described how they, during an "ordinary day at work", needed to mitigate the insufficient work characteristics. They recognised the need to plan and act proactively to create a more sustainable work situation, but they expressed a lack of time. Our shadowing also showed how front-line managers' work was characterised by high fragmentation and constant switching between tasks.

One second-order theme emerging from the interviews, portraying the actions taken by front-line managers to influence the perceived work characteristics, was "task organising". The following four quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. From the interviews and observations, it became evident

that front-line managers often knew that they needed to handle the fact that they have too many tasks and responsibilities and too little time to fully meet these demands. They were constrained by the fact that many tasks, which were not viewed by themselves as central, were still mandatory, while others, which they considered more important, were not. There was usually no guidance provided for how to choose between tasks, but it was up to the individual manager to use their own judgment when needed. One job crafting practice to handle this was task organising through prioritisation among tasks, as explained by front-line manager A4: *"Either you need to prioritise like today I don't have the time to go to this meeting, or today I really need to go to this meeting and then leave the staff and line. Even if you don't really feel like you want to. You want to be there you know, as much as possible"*.

All front-line managers portrayed how their workdays were filled with time constraints, where they lacked the time to complete all their tasks relating to their responsibility to lead, develop and operate the production. They described being continuously provided with more tasks and responsibilities, while there were seldom tasks removed. One job crafting practice in the theme of task organising was to delegate tasks to subordinates, as front-line manager A5 described it: *"If I hadn't delegated, I wouldn't make it. And it's enriching for them as well, I trust my employees to do it well. I delegate a lot I would say. It makes me keep up with things, otherwise it would be a bit too tight"*.

To catch up on postponed tasks, several front-line managers mentioned working outside of office hours, which is another job crafting practice in the theme of task organising. Formally, this was not required of them, nor did they get paid for overtime, but many felt that this was the only way to complete the job. Front-line manager C1 talked about working on non-scheduled time: *"But I do work a lot outside of my working hours. I follow up on our results. Both evenings and weekends. And even if I'm not registering those hours"*. Working outside office hours was also needed to make oneself available to operators on other shifts outside working hours (many of the respondents were responsible for operators on two shifts) as described by respondent A1: *"I have staff in the evening as well even though I'm not working evenings, so I feel like, if I turn off my phone it wouldn't feel right"*.

Another second-order theme emerging from the interviews, depicting the actions taken by front-line managers to influence the perceived work characteristics, was "attending to relationships". The following three quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. Despite the work overload, scattered workdays and the number of employees, the front-line managers seemed to be determined to create and uphold relationships with their staff. They job crafted by attending to relationships through shorter interactions with the personnel, as respondent C3 said: *"I would really like to be able to speak to them all. Now it's more of 'hi, how's it going, bye', a bit like that because you need to take time for everyone walking around and you really can't when they are so many"*.

Most of the front-line managers described that they had close contact with one or more colleagues, i.e., other front-line managers. They were often seeking support from each other in daily matters, discussing arising issues and getting advice on how to handle them, even if such knowledge sharing and interaction was not included in their formal work design. Thus, one job crafting practice in the theme of attending to relationships was to meet colleagues to get support. This was explained by front-line manager A3: *"We're eating together and having coffee and things every day, coordinating and helping each other you know. So, I feel like that's really helpful"*. Meeting and talking to each other was not only very helpful to handle the demanding role, but meeting other front-line managers also created a sense of not being alone. Job crafting by attending to relationships with colleagues was also conducted to shape a sense of connectedness, as respondent D1 stated: *"We're booking lunch dates or breakfast meetings with each other, just for reflecting together 'how would you reason about this, what would you do here?'. It can be personnel issues or problem solving or . . . you help each other out. It's really important to be able to succeed, feeling that support. You really need that in this role. It can be very lonely otherwise"*.

A third second-order theme emerging from the interviews, depicting the actions taken by front-line managers to influence the perceived work characteristics, was "altering perspectives". The following four quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. It is clear from the interviews that the front-line managers perceive taking care of their personnel as central to their work, although their work is mainly measured and followed up on other areas such as quality, delivery and safety. One job crafting practice within this theme was to make sense of caring for the employees as a means to reach the measured goals, as illustrated by this quote from respondent D3: *"First of all, the employees need to feel better since it's them who are doing the job. When they feel better and things start turning, that's when you can work with these other parts"*. Altering the view of the work by placing personnel in the forefront also means caring for the psychosocial work environment, as explained by front-line manager D4: *"Yes, it's the psychosocial work environment that I think is most important. How a person feels when coming to work, how you feel at work, and the way you look back at your workplace when you're not there"*.

Many of the front-line managers described how the insufficient work characteristics, with excessive demands and lack of resources, made them feel inadequate, because they could not fully meet expectations. One front-line manager said during the focus group meeting in Case A: *"You can leave with the feeling that 'damn, I should have'. [. . .]But as I said, it's just a bit much for a full-time job today"*. Feeling bad about not conducting the job in line with how they wanted to act as managers led to the job crafting practice of altering perspectives by adjusting their self-image, as described by respondent B2: *"I had a vision starting as a manager, to make this the best workplace in the region. So that people say 'Wow, I really want to work there because they make good money and have a good work environment and a great workplace'. But I've given up on that"*.

In sum, our findings suggest that front-line managers actively engaged in job crafting practices. These practices conjoined into three themes: task organising, attending to relationships and altering perspectives. Under task organising, managers sought to cope with an overload of tasks and responsibilities, coupled with insufficient time, by prioritising among mandatory tasks, delegating responsibilities to subordinates and working outside regular hours to keep up. Under attending to relationships, they strived to maintain connections with employees through brief daily interactions despite time constraints, and relied on fellow front-line managers for advice, coordination and emotional support – countering feelings of isolation. Under altering perspectives, managers reframed caring for employees as a prerequisite for achieving production goals and adjusted their self-image to cope with the discrepancy between expectations and what was realistically possible. Taken together, these job-crafting practices were largely compensatory, aiming to mitigate the misalignment between, on the one hand, excessive demands and expectations and, on the other, resource constraints and organisational deficits.

4.4 Redesigned work

Redesigned work is a theoretical dimension that emerged from the interviews with the front-line managers. This dimension is labelled "redesigned work" as it depicts the result of front-line managers' job crafting practices. As is illustrated below, our analysis showed that the job crafting practices used by front-line managers to influence their perceived insufficient work characteristics were not in vain. Their efforts to redesign the daily work, although reactively, helped relieve some pressure and supported them in getting their job done. Thus, the empirical data show a relationship between the job crafting practices and the redesigned work.

One second-order theme emerging from the interviews portraying the redesigned work was "reconfigured task structure". The following two quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. Front-line managers created a reconfigured task structure, which included an adjusted work schedule. Through job crafting

practices such as prioritisation among tasks, delegation of some tasks to their employees and working outside work hours, they redesigned their work. Front-line manager A3 described creating an adjusted work schedule, stretching time boundaries to meet expectations on the role: *"You work a bit too long during the days, and then there is always something coming up outside of work as well"*. Often, administrative tasks are reallocated to off-hours since there is no time to attend to them when at work, and these tasks can be handled from home, as explained by respondent D3: *"Okay, I can work from home, in the evenings that is. Everything administrative, I need to do that in the evenings because otherwise I don't have the time to do it at all"*.

Another second-order theme emerging from the interviews portraying the redesigned work was "expedient interaction modes". The following two quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. Front-line managers explained that they created new expedient interaction modes to meet excessive demands. They did this by redesigning how and when they were meeting various stakeholders. Shorter time for interaction with each employee or interacting with many of them by walking around maximised employee interaction and fostered accessibility, as illustrated by this quote from respondent A4: *"To be there for my employees so that they know that they can always reach me. That I'm not too far away but that I am there finding them instead of them having to find me"*. Scheduling meetings with other front-line managers enabled peer interaction, which provided valuable support. In a context with overwhelming scope and role conflict, and inadequate support structures, learning from and reflecting with colleagues was described as crucial for conducting the job, and hence this redesign of the work was considered pivotal, as explained by front-line manager A1:*"It's nice to know that you have someone to ask questions and discuss how to act in different situations. Just ventilating, like was this a good idea or should I act like that. So that's really good"*.

A third second-order theme emerging from the interviews portraying the redesigned work was "adjusted view of work and self-image". The following three quotes (represented by first-order concepts in the data structure, Figure 1) illustrate the grounding of this theme. Front-line managers also articulated how the overwhelming scope and role conflict, and inadequate support structures, resulted in an adjusted view of work and self-image. To legitimise the employee focus and the time spent with employees, managers emphasised the interdependence between employee well-being and production outcomes. They framed their work as being fundamentally people-centred, as respondent D3 stated: *"When you work with people, it's people who need to function for the product to be made. That's how it is"*. However, altering perspectives also meant developing negative self-images, as expressed by front-line manager B2: *"You feel insufficient all the time, there's just no long-sightedness at all"*. Yet, altering perspectives can also reinforce a positive self-image and a sense of accomplishment, even in demanding contexts, as respondent C3 shared: *"It's been really tough getting into this role, really challenging, but at times I have felt proud that I've actually made it through"*.

In sum, although the production context varies, including the number of shifts and production layouts, front-line managers present a consistent view of their work characteristics across the cases. For example, they report an increased number of work tasks, large spans of control, lack of support and a sense of inadequacy, all of which contribute to a need for job crafting. Our findings suggest that front-line managers' job crafting practices were not in vain; they contributed to a redesigned, although mainly temporary, way of conducting work that helped relieve pressure and enabled managers to get their job done. Three themes illustrate the outcomes, i.e., the redesigned work: reconfigured task structure, expedient interaction modes and adjusted view of work and self-image. The redesigned work was characterised by new ways of structuring tasks, including adjusted schedules and reallocation of responsibilities to better cope with demands. It also entailed expedient interaction modes, through which managers redefined how and when they interacted with others to maintain accessibility and support despite time constraints. Finally, it involved an adjusted view of work, where

managers reframed their job as people-centred – emphasising the link between employee well-being and production outcomes, and an altered self-image grappling with feelings of insufficiency. Taken together, the redesigned work reflects the outcome of front-line managers' job crafting to sustain operations within the constraints of overwhelming scope and role conflict, and inadequate support structures.

4.5 The compensatory job crafting model

The preceding sections have progressively built a portrait of the front-line manager's work, moving from the prescribed role (Section 4.1) to their perceived reality (Section 4.2), their compensatory practices (Section 4.3) and the results of those actions (Section 4.4). Building on the data structure (Figure 1), combined with insights from observations and focus groups, we now synthesise these findings into the compensatory job crafting model presented in Figure 2. This model conceptualises front-line manager job crafting in production not as an isolated or purely self-initiated behaviour, but as a dynamic and necessary response to a misalignment in their work design.

The model encompasses two domains, namely work characteristics to the left and job crafting to the right. Within the domain of work characteristics, we identify two distinct perspectives. In the first box, "prescribed work characteristics", senior managers prescribe work characterised by high pressure and individual responsibility, captured by themes like "insufficient support commanding self-reliance" and "flexibility demanding self-organising". They frame the front-line manager role as autonomous, expecting them to prioritise their time and proactively solve problems. In the adjacent box, "perceived work characteristics", front-line managers experience this "flexibility" as "overwhelming scope and role conflict" (such as an unmanageable span of control and expanding administrative tasks) and "inadequate support structures" (such as deficient support from HR, quality and maintenance divisions). Addressing the first research question regarding the perspectives of senior and front-line managers, our model illustrates that these are not merely different opinions but a functional misalignment. This misalignment between mandated self-reliance and perceived organisational deficits, depicted by the opposing arrows, acts as a contextual driver that prompts front-line managers to engage in job crafting practices within the studied context.

Consequently, the top arrow originating from this misalignment points directly to the "job crafting practices" within the domain of job crafting. This signifies that they are largely reactive and compensatory responses aimed at bridging this misalignment and making an unsustainable job manageable. We identified three primary practices: "task organising" (e.g., prioritising tasks and working overtime) to absorb the workload, "attending to relationships" (e.g., seeking peer support and using check-in strategies) to counter isolation and lack of formal assistance and "altering perspectives" (e.g., reframing goals and adjusting self-image) to preserve focus and a sense of efficacy despite the structural constraints.

This crafting leads to "redesigned work" (Figure 2, right side), still within the job crafting domain, resulting in a "reconfigured task structure", "expedient interaction modes" and an "adjusted view of work and self-image". As such, the job crafting domain encompasses both the redesign practices and the subsequent redesigned work. In answer to the second research question regarding how managers respond to and influence their work design, the model demonstrates that they respond to the misalignment through these compensatory job crafting practices, temporarily influencing the design to maintain daily production and handle immediate disturbances.

The model further illustrates a feedback loop via the bottom arrow, flowing from redesigned work back to the dashed box labelled "compensatory adjustments" within the perceived work characteristics. Since the top-down prescribed characteristics often remain unchanged – such as a high span of control or administrative load – the redesign efforts act as a compensation. For instance, by creating informal peer support networks (redesigned work), managers compensate for the lack of formal support, thereby altering their perception of the

work situation from isolated to manageable. Similarly, by reconfiguring task structures to handle administration outside regular hours, they temporarily resolve the perceived role conflict during production time. These compensatory adjustments allow the perception of work to realign, enabling managers to cope with the misalignment even when the prescribed work characteristics remain constant.

Finally, we situate our empirical model within the broader theoretical landscape by including top-down influences, bottom-up influences and outcomes, depicted as grey dotted ovals in Figure 2. These grey elements did not derive from our empirical data but instead represent established theoretical concepts described in Section 2. The top-down influences illustrate that the prescribed work characteristics do not exist in a vacuum but are shaped by the wider organisational context, technology and strategy (Parker *et al.*, 2017). Similarly, the bottom-up influences acknowledge that while our study highlights work characteristics, individual factors such as personal needs and skills (Wrzesniewski and Dutton, 2001; Parker *et al.*, 2025) are also known to impact how work is perceived and crafted. Lastly, the personal and work outcomes serve to indicate the potential downstream effects of the redesigned work, such as performance and well-being (Tims and Bakker, 2010; Lazazzara *et al.*, 2020). Including these elements not only situates our specific findings within the broader work design literature but also underscores the practical significance of the crafting process for the organisation.

5. Discussion

The aim of this study was to explore front-line managers' work characteristics and what they do to influence their work design. Our findings are conceptualised in a model of compensatory job crafting and contribute to theory in mainly three ways.

Firstly, prior literature views job crafting as mainly driven by individual needs (Wrzesniewski and Dutton, 2001), skills (Parker *et al.*, 2025), person-job misfit (Tims and Bakker, 2010), individual goals (Lazazzara *et al.*, 2020) or as being needed during crisis management (Wojtczuk-Turek *et al.*, 2024). By considering multiple perspectives – senior manager prescribed and front-line manager perceived work characteristics – our model adds to this literature by proposing that job crafting in a production context serves a compensatory function. Front-line managers' job craft to compensate for misalignment in work characteristics to meet all the requirements and expectations included in their work. We coin "compensatory job crafting practices" as a term to emphasise that these practices emerge as functionally necessary given the current constraints. This substantiates prior indications that reactive motives for job crafting may arise from structural and job-related adversity (Lazazzara *et al.*, 2020) by showing how, in a production context, a critical misalignment between prescribed autonomy and perceived deficits in work design can constitute adversity and, consequently, prompt job crafting to maintain daily production and handle immediate disturbances at the shop floor. We find that job crafting, across the four cases within a production context, is shaped by work characteristics (Parker *et al.*, 2025) and role overload (Chen and Du, 2023), which risks having implications for work and personal outcomes such as job performance, well-being, work engagement, turnover rates, experiences and work identity (Hackman and Oldham, 1976; Parker *et al.*, 2025; Tims and Bakker, 2010; Lazazzara *et al.*, 2020; Wrzesniewski and Dutton, 2001). Thus, our study aligns with the claim that contextual factors are important antecedents for job crafting (Masood *et al.*, 2023) and contributes clarity on how work characteristics influence job crafting forms (Parker *et al.*, 2025), highlighting a distinct form of crafting driven by compensatory necessity rather than enrichment.

Secondly, previous research has mainly focused on manager job crafting in upper-level management (e.g., Ali *et al.*, 2020; Wojtczuk-Turek *et al.*, 2024) or in the service sector (e.g., Shin *et al.*, 2020a; Hur *et al.*, 2022). Our model shows how work characteristics influence front-line managers' job crafting in a standardised production setting, broadening the contextual scope of job crafting research. These front-line managers highlighted

compensatory crafting against misaligned prescribed and perceived work characteristics, which reflects a major risk regarding the current development of work design in production. It suggests a production context that effectively constrains the ability of front-line managers to proactively redesign their work to make space for their own and their employees' development and learning, which is core to lean production. These insights extend prior job crafting research in production contexts (Cullinane *et al.*, 2017; Wojtczuk-Turek *et al.*, 2024) by shifting attention from operators to the front-line manager role, and by elucidating how front-line managers engage in compensatory job crafting in their daily work to mitigate misalignment between top-down prescribed autonomy and perceived deficits in work design. It is important to acknowledge that our study is bounded by the empirical contexts studied. There are other individual and organisational factors, such as training, education, technical complexity and culture, that might have influenced front-line managers' job crafting practices and work redesign in production. However, we find a consistency of compensatory job crafting practices across our four cases, despite variations in their specific production attributes – ranging from mass production with short-cycle assembly work to batch production with semi-automated machines. This implies that the primary driver is most likely the shared context of an expanded front-line manager role – responsible for operational performance (Kathuria *et al.*, 2010; van Dun and Wilderom, 2021), employee well-being (Huo *et al.*, 2022) and development and learning (Wallo *et al.*, 2013) within a highly standardised system, rather than the specific production attributes. Our model contributes to job crafting theory by showing how context-specific work characteristics and role overload shape the job crafting practices of front-line managers in a highly standardised production environment, thus broadening the contextual scope of previous research (e.g., Ali *et al.*, 2020; Wojtczuk-Turek *et al.*, 2024; Shin *et al.*, 2020a; Hur *et al.*, 2022) to surface boundary conditions linked to standardisation and operational constraints.

Thirdly, drawing on Parker *et al.* (2025), the proposed compensatory job crafting model advances the view that work design is a co-construction process. While the co-construction view of work design is established, it contrasts with the prevailing perspective in the traditional operations management literature, which has largely emphasised top-down work design, where work characteristics are set at higher organisational levels or by a support function, e.g., production engineering (De Treville and Antonakis, 2006; Parker, 2014). Our findings reveal critical limitations in this top-down approach. To conduct their everyday job of managing operational performance (Kathuria *et al.*, 2010; van Dun and Wilderom, 2021), and employee well-being (Huo *et al.*, 2022), as well as enabling development and learning (Wallo *et al.*, 2013) alongside increased responsibilities and a higher administrative workload (Lowe, 1993; Seppälä, 2004; Wallo *et al.*, 2013), front-line managers must redesign their work by means of compensatory job crafting. This aligns with contemporary research demonstrating that local leaders are forced to utilise pragmatic leadership approaches and social integration to compensate for top-down implementation challenges during technological shifts (van Dun *et al.*, 2026). It is also important to mention that this expanded role and workload appears to be legitimised through a prescribed work design that aligns with a shared expectation of the front-line manager role across the four cases. Thus, it may, within our empirical context, point to a broader norm in production settings – rather than being tailored to the particular attributes of each production system.

Although senior managers acknowledged that the front-line manager role is demanding, there were no indications that the role or workload should be adjusted to support a more sustainable work situation; rather, managing these demands was framed as inherent to the job, to the extent that the role's reputation was perceived to complicate recruitment. Thus, just as the model indicates, it could be argued that front-line managers' work design is contingent on compensatory job crafting, which could be questioned given the current emphasis on human-centric approaches in production (Frank *et al.*, 2024; Hines *et al.*, 2025) and the principle that technology-intensive systems must be designed for people and resilience (European Commission, 2021). By illuminating how front-line managers engage in compensatory job crafting practices within

highly standardised production systems, we deepen ongoing discussions of a humanistic, socially attuned paradigm in operations (Giménez-Thomsen and Sancha, 2026) and contribute to IJOPM's emphasis on empirically grounded OSCM research that combines theoretical advancement with practically relevant insights (Roehrich *et al.*, 2025). Top-down work design is prescribed beforehand, whereas compensatory job crafting practices occur reactively in the moment to handle daily operations. Furthermore, top-down work design is driven by organisational motives, while front-line managers' job crafting is driven by a functional necessity to bridge the perceived misalignment. Consequently, our model highlights that while work design is co-constructed, the top-down design and bottom-up crafting do not unfold with the same temporality or perspective. The model frames job crafting as a compensatory mechanism mitigating insufficient work characteristics, suggesting that "co-constructed" should not always be interpreted as constructed on equal terms. Rather, it is an asymmetrical co-construction where one part prescribes the conditions, and the other part reactively compensates for their practical shortcomings. Thus, this study advances the view that work design is a co-construction process, but reveals that this co-construction occurs on unequal terms.

Previous studies have underscored the value of bottom-up work design and its positive outcomes for employees and organisations over time (Lazazzara *et al.*, 2020; Parker *et al.*, 2025; Sørlie *et al.*, 2022). Our model illustrates how job crafting results in redesigned work, which acts as a counterbalance to the overwhelming scope and inadequate support, making job crafting functionally necessary, yet representing an undesirable dependency on individual adaptation to resolve work design deficits. Gradual bottom-up reconstruction of work itself can potentially feed back into organisational expectations and work characteristics set by top management (Parker *et al.*, 2025). In line with Lazazzara *et al.* (2020), this suggests that job crafting should not be viewed in isolation, but rather as an indicator of and a means to improve work design. Our model points to the potential of job crafting in creating a continuous feedback loop where prescribed work characteristics and enacted practice mutually shape one another, provided that such crafting is acknowledged as important and integrated into prescribed work characteristics. However, it is important to consider the possibly negative organisational consequences of job crafting triggered by misalignment in prescribed and perceived work characteristics. As managers reactively craft their job to solve immediate problems, they establish local logics and routines that may deviate from the intended standard. While necessary to cope with demands, this creates unmanaged variation in how the front-line manager role is actually performed across the organisation, challenging the standardisation principles central to, e.g., lean production.

5.1 Managerial implications

For senior management, this study offers a critical insight: the emergence of different local practices and logics among front-line managers is not a sign of individual shortcomings, but a rational response to a misaligned work design. The paper gives a comprehensive view of front-line managers' work design and how it is handled by the use of job crafting practices, pointing to the fact that the prerequisites at hand in the studied companies are not enough to meet job demands. When prescribed and perceived work characteristics are not aligned, compensatory crafting practices create hidden variations that may unintentionally deviate from standardised routines. To address this misalignment and move towards a more sustainable work design, senior management should consider two complementary paths. The first path is to fundamentally review and modify the prescribed work characteristics. This involves structural changes such as reallocating administrative tasks to support functions, decreasing the span of control to manageable levels or aligning shift responsibilities so managers are not responsible for employees they rarely see. The second path is to accept the complexity of the role but provide front-line managers with support in their job crafting practices, ensuring that they have better opportunities to handle their work through proactive rather than reactive compensatory crafting.

However, relying on co-construction and bottom-up practices carries inherent downsides if left unguided. Without clear direction, local practices may drift away from organisational strategy. Therefore, instead of vague job descriptions and role communication, senior management should give front-line managers clear expectations to ensure that crafting practices are directed towards desired outcomes. Furthermore, by creating forums for discussion and exchange, learnings of successful job crafting practices could be spread throughout the organisation.

The implications for front-line managers themselves centre on raising their awareness of the interplay between work design and their own job crafting practices. While compensatory crafting solves immediate problems, it often hides the issues of a misaligned work design from senior management. By making this visible, the need for top-down improvements can be effectively communicated and addressed. Consequently, this fosters a co-construction process, thereby enhancing the possibility for redesigned work that supports both operational performance and personal well-being.

5.2 Conclusion

This paper aimed to expand the knowledge of front-line managers' work in production and how these managers respond to and influence their work design. Our study reveals a misalignment between senior managers' prescribed work characteristics and those perceived by front-line managers. This misalignment drives front-line managers to redesign their work through compensatory job crafting. Consequently, our study suggests that work design should be viewed as a co-construction process where individual crafting plays a central, compensatory role. However, it is crucial to recognise the individual price paid by long-term compensatory job crafting to make an unsustainable work design manageable. For bottom-up job crafting to become a proactive mechanism in a co-constructed work design process and align with organisational strategies, it is essential to ensure a viable work design in production where job crafting can evolve from compensatory to learning and future-oriented practices.

5.3 Limitations and directions for future research

We recognise limitations to our work that provide new avenues for future research. Firstly, our proposed compensatory job crafting model needs to be further studied and tested in a larger sample of front-line managers in production. Specifically, we encourage future research to explore the misalignment between prescribed and perceived work characteristics, how this leads to job crafting and what this job crafting entails, with a more diverse sample of front-line managers representing other production environments as well as other national contexts.

Secondly, we recognise that there are limitations to the generalisability of our research due to the limited number of interviews that we have done in a limited empirical context. Future research could build on our theorising of job crafting and use other research methods to explore it further. In addition to the testing of the model in similar organisational and industrial domains, future research could study front-line managers in other industries, such as the service industry (hotels, hospitals, schools, transportation, etc.) or the fashion and luxury sector.

Thirdly, we acknowledge that individual differences such as work experience and age, as well as the level of training or education, influence how front-line managers perceive and conduct their job, and thus probably also how they job craft. We have not considered this aspect and encourage future research to explore how individual characteristics of front-line managers affect their perceived need to job craft and job crafting practices.

Lastly, our study points to the critical but complex interplay between organisational-level work design and individual-level job crafting. Future research should more deeply explore the organisational perspective, particularly the potential risks or "dark sides" of job crafting. If compensatory job crafting practices diverge from organisational strategies or goals, they may

create counterproductive deviations. There is also a need to study whether changes in top-down work design can affect job crafting practices to become more proactive.

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