Stockholm School of Economics
Department of Management and Organization
Bachelor Thesis in Retail Management
Spring 2026

Making Sense of Career Pathways

Textual and Visual Representations of Career Opportunity

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Abstract

This thesis examines how employees interpret representations of career pathways, and how those interpretations shape motivation, perceived career opportunity, and retention intentions. Organisations invest heavily in internal career systems and visual career tools, but existing research has paid little attention to how employees actually make sense of such materials. To address this gap, we conducted a qualitative study at Dagab, a large Nordic logistics organisation within the Axfood group. Fourteen employees from the supply chain function were randomly assigned to one of two conditions and interviewed after engaging with career pathway material presented either as a running text or as an interactive visual career tree. Both versions contained the same underlying information, which allowed us to examine how format alone shaped interpretation. The findings show that a career pathway representation does not work on its own. It acts as a prompt that employees interpret, and what they take from it is shaped by three things: what each employee brings to the encounter (their career stage, professional identity, and accumulated experience), the parts of the material the format makes easy to notice, and the social and organisational context around it. The visual tree was seen as more accessible, but it also invited more criticism of how roles were arranged, while the text directed attention more toward the content of individual roles. The study connects career opportunity research with cognitive representation theory through a sensemaking lens. It also shows why career communication needs both clear material and a manager's guidance: understanding the material is not enough to change how an employee thinks or acts. What closes that gap is a conversation with a manager, not a better format.

Keywords: *sensemaking, career pathways, employee retention, perceived career opportunity, visualisation*

Acknowledgements: We would like to thank our supervisor, Wiley Wakeman, for his guidance, support, and feedback throughout the thesis process. We are also grateful to Sophie Paus at Axfood for connecting us with Isa Almgren at Dagab, and to Isa Almgren for helping us find the fourteen interviewees who made this study possible. Finally, we thank all employees at Dagab who shared their time, reflections, and perspectives with us.

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1 Introduction

Why do employees leave organisations that have invested in their development? Kraimer and colleagues (2011) found something striking: the same investment in employee development reduces turnover when employees perceive career opportunity as high, but *increases* it when they perceive opportunity as low. Whether development support helps or hurts retention does not depend on what the organisation offers. It depends on what the employee sees.

This puts a question at the heart of human resource management that the literature has largely treated as background. Organisations invest substantial resources on the assumption that visible career options translate into perceived opportunity. They publish career frameworks, run development programmes, and increasingly build visual career tools that map possible pathways for employees to explore. Decades of research support the underlying logic: internally promoted employees consistently outperform external hires while costing less to retain (Bidwell, 2011; Hom et al., 2017), and perceived career growth is among the strongest predictors of commitment and retention (Allen et al., 2003; Weng et al., 2010). Yet the moment at which an employee encounters one of these career representations, and forms a personal view of what it means for them, has been almost entirely overlooked. We know that perception matters. We know less about how it is formed in front of a career representation.

Meanwhile, cognitive psychology has established something the careers literature has not taken up. The format in which information is presented is not a neutral carrier of content. Diagrams reduce the effort required to grasp relationships in ways that prose cannot (Larkin and Simon, 1987; Sweller, 1988); the spatial layout of a visual carries meaning in its own right (Tversky, 2011). These insights have shaped instructional design, learning science, and information visualisation for forty years. They have not, to our knowledge, been systematically applied to the question of how employees interpret representations of their own careers.

The two literatures therefore meet, but have not been brought into conversation. Maitlis and Christianson (2014, p. 108), in their stocktake of the sensemaking field, argue that 'we will understand more about sensemaking and what it enables in organizations if we study the same central process, albeit in different ways, with different actors, in a variety of contexts.' The interpretive work an employee does in front of a career representation, at a specific moment, in a specific organisation, is the kind of context their call has in mind. The moment an employee reads a career representation and decides what it means for them is where the two literatures meet, and where neither has looked.

This study addresses that moment. We ask: *how do employees interpret representations of career pathways, and how do those interpretations shape motivation, perceived career opportunity, and retention intentions?* We address the question at Dagab, the logistics arm of one of the largest food retail groups in the Nordic region, where the supply chain function offered an unusually rich setting: a range of specialisations, employees at different career stages, and

an organisation that had not previously communicated career possibilities in any structured form. Fourteen employees were randomly assigned to engage with career pathway material presented either as a running text or as an interactive visual career tree, with content held strictly equivalent across the two conditions, before being interviewed about how they read it. We analysed the interview data thematically through the lens of sensemaking (Weick, 1995; Maitlis and Christianson, 2014), the theoretical tradition that has developed specifically to analyse such interpretive work, and complemented the qualitative findings with descriptive Likert data on the outcomes that matter for retention.

The study makes three contributions. First, we identify a previously undocumented difference in how format directs employees' attention: text toward the content of individual roles, the visual tree toward the relationships between them. Second, we identify two separate pathways through which a career representation reaches retention intentions: a direct pathway through the employee's own career plan, and an indirect pathway that works as a signal through how supported the employee feels. Each is limited by something the reader brings rather than by the material, and the indirect pathway depends in particular on how management frames it. Third, we explain why the same material affects different readers differently: understanding it is not enough on its own to shift motivation, perceived opportunity, or retention thinking, and the most reliable way to bridge that gap is not a better format but a manager dialogue around the material. We connect the two literatures through a sensemaking lens, but treat that as the move that makes these contributions possible rather than a contribution in itself, since prior work has already used cognition-based accounts to study career progression and its visualisation.

Purpose

The purpose of this thesis is to examine how employees interpret representations of career pathways, and how those interpretations shape motivation, perceived career opportunity, and retention intentions. We address this by bringing the careers literature on perceived career opportunity into conversation with the cognitive literature on representational format, using sensemaking theory as the lens that connects them.

The remainder of the thesis is structured as follows. Section 2 reviews the literatures on career pathways, perceived career opportunity, and cognitive representation, identifies the research gap they leave open, and introduces sensemaking as the theoretical lens through which we address it. Section 3 describes our method. Section 4 presents the empirical findings, organised first by the four dimensions of the research question and then by the three interacting dimensions of the sensemaking framework. Section 5 discusses the findings in light of the prior literature and develops our three contributions. Section 6 concludes with the practical implications of the study and directions for future research.

2 Literature and Theory

2.1 Career Pathways and Cognitive Foundations

2.1.1 Career Pathways, Perceived Opportunity, and Retention

Employee retention has been a central organisational concern for more than a century (Hom et al., 2017). One recurring theme is that internal career mobility, defined here as the opportunity to move upward or sideways within one's current employer, plays a decisive role in whether talent is retained or lost. In a large empirical study of an investment bank, Bidwell (2011) showed that employees promoted from within consistently outperformed external hires during their first two years in a position. Internal hires were also paid substantially less, on average about eighteen per cent below comparable external recruits, and external hires showed higher voluntary and involuntary turnover. These findings suggest the labour market is not a neutral matching mechanism, and that internal mobility has real value for performance, cost, and continuity.

Organisations therefore invest considerable resources in designing internal career systems. De Vos and Dries (2013) argue that such systems are not neutral infrastructure. They are strategic instruments, and their design reflects the composition of an organisation's human capital. Drawing on survey data from 306 Belgian organisations, the authors show that firms with more valuable and unique employees place greater importance on continuity and are more likely to develop formal career management systems that encourage internal mobility. From this perspective, career pathways are mechanisms deliberately built to retain key talent, rather than passive reflections of organisational structure.

The existence of such systems, however, does not guarantee that employees perceive the opportunities they are meant to provide. A growing body of research suggests that retention outcomes are shaped by employees' subjective perceptions of career opportunity, rather than by the objective presence of career options. Kraimer et al. (2011), in a study of 264 exempt-level employees and their supervisors, found that perceived career opportunity within the organisation moderated the relationship between organisational support for development and voluntary turnover. When perceived career opportunity was high, development support reduced turnover. When perceived career opportunity was low, however, the same development support was associated with higher turnover. Investing in employee development without making future career paths visible can therefore produce the opposite of the intended effect: employees may take their newly acquired skills elsewhere.

This emphasis on perception is reinforced by Weng et al. (2010), who developed a multidimensional view of organisational career growth. In a survey of 961 employees across ten cities in China, they identified four dimensions of career growth: career goal progress, professional ability development, promotion speed, and remuneration growth. All four were positively related to affective organisational commitment. Career goal progress emerged as

the strongest predictor, which suggests that employees care most about whether their current role brings them closer to their own career objectives, rather than about development in the abstract. In a follow-up study with a Chinese managerial sample, Weng and McElroy (2012) extended these findings to turnover intentions. They showed that career growth was negatively related to intentions to leave, with affective occupational commitment partially mediating the relationship. Together, these studies indicate that perceived career growth links organisational investment to retention, but only when employees can see how their work connects to a path that matters to them.

How career opportunity comes to be perceived in the first place has been addressed most directly through the lens of organisational support. Allen, Shore and Griffeth (2003), using longitudinal data from retail and insurance samples, proposed a process model in which human resource practices such as participation, fair rewards, and growth opportunities shape perceived organisational support. Perceived support, in turn, shapes commitment and satisfaction, and finally turnover. A key implication of their model is that human resource practices do not reduce turnover directly. Their effects depend on how employees interpret what those practices signal about the organisation's investment in them. From this perspective, career development information functions as a signal: its impact depends not on what is offered, but on how it is read.

A tension therefore emerges from the literature reviewed above. On one hand, organisations invest heavily in internal career systems to retain valuable employees, and research consistently shows that career growth and perceived opportunity are strong predictors of commitment and retention. On the other hand, these same studies suggest that the link between what organisations provide and what employees perceive is neither automatic nor uniform. Employees may fail to notice opportunities that exist. They may interpret the same development investments in opposite directions, depending on whether they can see a future path. They may also draw different conclusions about the same signal, depending on their own career history and expectations. This gap between what organisations provide and what employees perceive raises a question that the career literature has largely treated as a background assumption rather than as a focal object of inquiry: how is career opportunity actually communicated to employees, and what shapes the interpretations they form?

2.1.2 Communicating and Visualising Career Pathways

In practice, career pathways are communicated to employees through several channels: conversations with managers, written descriptions in employee handbooks or intranet pages, and, increasingly, visual representations such as organisational charts or interactive career maps. Despite the growing use of such tools, the academic literature has paid relatively little attention to how the format of career information shapes the interpretations employees form. A useful starting point is the cognitive literature on representation, which gives good reasons to expect that format is not a neutral carrier of content but shapes how information is processed.

Larkin and Simon (1987) analyse why, under certain conditions, a diagram can be worth ten thousand words. The authors distinguish between sentential representations, in which information is presented as a sequence of propositions, and diagrammatic representations, in which information is indexed by location in a plane. They observe that diagrams allow problem solvers to 'group together all information that is used together, thus avoiding large amounts of search for the elements needed to make a problem-solving inference' (p. 98). Two representations may be informationally equivalent, in the sense that each contains the same underlying information, yet still differ in what Larkin and Simon call computational efficiency: the ease with which relevant inferences can actually be drawn. As they put it, 'when two representations are informationally equivalent, their computational efficiency depends on the information-processing operators that act on them' (p. 65). Applied to career pathways, this suggests that a textual description and a visual map may formally convey the same content, yet differ in the effort required to identify, for example, which roles are reachable from a given starting point, or how two career tracks relate to one another.

Cognitive load theory adds a complementary argument (Sweller, 1988): human working memory is severely limited, and instructional materials that impose heavy cognitive demands leave little capacity for meaningful learning. As he notes, 'human short-term memory is severely limited and any problem that requires a large number of items to be stored in short-term memory may contribute to an excessive cognitive load' (p. 265). When employees are asked to build an understanding of their career prospects from a long textual description, they must hold multiple role descriptions, progression rules, and dependencies in working memory at the same time. A visual representation that organises this information spatially can, in principle, offload some of this work onto the external display, freeing cognitive resources for interpretation and personal connection.

Paivio's (1991) dual coding theory proposes that verbal and non-verbal information are processed through distinct but interconnected cognitive channels. According to this view, combining verbal and visual information activates both channels, producing richer encoding and more robust comprehension than either channel alone. Building on this tradition, Mayer and Moreno (2002) developed a set of principles for multimedia learning, drawing on dual coding theory, cognitive load theory, and constructivist learning theory. Their multiple representation principle, in particular, holds that 'it is better to present an explanation in words and pictures than solely in words' (p. 107). Although their empirical work concerned instructional materials in science education, the underlying cognitive mechanism is general: when verbal and visual representations are combined coherently, comprehension is typically enhanced relative to text alone.

Tversky (2011) extends these arguments: visual representations do not merely reduce cognitive load, they carry meaning through their spatial structure. Proximity implies similarity, vertical position implies hierarchy or value, and connecting lines imply relationships. These spatial conventions are not decoration; they carry part of what a diagram communicates. Visual representations of career pathways are therefore never neutral. A vertically oriented

tree necessarily implies hierarchy; a horizontally branching map implies equivalence or sequence; the inclusion or exclusion of certain roles shapes what employees see as possible or expected. Applied to the kind of interactive career tree we present in this study, this implies that the very choice to draw progression upward, to place certain roles closer to one another than to others, or to highlight some transitions while leaving others implicit, is part of what the representation communicates to the employee reading it.

Taken together, these literatures suggest that format is far from incidental to how career information is received. Diagrammatic representations can reduce search and cognitive load relative to text (Larkin and Simon, 1987; Sweller, 1988). Dual coding of verbal and visual information can enhance comprehension (Paivio, 1991; Mayer and Moreno, 2002). The spatial structure of a visual can carry meaning in its own right (Tversky, 2011). Yet these insights have developed largely within cognitive psychology and instructional design, and have not, to our knowledge, been systematically applied to the question of how employees interpret representations of their own career possibilities within an organisation.

2.1.3 Research Gap

The review above points to two largely disconnected streams of research. The first, grounded in human resource management and careers scholarship, has shown that perceived career opportunity and organisational career growth are powerful predictors of commitment and retention (Allen et al., 2003; Kraimer et al., 2011; Weng et al., 2010; Weng and McElroy, 2012). It has also shown that the effects of organisational investment in development depend on how employees interpret the signals they receive. The second stream, rooted in cognitive psychology and learning science, has shown that the format in which information is presented, whether textual or visual, sequential or spatial, shapes the effort required to understand it and the meanings that can be drawn from it (Larkin and Simon, 1987; Mayer and Moreno, 2002; Paivio, 1991; Sweller, 1988; Tversky, 2011). Neither literature has addressed the point at which these streams intersect: the moment when an employee encounters a representation of their own career possibilities and must construct an interpretation of what those possibilities mean for them personally.

This omission is striking given the practical importance of the question. Organisations increasingly use visual tools, ranging from career ladders to interactive job architecture platforms, to communicate internal mobility options to their employees. Yet the literature offers little guidance on how employees actually read such representations, what they take from them, and how different modes of presentation shape the perceptions of opportunity that, as the career research suggests, ultimately drive motivation and retention. Studying career information in isolation from its format risks missing a crucial part of the mechanism. At the same time, studying format in isolation from the organisational context risks treating employees as abstract learners rather than as situated actors with histories, aspirations, and concerns about their own future in a specific firm.

This study addresses this gap by examining how employees at a large Nordic logistics organisation (Dagab) interpret representations of career pathways presented in two different formats: a running textual description and an interactive visual career tree. The discrepancy in the literature can be summarised in a single research question:

> *How do employees interpret representations of career pathways, and how do those interpretations shape motivation, perceived career opportunity, and retention intentions?*

This question needs a theoretical lens suited to interpretation and meaning construction, since neither the careers literature nor the cognitive literature has the vocabulary to address the moment when an employee constructs meaning from a career representation. We therefore adopt sensemaking as our theoretical lens, and develop it in the following section.

2.2 Theory: Sensemaking

To understand how employees at Dagab interpret career pathway representations, and how these interpretations shape motivation, perceived opportunity, and retention intentions, this study uses sensemaking as its theoretical lens. As a perspective, sensemaking directs attention to the mental processes through which individuals construct meaning from ambiguous or novel stimuli. As Seligman (2006, p. 110) explains, sensemaking provides 'a look under the hood, if you will, of the adopter's mental engine. It is meant to complement, not replace these other perspectives on adoption, just as an understanding of how an automobile engine works is complimentary to an understanding of how to drive.' In our study, the 'stimuli' are the career pathway materials presented to employees in two different formats: running text and an interactive visual career tree. Sensemaking helps us examine how employees process, filter, and react to this information.

Sensemaking is particularly appropriate here because the career pathway material represents a novel encounter for most participants. Many employees had some prior familiarity with the roles and specialisations around them, acquired informally through years of working in the organisation. The consolidated and structured presentation of these possibilities in a single representation, however, was new to them. This kind of encounter creates exactly the conditions under which sensemaking is triggered: employees must determine what the new representation means, whether it is credible, how it relates to their own situation, and what it implies for their future. Rather than passively absorbing the material, they actively construct interpretations, drawing on their career history, professional identity, and organisational knowledge. As Maitlis and Christianson (2014) note, 'sensemaking is triggered by cues, such as issues, events, or situations, for which the meaning is ambiguous and/or outcomes uncertain.' This description fits the conditions of our study precisely.

The sensemaking triggered in our study is not the crisis-driven kind most commonly examined in the literature. Sandberg and Tsoukas (2015) draw a useful distinction between

sensemaking triggered by major interruptions, such as organisational crises or strategic upheavals, and sensemaking triggered by what they call minor disruptions to the ongoing flow of experience. In our context, the career material is a minor disruption: it prompts employees to reconsider their assumptions about career possibilities without fundamentally threatening their current situation. This calibrates expectations about the intensity of the sensemaking we observe.

Sensemaking has been applied across a range of organisational fields, including strategic change (Gioia and Chittipeddi, 1991), coordination under uncertainty (Goretzki and Messner, 2016), and technology adoption (Seligman, 2006). It has not, to our knowledge, been used to study how employees make sense of career development information or job architecture representations. This is notable given the increasing attention organisations devote to internal career frameworks as tools for motivation and retention. By applying sensemaking to this context, we aim to show that the theory offers valuable explanatory power for understanding how employees interpret and respond to career information, and how the format of that information shapes the sensemaking process. In doing so, the study responds to Maitlis and Christianson's (2014, p. 108) call to study sensemaking 'in different ways, with different actors, in a variety of contexts.'

2.2.1 Sensemaking: Core Properties

This study draws primarily on Weick's (1995) conceptualisation of sensemaking, which identifies seven properties that characterise the process: identity, retrospect, enactment, social contact, ongoing events, cues, and plausibility. Weick's framework breaks a complex cognitive and social process into analytically useful dimensions without being, as Czarniawska (1997, p. 115) puts it, 'simplistic nor patronising.' Five of these seven properties are particularly central to our analysis, as they correspond closely to the interpretive dynamics at work when employees encounter career pathway information for the first time. The remaining two properties (enactment and ongoing events) play a less prominent role.

Identity refers to the principle that who a person is shapes what they notice and how they interpret it (Weick, 1995). In sensemaking theory, identity is not fixed but is built over time, both shaping and shaped by interpretation. Dutton and Dukerich (1991), in their study of the Port Authority of New York, showed how employees' identification with their organisation acted as a powerful filter through which they interpreted and responded to external issues. Their finding that organisational identity shapes the lens through which individuals process information is directly relevant to a study of career pathway interpretation: professional identity, career stage, and role orientation can all be expected to shape how employees read and react to career development materials.

Retrospect captures the principle that people make sense of new information by looking backward at their accumulated experience (Weick, 1995). When confronted with an unfamiliar or ambiguous stimulus, individuals draw on what they have previously lived through

to construct a plausible interpretation. Seligman (2006) extends this property to the domain of technology adoption, arguing that past experiences with similar systems shape attitudes toward new ones. By analogy, employees' prior career trajectories, within the current organisation and in previous roles, shape how they evaluate the pathways presented to them: an employee who has experienced diverse internal mobility may read a career map very differently from one who has followed a single linear track. At Dagab, where most participants have substantial tenure, retrospect plays a particularly active role: employees do not encounter the material as a blank slate, but read it against years of accumulated knowledge of how careers in the organisation actually unfold.

Cues are the specific elements that people extract from an ambiguous environment and use as a basis for constructing an interpretation (Weick, 1995). Starbuck and Milliken (1988), in their analysis of how NASA engineers processed risk signals before the Challenger disaster, showed that individuals' existing mental frameworks determine which cues are noticed and which are overlooked. This filtering process is central to our study. The career materials provide numerous potential cues: role titles, progression steps, lateral options, and competency descriptions. Different employees can be expected to extract different cues, depending on their identity, experience, and mental frameworks. Importantly, the format of the material, whether it is presented as running text or as a visual tree, may also shape which cues are most salient and accessible. This makes cue extraction a key analytical dimension for our cross-condition comparison.

Plausibility refers to the principle that sensemaking prioritises accounts that are plausible rather than accurate (Weick, 1995). People do not need perfect information to form a judgment; they need information that feels reasonable given what they already know. In the context of career information, this means that employees are likely to assess whether presented pathways feel realistic, rather than whether they are technically precise. Factors such as familiarity with the organisation, knowledge of colleagues who have followed similar paths, and personal experience with shown positions can all be expected to influence whether the material passes the plausibility threshold. This property is particularly relevant to our research question, because the motivational impact of career information likely depends on whether employees find the presented opportunities plausible, not merely on whether the opportunities formally exist.

Social contact captures the principle that sensemaking is not a purely individual activity but is shaped by the people around the sensemaker, including managers, colleagues, and others who provide cues, interpretations, and framings (Weick, 1995). What an individual makes of an ambiguous stimulus is influenced by the conversations they have around it, the interpretations they hear from others, and the broader organisational discourse in which the stimulus is embedded. Maitlis (2005), in her study of three British symphony orchestras, extends this insight by distinguishing different modes in which organisational actors actively shape the sensemaking of others, a line of work we draw on in the next subsection. In the context of career information, this property is particularly relevant because career meaning

is rarely constructed in isolation. Conversations with managers, peers, and human resource professionals provide the social scaffolding through which abstract career possibilities are interpreted and personalised.

2.2.2 Sensemaking in the Career Information Context

While Weick's properties provide the analytical vocabulary for understanding the foundations of sensemaking, the organisational and social dimensions of the process require additional theoretical grounding. Maitlis (2005) distinguishes between different modes of organisational sensemaking, of which guided sensemaking is particularly relevant to our context.

Guided sensemaking occurs when leaders or organisational actors actively construct and communicate interpretations of events, helping others understand and respond (Maitlis, 2005). In the context of career development, guided sensemaking may take place when managers or HR professionals walk employees through career possibilities, contextualising the information and helping them see how it applies to their individual situation. This mode suggests that simply providing career information, whether in text or visual format, may not be sufficient on its own. Some employees may benefit from a dialogue-based process in which the information is interpreted collaboratively, while others may draw on their own reflection and prior conversations with their managers.

Maitlis and Christianson (2014) introduce two complementary concepts that further illuminate how organisational actors influence the sensemaking of others. Sensegiving refers to attempts by organisational actors to provide a preferred interpretation of events, shaping how others construct meaning. Sensebreaking refers to efforts to challenge existing understandings, creating a gap that motivates people to search for new meaning. In our study, career pathway materials can be conceptualised as a form of organisational sensegiving: they offer a structured interpretation of how employees can develop within the firm. Because employees are encountering this structured representation for the first time, the material may simultaneously function as sensebreaking, disrupting taken-for-granted assumptions about what is possible and prompting a reassessment of career outlook.

As Maitlis and Christianson (2014, p. 89) observe, 'when leaders are successful in influencing the sensemaking of organisational members, these individuals are motivated to make changes in their own roles and practices.' This finding connects directly to our research question: the degree to which career materials succeed in shaping employees' sensemaking may determine whether they influence motivation, perceived opportunities, and retention intentions. The same authors caution, however, that the failure of sensegiving can lead to the failure of the intended change. This dual possibility, that the same material may succeed or fail in influencing sensemaking depending on the recipient and the context, is central to our analytical approach.

2.2.3 Analytical Framework

This study applies established sensemaking theory to a specific, bounded interpretive event: the moment when employees encounter a representation of career pathways and construct meaning from it. We organise the process around three interacting dimensions drawn from the literature reviewed in sections 2.2.1 and 2.2.2, synthesised into an analytical framework tailored to our study.

The first dimension is the individual's sensemaking filters. Drawing on Weick's (1995) properties of identity and retrospect, and supported by Dutton and Dukerich's (1991) findings on identity as an interpretive filter, this dimension captures the personal characteristics each employee brings to the encounter with career information. These include professional identity, career stage, accumulated organisational experience, and career orientation. These filters determine which cues are extracted from the material, whether the information passes the plausibility threshold (Weick, 1995), and how it connects to the employee's existing understanding of their career. The core analytical proposition is that the same material produces different sensemaking outcomes depending on the filters of the person interpreting it.

The second dimension is the material's sensegiving properties. Treating the career pathway material as a sensegiving artifact (Maitlis and Christianson, 2014), we ask how effectively it provides cues that employees can extract and integrate into their sensemaking. Building on Weick's (1995) property of cues and Starbuck and Milliken's (1988) work on how mental frameworks determine which signals are noticed, this dimension directs attention to the content, structure, and format of the information. Our embedded design, comparing a text-based presentation with an interactive visual career tree, lets us examine how format shapes the cue structure, and thereby the sensegiving effectiveness, of identical content.

The third dimension is the social and organisational context in which sensemaking occurs. While this study focuses primarily on how format shapes sensemaking, consistent with Weick's (1995) social contact property and Maitlis's (2005) concept of guided sensemaking, this dimension captures the contextual conditions that may interact with format effects. Career information does not produce meaning in a vacuum. Several aspects of organisational context, such as the presence or absence of manager dialogue, the credibility of the source, and the culture around career development, may shape how employees interpret the material regardless of format. Acknowledging this dimension allows our analysis to capture the interplay between format-driven and context-driven sensemaking, rather than isolating format in an artificial way.

Together, these three dimensions structure our findings and discussion. By examining how individual filters, material properties, and social context interact in each interview, we can trace not only what employees made of the material, but why the same content produced different reactions across formats and career stages.

Overview of theory and key literature

Source	Core contribution
Career pathways, opportunity, and retention	
Kraimer et al. (2011)	Perceived career opportunity moderates turnover
Weng et al. (2010)	Four dimensions of organisational career growth
Weng & McElroy (2012)	Career growth lowers turnover intentions
Allen, Shore & Griffeth (2003)	HR practices shape perceived support and retention
Bidwell (2011)	Internal hires outperform and cost less than external
De Vos & Dries (2013)	Career systems as strategic retention instruments
Hom et al. (2017)	Retention as a long-standing organisational concern
Cognitive foundations: representation and format	
Larkin & Simon (1987)	Diagrammatic versus sentential representations; computational efficiency
Sweller (1988)	Cognitive load theory; limited working memory
Paivio (1991)	Dual coding theory; verbal and visual channels
Mayer & Moreno (2002)	Multimedia learning; words and pictures beat words alone
Tversky (2011)	Spatial structure carries meaning
Theoretical lens: Sensemaking	
Weick (1995)	Core sensemaking framework; seven properties of meaning construction
Maitlis & Christianson (2014)	Sensegiving and sensebreaking
Maitlis (2005)	Guided sensemaking by organisational actors
Dutton & Dukerich (1991)	Identity as an interpretive filter
Starbuck & Milliken (1988)	Mental frameworks shape which cues are noticed
Sandberg & Tsoukas (2015)	Major interruptions versus minor disruptions
Seligman (2006)	Sensemaking applied to technology adoption
Gioia & Chittipeddi (1991)	Sensemaking in strategic change
Goretzki & Messner (2016)	Sensemaking in coordination under uncertainty

3 Method

3.1 Research Approach

This study examines how employees interpret career pathway representations presented as a running text or an interactive visual career tree, and how those interpretations shape motivation, perceived career opportunity, and retention intentions. To address it, we use a qualitative design with an embedded experimental component, with semi-structured interviews as the primary data collection method. As Ghauri and Grønhaug (2005, p. 112) observe, qualitative methods are 'most suitable when the objectives of the study demand in-depth insights into a phenomenon.' The study also incorporates quantitative indicators through Likert-scale responses, but our primary objective is not to measure whether one format produces statistically superior outcomes. We aim instead to understand how employees construct meaning from career information, and why the same content produces divergent reactions depending on the format in which it is encountered and the individual who encounters it.

The study was conducted at Dagab, a large Nordic logistics organisation within the Axfood group, whose context and absence of prior structured career communication are described in section 4.1. Because no participant had previously encountered career pathway information in a structured format, the material functioned as a genuinely novel sensegiving artifact, creating the conditions under which sensemaking is triggered (Maitlis and Christianson, 2014).

The experimental component of the design involves randomly assigning participants to one of two conditions in which the informational content is held constant and only the presentation format varies. This follows the logic described by Creswell and Plano Clark (2018) for embedded designs, in which a secondary method is nested within a primary approach to address a specific aspect of the research question. In our case, the experiment is embedded within, and subordinate to, the qualitative analysis: it creates the conditions for comparison, but the comparison itself is conducted through interpretation of qualitative data, rather than through statistical testing. This design brings together two traditions with different assumptions about knowledge. Sensemaking, our lens, is interpretivist: it treats meaning as something individuals construct, and the researcher's task as understanding how (Weick, 1995; Maitlis and Christianson, 2014). The cognitive literature we draw on (Larkin and Simon, 1987; Sweller, 1988; Paivio, 1991) is positivist: it finds regularities in how people process information through experiments. We treat the two as complementary. The cognitive work gives us reason to expect that format matters; sensemaking explains what happens when employees actually meet a given format. The experiment creates the variation; sensemaking analysis explains what it produces. We do not claim to isolate causal effects in a strict experimental sense, but varying format experimentally lets us trace its effect on sensemaking in a way a purely qualitative design could not.

3.2 Data Collection

Data was collected through fourteen semi-structured interviews conducted digitally via video call during the spring of 2026. The semi-structured format was chosen because it allows for both consistency across participants and the flexibility to probe individual perspectives and unanticipated insights as they arise (Qu and Dumay, 2011). Each interview lasted approximately forty minutes and was recorded with participant consent. All interviews were conducted in Swedish, the native language of all participants, to ensure that nuanced reflections were not impeded by language. Recordings were transcribed using TurboScribe, an AI-assisted transcription tool, and subsequently translated into English with particular attention to preserving meaning and tone.

The fourteen participants were recruited from the supply chain function at Dagab through internal contacts within the organisation. Participants were distributed across three career levels (Support, Professional, and Managerial) and three specialisation areas: General Supply Chain Operations, Strategic Sourcing, and Procurement. This distribution was designed to capture perspectives from employees at different stages of career development, enabling the analysis to examine how career stage and professional identity shape the interpretation of career pathway material. Participants were assigned to one of the two conditions using a stratified procedure designed to balance the conditions on career level, specialisation, and age. Within these groups, assignment was randomised, resulting in seven participants per condition. This procedure was preferred over pure random assignment because, at a sample size of fourteen, random assignment alone risks producing imbalances on characteristics likely to shape interpretation, particularly career stage and professional identity, which the sensemaking framework treats as central interpretive filters. A small number of background variables were collected, including role, tenure, and age group.

Two versions of stimulus material were developed from the same underlying career framework document provided by the organisation, which maps specialisations, career progression relationships, and transition logic within the supply chain function. Particular care was taken to ensure strict content parity: every specialisation, description, experience indicator, and transition explanation that appears in the interactive tree also appears in the corresponding text document, and vice versa. The interactive career trees were built as web applications using React, TypeScript, and React Flow (a library for interactive node-based visualisations), with development carried out using Lovable, an AI-assisted application development platform. The trees present colour-coded nodes across hierarchical tiers with clickable detail panels, path highlighting, and lateral-versus-vertical differentiation (see Appendix A). The text-based descriptions were produced as structured PDF documents with identical information organised linearly by section. Both versions of the stimulus material were presented in Swedish, the corporate language at Dagab, to ensure that the material felt natural and authentic within the organisational context. Because the study includes participants from different specialisation areas and career levels, separate versions of the stimulus material were created for each starting point, ensuring that the material was personally relevant to

each participant.

Each interview followed a structured sequence of four stages. In the introduction, participants were informed about the study's purpose, confidentiality, and recording procedures, and were told that the material presented was the researchers' own analysis rather than an official organisational communication. Participants were then shown their assigned stimulus material and given approximately five minutes to review it. The interview proceeded with open-ended questions designed to elicit immediate reactions, assessments of clarity, reflections on career development and progression, and suggestions for improvement (the full interview protocol is provided in Appendix B). Finally, structured Likert-scale items were administered (see Appendix B). This sequencing follows recommendations to begin with exploratory questioning before introducing structured measures (Kallio et al., 2016), ensuring that participants' spontaneous interpretations were captured before the scale items introduced specific evaluative dimensions. The Likert items, measured on a seven-point scale, covered interpretation and perceived opportunity, motivation and retention, organisational commitment (affective, continuance, and normative; adapted from Meyer et al., 1993), and potential downsides such as perceived pressure and social comparison. Prior research suggests that seven-point scales provide comparable reliability to alternative formats and produce more normally distributed responses (Simms et al., 2019). The Likert data is used descriptively, as numerical points of reference alongside the qualitative findings (Flick, 2004).

Participants were not informed that two different versions of the material existed, since this knowledge could influence their responses and compromise the study's internal validity. All identities and data were held securely in anonymised form, and each participant was referred to by a coded identifier (P01 through P15, with P06 omitted) in all reporting to ensure anonymity.

3.3 Data Analysis

The interview data was analysed using thematic analysis, following the six-phase approach of Braun and Clarke (2006). Thematic analysis is 'a method for identifying, analysing and reporting patterns (themes) within data' that 'minimally organizes and describes your data set in (rich) detail' (Braun and Clarke, 2006, p. 79). We chose it because it is systematic but flexible, and because its interpretivist orientation matches the sensemaking perspective that structures our analysis.

The analysis proceeded through six phases. First, familiarisation: all fourteen transcripts were read closely, organised by condition and oriented toward the research question (Appendix D). Second, all 242 meaningful segments were coded for content. Third, these codes were consolidated into thirty-six first-order concepts, each a pattern visible across several quotes. Fourth, the concepts were grouped into twelve second-order themes, checked against both the coded extracts and the full dataset. Fifth, the themes were organised into four aggregated dimensions matching the research question: interpretation and comprehension,

motivation, perceived career opportunity, and retention intentions. Sixth, the findings were written up with supporting evidence, producing section 4.2. We report this three-level structure (concepts, themes, dimensions) so that any claim in the findings can be traced back to the quotes behind it (Gioia et al., 2013).

The full structure is shown in Figure 1 (section 4.2), read left to right: first-order concepts feed into second-order themes, which group into aggregated dimensions. Each theme reports its total quote count and how those quotes split across the two conditions. Themes are colour-coded by condition dominance: cream where at least sixty per cent of quotes come from the text condition, blue where at least sixty per cent come from the tree condition, grey where neither dominates. Where a theme's content spans more than one dimension, it is placed under the dimension where it is most substantively discussed. Table C.1 (Appendix C) lists every theme with its dimension, definition, quote counts, condition split, and three representative quotes, and the supplementary workbook (Appendix C) maps every coded quote to its concept and theme, so the full chain is inspectable. At least one verbatim quote from each interview appears in the findings. Each quote was assigned to one primary theme, but some are also used in the findings to illustrate a second theme where the content was relevant to both (Braun and Clarke, 2006).

A note on these quote counts. Following Braun and Clarke (2006), we do not treat frequency as a proxy for thematic importance: a theme's significance rests on its content, not on how many quotes support it. The counts therefore serve a different purpose. Because the study includes an experimentally created variation between two conditions, the distribution of quotes across those conditions becomes an analytical signal in its own right. If a theme appears strongly in one condition but not the other, that asymmetry is information about how format shapes interpretation; if a theme appears in both conditions in roughly equal measure, that balance is also information, indicating that the theme is driven by something other than format. The counts are thus used to compare conditions, not to rank themes, and we interpret them in that spirit throughout. Given the sample size, we treat individual count differences cautiously and rely on them only where the distributional pattern is clear.

The analysis combined two comparisons. Within each condition, we traced how individual filters, particularly career stage, professional identity, and accumulated experience, shaped interpretation. Across conditions, we compared how the two formats differed in the cues they made salient and the sensemaking they triggered, following Miles and Huberman (1994) on cross-case comparison. The Likert data was used descriptively.

The broader logic of the analysis was abductive. Abduction, as Lukka and Modell (2010) describe it, is an iterative back-and-forth between data and theory rather than a one-way test of either. In practice this meant the sensemaking framework was not imposed as a fixed coding scheme. It directed attention toward identity, retrospect, cues, plausibility and social contact while leaving room for patterns it did not predict. Two of our themes, the prominence of non-vertical career identities and the demand for personalisation, came from the data rather than from the framework, and we adjusted later interviews to probe patterns

that surfaced in earlier ones.

Several limitations apply. Fourteen participants from one organisation limits generalisability; the findings are context-dependent rather than universal. The digital interview format may have reduced rapport relative to face-to-face interviews, though since our focus is interpretation of stimulus material rather than workplace behaviour, we judge this acceptable (Sturges and Hanrahan, 2004). Translating interviews from Swedish to English risks some loss of meaning, though we worked to preserve tone and substance. The interviews were conducted only after participants saw the material, not before and after, to avoid an experimenter demand effect; this places more weight on random assignment to balance participant characteristics across conditions, which is a weaker assumption at our sample size than at scale (Shadish, Cook and Campbell, 2002). We address this by treating the Likert data as descriptive only and by making individual filters explicit objects of analysis. Finally, the study combines interpretivist sensemaking analysis with an experimentally created variation, two traditions with different epistemological assumptions; we take this on deliberately, because the combination lets us address a question neither tradition answers alone.

4 Empirical Findings

4.1 Background and Context

Dagab is the logistics and supply chain arm of Axfood, one of the largest food retail groups in the Nordic region. As Axfood's support company, Dagab is responsible for the Group's assortment, purchasing, warehousing and distribution to stores across Sweden (Axfood, n.d.). With several thousand employees operating across multiple locations, Dagab encompasses a range of job families, each containing multiple specialisations at different hierarchical levels. For this study, the supply chain job family was selected because it contains a high number of specialisations across both specialist and managerial levels. This enabled the construction of extensive and differentiated career pathway representations for participants across three specialisations: Procurement, Strategic Sourcing, and General Supply Chain Operations.

A critical feature of the organisational context is the near-total absence of structured career communication prior to the study. When asked whether they had previously received career pathway information in a structured format, responses were remarkably consistent. As one experienced manager put it, 'we don't have any career seminars, but I would say it is fairly well-known anyway' (P11, Text, 30 years tenure). Others were more direct: 'no, nothing' (P10, Visual, 30 years tenure), and 'no, never. Everything I have had to actively search for myself. As if I didn't work at the company' (P05, Text, 6 years tenure). A procurement manager noted: 'I've never talked about career paths at Dagab' (P13, Visual, 15 years tenure). The primary channel for career-related dialogue was annual development conversations with one's immediate manager, which one participant described as oriented toward past performance: 'a lot goes to what you have performed since it is also the basis for salary' (P07, Text, 11 years tenure), although she also noted that future plans are discussed as well.

This baseline means the career pathway material functioned as a novel sensegiving artifact for virtually all participants. Most employees had some informal, fragmented knowledge of the roles around them, but the consolidated, structured representation of these possibilities was new. The sensemaking it triggered therefore comes not from discovering unknown roles, but from seeing familiar possibilities laid out together for the first time. The sections that follow examine how employees responded, and what the variation in their reactions reveals about how career representations shape interpretation, motivation, perceived opportunity, and retention.

4.2 Employee Responses to the Career Pathway Material

This section presents the empirical findings organised around the four dimensions of the research question: how employees interpret the career pathway representations (section 4.2.1), how this influences motivation (4.2.2), perceived career opportunity (4.2.3), and retention

intentions (4.2.4). The full analytical structure of the findings is presented in Figure 1 below. Appendix C contains the supplementary thematic analysis workbook, where Table C.1 summarises each theme with three representative supporting quotes and the Coding tab lists all 242 coded quotes. Within each of the four subsections below (4.2.1–4.2.4), findings from both conditions are presented and compared, including the quotes most essential to conveying each theme. To preserve anonymity, participants are identified by participant ID, condition, and approximate tenure.

Figure 1. Data Structure: First-Order Concepts, Second-Order Themes, and Aggregated Dimensions




1st-Order Concepts
2nd-Order Themes
Aggregated Dimensions
Specialist depth preferred over leadership track
Intra-role development valued as primary growth path
Career trajectories described as opportunistic, not planned
Non-vertical career identities and alternative development paths
n = 26 (Text: 11 | Visual: 15)
No prior exposure to structured career pathway information
Career info accessed only informally or through manager dialogue
Internal level systems exist but are hidden from employees
Absence of structured career communication
n = 20 (Text: 8 | Visual: 12)
Advancement depends on employee initiative and voice
Manager willingness decisive for turning possibility into reality
Risk of talent being overlooked without proactive leadership
Employee agency and manager dialogue as conditions for career mobility
n = 12 (Text: 6 | Visual: 6)
Geography limits access to shown roles
Organizational flatness caps advancement regardless of format
Limited awareness of roles in other parts of the organization
Structural and contextual constraints on career opportunity
n = 5 (Text: 1 | Visual: 4)
Perceived Career Opportunity
Material valued as scaffold for development conversations
Preference for tree combined with manager/HR dialogue
Preference for delivery embedded in everyday tools
Preference for combining career tools with human dialogue
n = 19 (Text: 4 | Visual: 15)
Pressure depends on delivery framing, not content
Comparison seen as pre-existing organizational dynamic
Risk of frustration for repeatedly rejected applicants
Social comparison and potential downsides of career mapping
n = 19 (Text: 13 | Visual: 6)
Retention Intentions
Text-dominant (≥60% text condition)
Visual-dominant (≥60% tree condition)
Balanced (neither condition dominant)

4.2.1 Interpretation and Comprehension

Three themes in Figure 1 fall under this dimension: *Mismatch between presented pathways and lived career reality* (n = 31, balanced), *Visual format perceived as more accessible than text* (n = 24, strongly tree-dominant at 20/24), and *Demand for personalisation and richer content* (n = 20, tree-dominant at 12/20). Across both conditions, the material was generally described as clear. The Likert data support this: average scores on understanding of career paths were 5.14 (text) and 5.29 (tree), and on understanding what is required to advance were 5.86 (text) and 6.00 (tree). These figures indicate that both formats succeeded in communicating the basic content. Comprehension did not, however, mean uncritical acceptance, and the character of interpretation differed across formats in ways the thematic distribution helps reveal.

The near-even split of the *Mismatch between presented pathways and lived career reality* theme across conditions (16 text, 15 tree) is telling: if format alone determined critical engagement, one would expect a clear skew. The balance instead shows that participants in both conditions actively assessed the material against their own organisational knowledge. What differed was the character of the critique. In the text condition, objections focused on specific content decisions. P15 disagreed with a suggested lateral move, arguing that it was already part of his current role: 'the lateral move you called contract management, I think that is really already part of the buyer role. It is not really a lateral move' (P15, Text, 6.5 years tenure). P14 challenged a proposed development step more directly: 'I don't see this as my next step. So I don't quite agree with you there, I'd say' (P14, Text, 20 years tenure). Because the running text did not make explicit where each reader stood relative to the pathways presented, these objections remained directed at individual elements rather than at the structure as a whole.

In the visual condition, the critique took on a more structural character. The tree's spatial layout forces explicit placement decisions, which makes it immediately apparent where a participant sits and what the implied next steps are. This visibility invited more direct scrutiny of the overall representation, as P01 articulated in the opening seconds of her review: 'the first thing I thought was that it felt overarching. I wondered how it would fit. In my role, am I here? Is this really where I am?' (P01, Visual, 1.5 years tenure). P12 moved from a single objection to a wholesale reassessment of the representation: 'I'm brutally honest, it feels so-so. Our levels and purchasing management, partial and volume, strategic purchasing and management, am I there or not?' (P12, Visual, 36 years tenure). The tree made relative position salient in a way the text could not, reflected in the Likert data: the tree condition scored higher on whether the material could lead to comparisons among employees (3.29 versus 2.86). Both patterns are consistent with Tversky's (2011) observation that spatial structure carries meaning in its own right: by forcing explicit placement, the tree both enabled clearer comprehension and invited more structural critique.

The tree-dominance of the *Visual format perceived as more accessible than text* theme (20

of 24 quotes in the tree condition) confirms that the accessibility advantage was actively articulated by participants rather than inferred by the researchers. In the text condition, several participants described difficulty retaining the material as a coherent picture. P09 noted that he 'just skimmed through it' and 'didn't really take anything in', adding that the text was 'not very easy to overview. You read it and then you kind of forget what you read' (P09, Text, 13 years tenure). In the visual condition, participants more consistently described the tree as providing an immediate and lasting sense of structure, often highlighting interactivity as a valued feature. P01 framed the tree as more than a neutral representation, describing it as a signal of organisational intent: 'you see that we have actually thought about this. It's more like a directional indicator' (P01, Visual, 1.5 years tenure). P04 reached a consistent judgement: 'I'd say it was easy to understand, absolutely. It's clear and obvious' (P04, Visual, 3.5 years tenure). These differences are consistent with the cognitive advantages of diagrammatic over sentential representations documented by Larkin and Simon (1987) and Sweller (1988): the tree's spatial indexing reduces the effort required to construct an overview, freeing capacity for personal reflection and interpretation.

The *Demand for personalisation and richer content* theme (n = 20; 8 text, 12 tree) cuts across both conditions, but tilts slightly toward the tree. This is plausibly because the tree's discrete, clickable nodes created a stronger expectation of being able to access deeper information, although the underlying demand was articulated in both conditions. P11 wanted more content depth: 'perhaps a bit more explanation of what it means. What belongs to goods flow? If I were a young, ambitious employee who recently started, I would be damn curious, but I would want to know more' (P11, Text, 30 years tenure). P05 went further, envisioning proactive personalisation: 'you are automatically identified as a clip buyer. You could potentially, it becomes a bit like LinkedIn headhunting' (P05, Text, 6 years tenure). In the visual condition, P03 made the same point in simpler terms: 'maybe a bit more information about what's required to get there' (P03, Visual, 2.5 years tenure). What these requests share is a concern that the material's effectiveness as a sensegiving artifact depends on providing cues specific enough to be extracted and connected to the reader's own situation. This concern is consistent with Starbuck and Milliken's (1988) argument that interpretive frameworks determine which cues are noticed in the first place.

4.2.2 Motivation

Three themes in Figure 1 fall under this dimension: *Limited motivational impact for satisfied or late-career employees* (n = 17, strongly text-dominant at 13/17), *Career information as catalyst for reflection and awareness* (n = 24, text-dominant at 16/24), and *Career stage shapes how career information is received* (n = 25, balanced). The Likert data set up the motivational findings: the average score on whether the information made participants feel more motivated was identical at 4.14 in both conditions, suggesting neither format produced a strong motivational shift in self-reported terms. The qualitative data, however, reveal a more nuanced pattern in which two distinct effects operate in parallel.

The first pattern is captured by the *Limited motivational impact for satisfied or late-career employees* theme, whose strong text-dominance is informative: text-condition participants discussed limited motivation more than three times as often as tree-condition participants (13 of 17 quotes), suggesting the text was less effective at generating even modest motivational engagement. The pattern was most visible among employees who were already satisfied in their current role, or who occupied late-career positions. In the text condition, P09 described the motivational effect as 'roughly a zero-sum game' (P09, Text, 13 years tenure); P07, who was highly satisfied in her current role, stated, 'it is highly personal since I enjoy my role so much. I would say the same, plus' (P07, Text, 11 years tenure). A similar pattern appeared in the tree condition, but less frequently: 'that's a one then in that case. Because I already know it' (P13, Visual, 15 years tenure), when asked whether the tree increased his motivation to develop.

The second pattern, captured by *Career information as catalyst for reflection and awareness* (n = 24; 16 text, 8 tree), runs alongside the first. Although average motivation scores were flat, many participants described a subtler reflective effect operating below the threshold of what they labelled 'motivation'. P15, who reported his motivation as 'about the same', nevertheless spontaneously identified a new career interest during the interview: 'that would be negotiation leadership. That would really be fun' (P15, Text, 6.5 years tenure). P11 described the same kind of insight: the material was 'perhaps an eye-opener. It becomes a reminder of all the different functions. Seemingly similar parts but with entirely different content' (P11, Text, 30 years tenure). P07 noted how the consolidated presentation itself shifted her perspective: 'when you got it laid out like this, it wasn't just a one-step rocket. Here are natural next steps. Then there are also these you can work toward' (P07, Text, 11 years tenure). In the tree condition, the same reflective effect appeared in more concrete form. P03 described the visual format as making abstract possibilities feel tangible: 'absolutely, here you see in black and white that there is something to move on to' (P03, Visual, 2.5 years tenure). P10, despite reporting no motivational shift on the Likert scale, nevertheless described a specific moment of discovery: 'I barely knew that advanced strategic purchasing existed' (P10, Visual, 30 years tenure). The Likert data align with this asymmetry: the average score on whether the information increased interest in a long-term career was 4.14 for the tree condition compared to 4.00 for the text condition, a modest difference consistent with the observation that the visual format was somewhat more effective at connecting career information to longer-term career thinking.

Self-reported motivation is, then, too narrow a measure to capture what the material did. Participants did not report feeling more motivated to advance, but many described a quieter reflective shift: noticing new possibilities or becoming aware of pathways they had not considered. This echoes Weng et al.'s (2010) distinction between career-goal progress and career-information awareness: the material did less to speed up employees' sense of progress toward their goals than to widen the space in which those goals could be considered.

The third theme, *Career stage shapes how career information is received* (n = 25; 13 text, 12

tree), emerges as the most evenly distributed of any theme in Figure 1. The balance is itself the finding: if format were the main driver of how the material was received, the theme would skew toward one condition or the other. The near-even split instead identifies career stage as a cross-cutting moderator that operates regardless of format. P11, a senior manager in his sixties, reflected: 'had I started working today, I might have been more like, yes, everything is possible' (P11, Text, 30 years tenure). P14 echoed this from the text condition: 'you're sitting and talking with an old fox here. So I think for someone young, yes. But it was quite clear for me what I wanted when I came in' (P14, Text, 20 years tenure). P13 made a structurally identical observation in the tree condition: 'had you come to me when I was 25, it would have been a completely different answer' (P13, Visual, 15 years tenure). At the other end of the spectrum, P04, the youngest participant at 24, described the material as aligning with a clear pre-existing ambition: 'I was quite clear with my manager: I'm at Dagab to become a buyer, not to be a coordinator' (P04, Visual, 3.5 years tenure). The consistency of this pattern across formats suggests that the material's motivational potential is highest for employees who have not yet formed a settled career identity, and diminishes as organisational experience and professional self-concept become more firmly established. This pattern is consistent with the career-stage moderation implied by Kraimer et al.'s (2011) work on perceived career opportunity.

4.2.3 Perceived Career Opportunity

Four themes in Figure 1 fall under this dimension: *Non-vertical career identities and alternative development paths* (n = 26; 11 text, 15 tree), *Absence of structured career communication* (n = 20, tree-dominant at 12/20), *Employee agency and manager dialogue as conditions for career mobility* (n = 12, balanced), and *Structural and contextual constraints on career opportunity* (n = 5, tree-dominant at 4/5). Together, these themes show that while both formats expanded employees' awareness of their options, whether that awareness became a real sense of opportunity depended on factors the material could not control. The Likert data on perceived opportunity showed identical averages across conditions (6.00 for both) on whether participants had a clear picture of their future potential, indicating that both formats succeeded in communicating a sense of possibility. The qualitative data, however, show they did so through different mechanisms: the text through detailed competency descriptions, and the tree through structural overview and interactive exploration.

In both conditions, the expansion of perceived opportunity ran up against a recurring view: many participants do not understand career growth as upward movement at all. This is the largest theme under this dimension (n = 26; 11 text, 15 tree). It tilts slightly toward the tree, likely because the tree draws progression as an explicit upward climb, and seeing that bias laid out so plainly prompted participants to push back and insist careers need not be vertical. P15 articulated the underlying view clearly: 'not everyone has management material, but you can always become an expert and lead people in purchasing work without being a manager' (P15, Text, 6.5 years tenure). P14 described how intra-role development, rather than positional

advancement, is what actually retains his employees: 'I don't underestimate this thing about developing in the role. Because that's how I keep my buyers. Many of them could surely take the next step but choose to stay' (P14, Text, 20 years tenure). In the visual condition, P08 offered a particularly vivid account of specialist depth as its own form of career: 'you can also specialise. You can become the king of master data. And you absolutely don't want such a person to move' (P08, Visual, 28 years tenure). For participants with non-vertical identities, the material's implicit progression framing sat awkwardly against how they understood their own development. Both formats therefore risk underrepresenting the intra-role deepening and expertise-building that many employees consider their primary form of career growth.

The *Absence of structured career communication* theme (n = 20; 8 text, 12 tree) reinforces a point already introduced in section 4.1: the consolidated, structured presentation functioned as a genuinely new kind of encounter for virtually all participants. The theme's tree-dominance is noteworthy: tree-condition participants articulated the absence more frequently, plausibly because the tree's concrete structure made the contrast with the organisation's prior informality more vivid. P12 explicitly tied the theme to a broader expectation shift: 'everything is so open today. Everything has huge transparency in all different parts. It's not like my generation, we don't talk salary with my friend, but the younger generation does. Why shouldn't there be transparency in the career paths then?' (P12, Visual, 36 years tenure). P13 noted that although internal level systems formally exist, they are deliberately withheld from employees: 'we already have a background job classification, it's called. So there's something underlying. They have actively chosen not to tell me 'Kristian, you're at level three' because then I wouldn't go crazy and say I should be at level two' (P13, Visual, 15 years tenure). Taken together with the accounts in 4.1, these quotes show what the material could add: it does not duplicate any existing channel, because Dagab had none, so its value lies in being the first structured career communication these employees had encountered.

The *Employee agency and manager dialogue as conditions for career mobility* theme (n = 12; 6 text, 6 visual) is evenly balanced, and its content makes clear why. Across both conditions, participants consistently described career pathways as meaningful only when actively pursued by the employee and supported by the manager, a condition that no format, however well designed, can create on its own. P11 made the dual requirement explicit: 'you have to be active as an employee. And have a closest manager you have a good dialogue with' (P11, Text, 30 years tenure). He also extended the responsibility to leadership, a point developed further in 4.3.3. In the visual condition, P04's account of his own progression illustrated the same logic in constructive form: 'I was quite clear with my manager: I'm at Dagab to become a buyer, not to be a coordinator. And I said that quite early and quite openly' (P04, Visual, 3.5 years tenure). P03 isolated the manager's role directly: 'you need to know who you have above you who is willing to give you the chance' (P03, Visual, 2.5 years tenure). From this perspective, the material is a necessary but not sufficient condition for career development. This is consistent with Allen et al.'s (2003) argument that HR practices shape retention through how employees interpret the support they signal, not through the practices themselves in isolation.

Finally, the *Structural and contextual constraints on career opportunity* theme (n = 5; 1 text, 4 tree) is the smallest in Figure 1, but its condition asymmetry is revealing. The tree-dominance suggests that the visual format's greater specificity made structural constraints more salient: participants could see particular roles on the tree and immediately assess whether those roles were geographically or structurally accessible to them. P10, based in southern Sweden, made the geographic constraint explicit: 'it's somewhat limited considering I'm based in another location than Stockholm' (P10, Visual, 30 years tenure). The same constraint also reduced his insight into distant functions, a point taken up in 4.3.3. Geographic distance reduced both the practical accessibility and the perceived relevance of many of the pathways shown, a pattern reflected in P10's Likert responses, which included some of the lowest motivation scores in the visual condition. P01 identified a different structural constraint: 'manager positions for example are often limited, often calculated based on how many employees you have. There's an economic background to it' (P01, Visual, 1.5 years tenure). However clearly a pathway is shown, the material cannot make a Stockholm role reachable from southern Sweden or create a manager position that does not exist. These limits sit outside what any representation can do.

4.2.4 Retention Intentions

Two themes in Figure 1 fall under this dimension: *Social comparison and potential downsides of career mapping* (n = 19, text-dominant at 13/19) and *Preference for combining career tools with human dialogue* (n = 19, strongly tree-dominant at 15/19). Neither format produced a clear direct shift in participants' retention intentions. Those who intended to stay attributed this primarily to satisfaction with their current role, relationships with colleagues, and the organisation's culture, rather than to the career pathways shown. P15 explained his loyalty in terms of psychological safety: 'Dagab is a very fine company. You have time. You are allowed to make mistakes. That is why I have stayed long' (P15, Text, 6.5 years tenure). P09 described retention as driven by relational factors: 'I enjoy it a lot at the departments I have been at. It is a big, stable company. I have had very good colleagues and good managers, which helps a lot' (P09, Text, 13 years tenure). P14 offered an organisational perspective, noting that Dagab's culture itself functions as a retention mechanism: 'we have quite many who have chosen to leave Dagab and then come back. Because they discover it wasn't as fun as they had thought. So there are other values too' (P14, Text, 20 years tenure). These accounts suggest that retention at Dagab is sustained primarily by organisational culture and interpersonal relationships, and that career pathway information, while valued, operates at the margin of retention decisions rather than at their centre.

The Likert data tell a broadly consistent story. Average scores on the intention to stay were 5.57 (text) and 5.14 (tree), and on seeing oneself working at Dagab in two years were 6.14 (text) and 5.14 (tree), both indicating moderate to strong retention intentions across conditions. Emotional attachment averaged 6.00 (text) and 4.86 (tree), while strong sense of belonging was 5.86 (text) and 5.14 (tree). The text condition scored somewhat higher

on several retention-related measures, though this likely reflects pre-existing differences in participants' organisational attachment rather than a format effect, since the material's content was identical across conditions. One participant in the text condition described career aspirations that pointed entirely outside the organisation: 'if I think generally going forward, it would be that I move to a different industry. But doing similar tasks as I do today. Something I am more privately interested in. Beauty, fitness and health for example' (P07, Text, 11 years tenure). For this employee, the material could not address motivational drivers that lay beyond Dagab's scope, regardless of how effectively it was presented.

The material did, however, appear to influence retention through an indirect pathway. Several participants in both conditions reflected on what structured career information of this kind would communicate if the organisation provided it, framing it as a positive signal that an organisation invests in internal development and values employee growth. P09, despite his limited personal engagement with the material, noted: 'it is nice to know there are career paths within the company. Rather a bit encouraging' (P09, Text, 13 years tenure). P05 offered a similar interpretation: 'I think it can contribute to making people feel seen in some way' (P05, Text, 6 years tenure). In the visual condition, the polished and interactive format appeared to reinforce this signalling effect, with P01 describing the tree as communicating organisational investment: 'you see that we have actually thought about this. It's more like a directional indicator' (P01, Visual, 1.5 years tenure). These projected signals do not change retention plans straight away, but they point to the kind of growing sense of organisational support that, as Allen et al. (2003) suggest, shapes commitment and turnover over time

Alongside these stabilising effects, participants also identified conditions under which the material could generate retention risk rather than reinforcement. The *Social comparison and potential downsides of career mapping* theme (n = 19; 13 text, 6 tree) is text-dominant, a pattern that may at first seem counterintuitive. A plausible reading is that the text's ambiguity and abstractness generated more uncertainty and therefore more discussion about potential risks, while the tree's concreteness resolved some of that ambiguity and reduced the felt need to speculate. The dominant view in both conditions, however, was that comparison is a pre-existing feature of organisational life rather than a consequence of the material. P11 stated, 'I think that pressure exists anyway. Especially among relatively young people. Of course you look at each other and it can arouse some kind of envy' (P11, Text, 30 years tenure). P13 in the visual condition made the same point more tersely: 'that already happens anyway' (P13, Visual, 15 years tenure). The Likert data corroborate this: average pressure scores were 3.14 (text) and 3.29 (tree), and average comparison scores were 2.86 (text) and 3.29 (tree), all near or below the midpoint of the scale. The tree condition scored slightly higher on both pressure and comparison, consistent with the qualitative finding that the visual format's greater clarity makes relative positioning more salient. Absolute scores nevertheless remain low.

Two qualifications emerged regarding when the material risks eroding rather than reinforcing commitment. The first concerned delivery framing. Several participants drew a clear

distinction between the content of the material and how it is communicated by management. P07 captured the logic compactly: the effect 'depends on how that information is shared. Is it like 'I expect you to have a clear plan within five years based on this' versus 'here, if you are interested, have a look and think about it" (P07, Text, 11 years tenure). P15 echoed the condition: 'as long as you are clear that this is not something we expect. We would like you to do things over time, but you cannot demand it either' (P15, Text, 6.5 years tenure). In the visual condition, P08 raised a more fundamental concern about the tree's vertical orientation: 'what I reacted to first was that you should make a career, make, make. Can you redo it so it lies horizontally? Now it's like you should go upward. There's a stigma around it' (P08, Visual, 28 years tenure). The tree's spatial structure carries implicit messages about what constitutes valued career behaviour, consistent with Tversky's (2011) observation that vertical position in a diagram implies hierarchy or value. The second qualification was more individual. P05 identified a specific emotional risk: seeing a position presented as a natural next step when one has been repeatedly rejected for that role. He described having applied for a demand planning position seven times, noting that being shown this pathway could feel like 'why are you suggesting I could be a potential for this when I have applied seven times and not gotten it?' (P05, Text, 6 years tenure). The material's sensegiving properties interact with personal career history in ways that, for some individuals, may produce frustration rather than motivation. This is a risk that does not appear in aggregate patterns, but matters for the employees affected.

The *Preference for combining career tools with human dialogue* theme (n = 19; 4 text, 15 tree) is the most strongly tree-dominant retention-related theme. This distribution suggests that the tree, by providing a concrete and navigable structure, made it easier for participants to envision how the tool could be integrated into development conversations, while text-condition participants appear to have found it harder to articulate how a running text could serve as a conversational anchor. P02 articulated the logic plainly: 'I cannot go to an HR person and discuss career opportunities without actually having some foundation based on my role. So a career tree as a basis, but above all elevate the HR contact' (P02, Text, 15 years tenure). P01 described the ideal combination: 'honestly, the best would be the interactive image you showed AND a conversation. You have a conversation where you talk about it, and you bring it with you' (P01, Visual, 1.5 years tenure). P13, a manager in the visual condition, saw the tool as valuable precisely because it could support development conversations with his own employees: 'maybe it shouldn't be public for everyone, but rather something for middle managers to have in development conversations with their employees' (P13, Visual, 15 years tenure). These findings indicate that neither format is intended or experienced as self-sufficient. The career material, whether text or tree, works as a scaffold for guided sensemaking (Maitlis, 2005) rather than a replacement for the dialogue through which career meaning is built, and its contribution to retention depends on being part of that dialogue.

4.3 Sensemaking Analysis

Section 4.2 documented what employees made of the material; this section explains why. The patterns cannot be explained by format alone, by individual differences alone, or by context in isolation. Comprehension was broadly high, but so was critical engagement. Motivation was limited on average, yet reflective effects on possible career pathways were widespread. Retention plans barely moved, but the material was read as a signal. Something more integrated is at work, and that integrated process is what sensemaking theory is designed to explain.

Drawing on the framework developed in section 2.2.3, we analyse the findings through three interacting dimensions: the individual sensemaking filters employees brought to the encounter; the sensegiving properties of the material, in light of how format shaped the cue structure; and the social and organisational context of the encounter. These dimensions are separated here for clarity, but they operated simultaneously in every interview, and the analysis aims to show how they combine.

4.3.1 Individual Sensemaking Filters

A striking feature of the findings is that the same material produced systematically different interpretations across participants, following neither format nor specialisation as reliably as a set of individual characteristics. Weick's (1995) properties of identity, retrospect, and plausibility provide a vocabulary for understanding why. Employees did not approach the material as neutral receivers. They read it through who they already were professionally, against what they had already lived through at Dagab, and with an eye to whether what they saw felt realistic within their own experience. The consequence is that the material's effects were mediated, at every point, by filters internal to the reader.

The clearest expression of this pattern is the near-identical distribution of the *Career stage shapes how career information is received* theme across the two conditions (thirteen text, twelve tree), despite the very different cognitive experiences the two formats produced. If format were the dominant causal factor, one would expect the distribution to tilt toward one condition or the other. That it did not suggests that career stage is a filter carried by the reader across conditions, shaping what is extracted from the material regardless of how the material is presented. Three participants in two different conditions reached identical conclusions about the same material, explaining their response not by what they saw but by when in their career they saw it. P14 captured this reading posture directly: 'you're sitting and talking with an old fox here. So I think for someone young, yes. But it was quite clear for me what I wanted when I came in' (P14, Text, 20 years tenure). P13 made the same point in almost the same words: 'had you come to me when I was 25, it would have been a completely different answer' (P13, Visual, 15 years tenure). P11 offered a third variant: 'had I started working today, I might have been more like, yes, everything is possible' (P11, Text, 30 years tenure).

The opposite side of the same pattern appeared among earlier-career participants, for whom the material more readily connected to curiosity, ambition, and future-oriented development. P04, the youngest participant, explicitly located his response in a generational and career-stage position: 'it would have been quite good to present this type of system or information quite early in a Dagab career. Because to make it quite clear and obvious, especially for young people, both you and me. We who are born in the 2000s, it's quite clear that many of us want to develop quite quickly at companies' (P04, Visual, 3.5 years tenure). He later added, 'I'm 24 years old and want to have grown a bit, but of course I want more' (P04, Visual, 3.5 years tenure). P03 expressed the same early-career openness more directly when asked about motivation: 'yes, it does. When you're at such a big company, it's all about time and experience. And learning the whole chain' (P03, Visual, 2.5 years tenure). These younger participants do not contradict the late-career accounts above; rather, they confirm that career stage works as a filter in both directions, dampening the motivational force of the material for some employees while amplifying its relevance for others.

Identity operated in a similar way, cutting across format, but its content varied more from person to person. P08 commented: 'I think of myself as the last dinosaur who's been able to make this work journey. I've found it hard to think of myself as having a career, but I've been able to make the journey I've made within the company' (P08, Visual, 28 years tenure), showing how an established professional identity filters the very vocabulary of the material. For P08, the word 'career' itself sits uneasily, and the material's framing of linear progression is read against a life in which movement has been sideways, opportunistic, and structurally driven rather than planned. P08 does not reject development, but resists the idea that it can be captured by a conventional career language of deliberate, upward progression. The same pattern appeared through P05, whose deal-making identity left him looking at a document in which, as he put it, 'all of these point a bit toward the logistics side, not so much toward the deal side. It is the concept of the deal that makes me enjoy what I do' (P05, Text, 6 years tenure). What the material contained was effectively filtered out by P05 not because it was poorly presented, but because his professional identity directed his attention elsewhere. This is Dutton and Dukerich's (1991) insight on identity as an interpretive filter translated into the career domain: what you see depends on who you are when you look. P07 articulated the same mechanism in yet another register, noting that 'right now I enjoy it a lot where I am. I like what I do. . . I don't currently have any thoughts of moving within the company' (P07, Text, 11 years tenure). This is a reading filter that made the material analytically intelligible but personally inert.

Retrospect reinforced these identity-driven filters by providing the experiential material against which new information was judged. Participants did not interpret the material in a vacuum; they compared it to what they had already lived. P13 explained that 'much is connected to the fact that I've been in the company so long that I also know how it's structured on the other side. I think I've worked too long in the company for this not to already be clear to me' (P13, Visual, 15 years tenure). The material, for P13, could only confirm what retrospective experience had already taught him. P11 expressed a similar

retrospective framing: 'I recognize myself in it and the opportunities' (P11, Text, 30 years tenure), although he added, 'maybe I'm a bit biased from having been here a long time' (P11, Text, 30 years tenure). In both cases, the material's meaning was anchored in what the participant had already seen, done, or witnessed within the organisation. P15, earlier in his career, reached the material with a different retrospective stock and read it very differently, describing it as 'super clear' (P15, Text, 6.5 years tenure), while acknowledging in the same breath that 'maybe that is because I work right in the middle of it' (P15, Text, 6.5 years tenure). Retrospect worked as both a source of confidence and a source of critical distance: it made the material readable for experienced participants exactly insofar as it let them see where it differed from what they knew.

It is against this retrospective background that the plausibility property operates, and it is in the plausibility dimension that the findings most directly demonstrate Weick's (1995) claim that sensemaking prioritises accounts that feel reasonable over accounts that are technically accurate. The largest theme in the dataset, *Mismatch between presented pathways and lived career reality* (31 quotes, split almost evenly at sixteen text and fifteen tree), is fundamentally a plausibility theme. Across both conditions, participants did not reject the material wholesale; they assessed it, piece by piece, against their own organisational knowledge, and flagged specific elements that did not pass the threshold. The accounts cited in 4.2.1 (P15 on the contract management lateral, P14 on the proposed next step, P10 on the missing managerial succession path, P12 on overall placement) all share a common interpretive move: each participant is reading the material against the career landscape they already know, and calling out the places where the two do not align. This is not a complaint about clarity but a live act of plausibility-testing. The evenness of the distribution across formats confirms that plausibility assessment is driven by the reader's filters, not by what the format does or does not make visible.

The analytical implication of these three properties, taken together, is that format cannot be the primary explanation for what 4.2 documented. The same career-stage patterns, the same identity-driven readings, and the same plausibility assessments appeared in both conditions, carried by individuals who brought them into the encounter. This does not make format irrelevant, as the next subsection will show, but it positions format as something that operates within a space whose boundaries are already set by who the reader is. The material cannot, by format alone, compel an employee with a non-vertical identity to read upward steps as desirable; it cannot give a late-career participant the curiosity of a 24-year-old; and it cannot make an objection disappear when it is anchored in years of organisational experience. What format can do, however, is shape which cues are available for the filters to work on. It is to that question that we now turn.

4.3.2 The Material's Sensegiving Properties

If individual filters set the boundaries of what any employee could take from the material, format determined what was on offer. We treated the career pathway material as a sense-

giving artifact (Maitlis and Christianson, 2014): a structured representation proposing an interpretation of career possibilities within the firm. The question is how effectively each format provides cues employees can extract and integrate, and the two formats did this in systematically different ways — not in content, held constant by design, but in the cue structure that content presented.

The tree's most consistent sensegiving effect was to make structural cues immediately available: relationships between roles, the position of the reader, and the breadth of the landscape. Larkin and Simon's (1987) distinction between sentential and diagrammatic representation is illuminating here. The tree did not contain different information from the text, but its spatial indexing allowed participants to grasp relationships, proximity, vertical sequence, and lateral connection without assembling them from sentences. P04 described this as a recognition rather than a discovery: 'that it's accurate. That it looks good. It's very clear and quite obvious in my view. It feels well-thought-through' (P04, Visual, 3.5 years tenure). P03 reached the same point through her own position: 'that I was at the bottom of the chain' (P03, Visual, 2.5 years tenure), showing quick and accurate interpretation of the information. These reactions do not describe content being absorbed; they describe a landscape being seen. Even participants in the text condition articulated this contrast implicitly through a wish for a different format: 'it would be easier to get an overview if you could see it visually. For the overview's sake I'd prefer a visual format. Otherwise I like to sit and read. But I would say something interactive would be better' (P07, Text, 11 years tenure). P11 reached a consistent judgement: 'where it can be more visualized, where you can almost drill down, that would help. More business description for each career opportunity' (P11, Text, 30 years tenure). Sweller's (1988) cognitive load argument explains why this difference matters. When the structural relationships are offloaded onto the display, working memory is freed for interpretation, and interpretation is what sensemaking requires.

The text foregrounded a different set of cues. Where the tree surfaced relationships, the text surfaced descriptions: competencies, experience, rationale. P07 articulated this with unusual precision: 'when you wrote for example in-price analyst, that becomes quite concrete for me. I know roughly what they work with. And I agreed that would be a lateral move' (P07, Text, 11 years tenure). The quotation identifies exactly what the text does well, rendering an abstract role in concrete terms that the reader can match against her own knowledge. P02 described a similar mode of engagement but ran up against a corresponding limitation: 'I think it gives quite good clarity. You get to see what opportunities you have to advance within the company. What I can miss is maybe some of the intermediate steps' (P02, Text, 15 years tenure). Her concern is not that the text omitted information; the relevant content was present, as the parallel tree confirms. The difficulty is that the linear form of the text required her to assemble the connections between roles in her head, and the intermediate steps between her current position and a more senior one were precisely the kind of relational cue that prose cannot make visible at a glance. P09 put the limitation in the bluntest possible terms: 'the roles did not quite match what I would call advancement within our company. The level of detail was really not quite right. Beyond that, it was not very easy to overview.

You read it and then you kind of forget what you read' (P09, Text, 13 years tenure). What P09 describes is exactly what a sentential representation produces: each segment is legible in isolation, but the whole has to be reconstructed by the reader, and that reconstruction costs cognitive capacity that not every reader chose to spend.

Tree-condition participants also articulated the accessibility advantage in ways that point to dual coding effects (Paivio, 1991). P01 identified herself as a structural learner: 'I'm a person who likes that kind of thing, flow charts and so on. It's always good to have something to hold on to, more than just a conversation, because you forget it' (P01, Visual, 1.5 years tenure). P03 was drawn to the interactive features specifically: 'it's good to be able to click around' (P03, Visual, 2.5 years tenure). P12 described a more sophisticated version of the same point, articulating how interactivity could carry informational depth that neither static text nor static diagram could match: 'if you can connect it with a current organization, you can get names and recognize yourself in the structure. I think that's been an interesting thing' (P12, Visual, 36 years tenure). The tree activated the verbal channel through node labels and competency descriptions, and the visual channel through spatial structure; the reinforcement between the two produced the 'logical' and 'self-explanatory' character that recurred in tree-condition accounts.

The tree's sensegiving advantage carried a systematic cost. By making structure visible, the tree also made inconsistencies visible. By forcing explicit placement, it invited scrutiny of that placement. This is Tversky's (2011) insight that spatial structure carries meaning, applied to an organisational context: the tree could not place a role without communicating something about that role's relationship to others, and participants who disagreed with the implied relationship said so. P12 illustrated this with unusual directness: 'I saw a negotiation manager which is a specialist role, and you've created that to hold negotiations together transversely. It's also my role to create or hold transverse negotiations together. Those roles overlap a bit' (P12, Visual, 36 years tenure). P10 made a similarly structural objection: 'in my world, purchasing is superordinate to demand planning. In this case I think it feels misplaced. I'd say sustainable purchasing should be at the same level as purchasing' (P10, Visual, 30 years tenure). These are not objections to content; they are objections to placement. The text, by not making placement explicit, did not invite these objections in the first place. P02's critique, 'it becomes very structured and can feel like big steps. Sometimes it is the small steps that are important when looking at a career step' (P02, Text, 15 years tenure), registers a complaint about granularity rather than about structure. In short, the text produced complaints about what was in it, while the tree produced complaints about how things related. This asymmetry is visible in the mismatch theme's quote distribution (sixteen text, fifteen tree). The counts are near-identical, but the character of the critique differs in the way Tversky's framework would predict.

One further dimension of the tree's sensegiving, less expected and more interpretively loaded, is that the way the tree was drawn carried meaning about what a career ought to look like. Because the tree grew upward, with higher roles placed above lower ones, it visually suggested

that climbing was the goal. P08 named this directly. As noted in 4.2.4, she read the tree's upward layout as an instruction to climb ('now it's like you should go upward. There's a stigma around it'), and would rather have seen it presented as 'this can be your way forward' (P08, Visual, 28 years tenure). She returned to the point when asked whether the material could create pressure: 'imagine if you come in like me and don't [want a career]. I sat for several years saying I wanted to be category manager. I didn't want it. But you had to' (P08, Visual, 28 years tenure). The upward layout, which no participant asked to see, nevertheless transmitted a message about what the organisation valued, and P08 read that message against a career history in which she had already resisted it once. This is sensegiving as Maitlis and Christianson describe it: the artifact proposes an interpretation of events. The proposal can be accepted, refined, or rejected, but it is never neutral. The text form, by contrast, did not arrange roles in space and therefore did not provoke this particular reaction. That P08's concern has no counterpart in the text condition is not because text-condition participants held different views about upward mobility, but because the text did not put the question in visual, directional terms.

These observations point to a clear conclusion for this dimension. The two formats did not convey different content, but differed in the cue structure they presented to readers' filters. The tree offered structural cues, let the layout do the work of connecting roles, and in doing so enabled sensebreaking more consistently than the text: by laying them out at once, it disrupted taken-for-granted assumptions about what careers at Dagab could look like. The text offered descriptive cues, required more integration from the reader, and more frequently left readers to return to assembled generalisations without having restructured their view of the landscape. The tree's sensebreaking power came with a corresponding cost, however: the clearer the structure, the more the structure became itself an object of interpretation, with the material's spatial commitments open to scrutiny and objection. Format, in short, did not determine outcomes, but it reliably shaped which cues the filters of the previous subsection had to work with.

4.3.3 Social and Organisational Context

The first two dimensions have shown that individual filters set the boundaries of interpretation and that format shapes the cues available to those filters. Neither, on its own, explains the move from interpretation to action: from reading a representation to actually doing something about one's career. That move depends on a third dimension: the social and organisational infrastructure within which the reading takes place. Weick (1995) treated sensemaking as an inherently social process, and Maitlis (2005) extended this to the modes by which organisational actors guide, shape, or abdicate the sensemaking of others. Our data strongly indicate that the material's ultimate effects cannot be understood outside this social layer.

The background condition against which the entire study should be read, as documented in section 4.1, is that no participant had previously encountered structured career path-

way information at Dagab. In an organisation where structured career sensegiving had been effectively absent, the social infrastructure that would normally contextualise such sensegiving, whether manager dialogue, HR guidance, or visible role transitions, was either underdeveloped or channelled exclusively through annual performance conversations. P07 characterised the existing channel in a single sentence: 'a lot goes to what you have performed since it is also the basis for salary. We talk a bit about the future, but then it maybe doesn't get followed up automatically. It is something that is on me as an employee to drive, I would say' (P07, Text, 11 years tenure). The material, then, did not meet a context neutral to sensegiving. It met one where sensegiving had been almost entirely absent, so its presence registered as unusual.

Across both conditions, a remarkably consistent pattern emerged: participants did not experience the material as a replacement for social sensemaking, but as a scaffold for it. The *Preference for combining career tools with human dialogue* theme (nineteen quotes, of which four in the text condition and fifteen in the tree) captures this most directly, although it appeared in various forms across nearly all participants. P02 articulated the logic plainly: 'I cannot go to an HR person and discuss career opportunities without actually having some foundation based on my role. So a career tree as a basis, but above all elevate the HR contact' (P02, Text, 15 years tenure). P01 described the ideal combination in terms that emphasise sequence rather than substitution: 'honestly, the best would be the interactive image you showed AND a conversation. You have a conversation where you talk about it, and you bring it with you' (P01, Visual, 1.5 years tenure). P13, reflecting from the manager's side of the same interaction, saw the tool's value precisely in how it would change the conversations he had with his team: 'maybe it shouldn't be public for everyone, but rather something for middle managers to have in development conversations with their employees. 'How do you see the future?' 'I want to grow in the company.' Then we can sit and look at this together. 'If you want to stay in this business area, here are the next steps." (P13, Visual, 15 years tenure). What these quotes describe is Maitlis's (2005) guided sensemaking in concrete form: a mode of interpretation in which the organisational actor provides direction, the tool provides structure, and the employee constructs meaning at the intersection of the two. Neither the material nor the manager, in this account, does the work alone.

The skew toward the tree condition is worth interpreting. It is not that text-condition participants did not value dialogue; they did. Rather, tree-condition participants more readily articulated how the tool and the conversation would fit together. The tree's discrete, navigable structure gave participants a concrete sense of what could be discussed in a development conversation, while the text, which foregrounded description rather than structure, appeared harder to imagine as a conversational anchor. P15 captured this from the text side with a line that sums up the dimension as a whole: 'I think it is great that you get things on paper. Then there should always be a personal touch to everything of course' (P15, Text, 6.5 years tenure). The 'always' is doing real work here: for P15, the need for personal dialogue is not conditional on how good the document is. The document is necessary but never sufficient. Context shaped the material's effects in a second way as well, by determining whether the

material read as opportunity or as pressure. Several participants drew a sharp distinction between the content of the material and its delivery framing, and argued that the same content could produce opposite effects depending on how management introduced it. P15 articulated the condition explicitly: 'as long as you are clear that this is not something we expect. We would like you to do things over time, but you cannot demand it either' (P15, Text, 6.5 years tenure). P07 illustrated the same point through contrast: 'it depends on how that information is shared. Is it like 'I expect you to have a clear plan within five years based on this' versus 'here, if you are interested, have a look and think about it" (P07, Text, 11 years tenure). P02 echoed the principle: 'what can be a bit intimidating is maybe being presented it already at an early stage... But it depends on how you communicate it' (P02, Text, 15 years tenure). These quotes converge on a single analytical point. Whether a career tree is read as a menu of possibilities or as a set of expectations is not a property of the tree; it is a property of how the organisational context surrounding the tree frames what the tree is for. The relatively low Likert scores on pressure and comparison (3.14 text, 3.29 tree; 2.86 text, 3.29 tree) should be read in light of this finding. The material, as encountered in the study, was introduced in explicitly exploratory terms, and the low pressure scores reflect that framing at least as much as they reflect the material itself. A different framing, as P15 and P07 both imply, would plausibly produce different numbers.

A third way in which context shaped interpretation is through structural conditions that the material could not address. The *Structural and contextual constraints on career opportunity* theme (five quotes, four in the tree condition) is the smallest in the dataset but is concentrated in accounts of geography and organisational shape. P10, based in Southern Sweden rather than Stockholm, gave the clearest articulation: 'it's somewhat limited considering I'm based in another location than Stockholm. I'm in South of Sweden, so yes, I'd say it's somewhat limited. Quite a lot limited' (P10, Visual, 30 years tenure). He returned to the same point when asked about his domain knowledge of distant functions: 'Dagab is so incredibly large and I'm in another location. I don't have full insight into exactly what tasks are included in sustainable purchasing or, for example, demand planning' (P10, Visual, 30 years tenure). P01 raised a different structural constraint with equal directness: 'manager positions for example are often limited, often calculated based on how many employees you have. There's an economic background that means you might feel these are already full' (P01, Visual, 1.5 years tenure). What these participants describe is not a failure of sensegiving; it is a limit on what sensegiving can do. The material can, in principle, make possibilities visible, but visibility does not make a Stockholm role accessible from Southern Sweden, and does not create a managerial slot where none exists.

Finally, context shaped whether interpretation translated into any form of action at all. The *Employee agency and manager dialogue as conditions for career mobility* theme (twelve quotes, evenly split six text and six tree) reminds us that, whatever the material does interpretively, movement requires both individual initiative and organisational support. P11's account makes the dual requirement explicit: 'you have to be active as an employee. And have a closest manager you have a good dialogue with' (P11, Text, 30 years tenure). He then

extends the responsibility beyond the individual: 'there are many very good employees who can easily be forgotten if they work in another part of the organization. If they don't speak up, it places great demands on leadership to catch them' (P11, Text, 30 years tenure). P04's account of his own progression is the mirror image of P11's warning: agency and dialogue, in combination, producing a concrete plan. 'I was quite clear with my manager: I'm at Dagab to become a buyer, not to be a coordinator. And I said that quite early and quite directly. He likes honesty and clarity. So we made up an internal plan to develop me into a buyer within two to three years' (P04, Visual, 3.5 years tenure). The material, on its own, does neither of these things. It makes possibilities visible, but the visibility must be picked up, voiced, and responded to. Without that social uptake, interpretation remains interpretation.

Synthesis

The three dimensions do not operate in isolation; they form a single interpretive process, and the findings are best understood as its joint output. Individual filters (identity, retrospect, and plausibility) explain why the same material produced different readings across participants. Career stage, professional identity, and organisational experience shape what is noticed, what is judged realistic, and what feels personally relevant. Sensegiving properties explain why the two formats produced different reading experiences despite identical content: the tree made structural cues salient and offloaded integration onto the display, while the text foregrounded descriptive cues and required more integration from the reader, with each format carrying characteristic strengths and characteristic costs. Social and organisational context, finally, explains why interpretation may not lead evenly to action. Whether the material reads as opportunity or as pressure depends on how managers frame it. Whether it leads anywhere depends on the development conversations that follow. And what is actually reachable from a given role depends on structural conditions like geography and the availability of senior positions, none of which the material can determine.

Read together, these dimensions let us restate section 4.2 in sharper terms. Comprehension was high and did not differ between conditions, but the tree reached that level with less effort by offloading structural relationships onto the display, not a higher level of understanding. Critical engagement was roughly equal across formats while differing in character: the text drew content-level objections to individual roles, the tree structural objections to placement and relationship. Self-reported motivation was limited in both conditions because individual filters, especially career stage and professional identity, capped what any format could do, though a subtler reflective effect ran alongside it. Perceived opportunity expanded modestly because the consolidated presentation disrupted taken-for-granted assumptions that fragmented informal knowledge had not, the tree expanding breadth and the text detailing any one path. Retention plans moved little, since retention at Dagab is anchored in culture and relationships, but the material acted as a positive organisational signal — an effect section 5 takes up as part of the mechanism connecting career sensegiving to long-run commitment.

5 Discussion

We opened this thesis with a puzzle from Kraimer et al. (2011): the same investment in employee development reduces turnover when employees perceive career opportunity as high, but increases it when they perceive it as low. This raised a question the careers literature has left largely unaddressed: how do employees arrive at their perception of career opportunity, and what role does the way it is communicated play in shaping it? That is what we set out to study.

Our finding is that career pathway representations work as sensegiving artifacts whose effects on motivation, perceived opportunity, and retention come not from the material but from an interpretive process shaped by three interacting dimensions: the filters the employee brings to the encounter, the cues the format makes available, and the social and organisational context of interpretation. Format matters within this process, but its effects are bounded by who is reading and under what conditions. This partly explains the Kraimer paradox: the same material, like the same development investment, produces different outcomes depending on the interpretive process around it. We specify the three dimensions that process runs through.

On this basis we make three contributions to the literatures on career information and cognitive representation. First, we identify a previously undocumented asymmetry in how representational format directs employees' interpretive attention. Second, we specify the two distinct pathways through which a career representation reaches retention intentions, and the recipient-side limit on each. Third, we introduce the idea of an interpretive threshold that format alone cannot lower. We connect the two literatures through a sensemaking lens, but treat that as the move that makes the three contributions possible, not a contribution itself: the value of sensemaking here is in what it lets us see.

Format directs interpretive attention asymmetrically

Our first contribution is to show that representational format does not change how well employees understand a career representation, nor how motivated it makes them, but which part of it they question. Text and the visual tree produced the same level of comprehension and the same level of self-reported motivation, yet employees in the two conditions disputed entirely different aspects of the same content. This redirection of attention is invisible to the comprehension and motivation measures the cognitive literature has relied on, and it is the asymmetry that literature does not anticipate.

This contribution rests on keeping apart two things: how accessible a format felt — navigability, overview, the sense of "I could take it in" — and how well employees actually understood its content. The cognitive literature predicts a format advantage on both (Larkin and Simon, 1987; Sweller, 1988); our data show the advantage on the first and its absence on the second.

On felt accessibility, the visual format won clearly, and it won across both conditions. The theme *Visual format perceived as more accessible than text* drew twenty-four quotes in total, and the preference for an interactive visual tree was expressed by participants in both conditions: tree-condition participants articulated it while engaging with the visual in front of them, and participants in both conditions expressed it when answering the closing question about which format they would prefer. Text-condition participants, having seen only the text, favoured the visual by wishing for one (P09: a career tree would have been clearer to overview). The advantage was voiced by the people in a position to judge it, not inferred by us, and no participant argued the reverse. The visual tree was, by these accounts, the easier thing to engage with.

That felt ease did not carry through to understanding. On neither comprehension item, understanding possible career pathways (5.14 text versus 5.29 tree) or understanding what advancement requires (5.86 versus 6.00), did the formats differ much, and self-reported motivation was identical (4.14 in both). Accessibility and comprehension are not the same thing: a format can feel easier to navigate while leaving the reader understanding the content no better, which is what happened here. The processing advantage the cognitive literature predicts is real at the level of subjective ease, but does not produce the comprehension or motivation gain that literature would expect; if format acted only through processing efficiency, the two would move together, and they do not. Format's real effect lies somewhere these measures do not capture.

That effect shows up in a third behaviour the Likert items were not built to capture, which we call critical engagement: a participant moving beyond saying the material was clear to naming an element they judged wrong, misplaced, or inconsistent with the organisation as they knew it. This is not comprehension (whether the material was understood) and not motivation (whether it made them want to act); it is disputing the representation's claims after understanding them. The Mismatch between presented pathways and lived career reality theme, the largest in the dataset, indexes it, and the asymmetry lives in its internal structure.

The amount of critical engagement did not differ by format, since the *Mismatch* theme split almost evenly (sixteen text, fifteen tree). What differed was its object. Text-condition participants raised content-level objections: a role misplaced (P09), or a lateral move already part of the current job (P15). Tree-condition participants raised structural objections: where they stood in the diagram (P01, P12), which roles overlapped (P12), whether the implied hierarchy matched reality (P10). This follows Tversky's (2011) point that spatial structure carries meaning: by making placement explicit, the tree turned placement itself into something to dispute, while the text left placement implicit and so unchallenged.

In sum, with content held constant and comprehension and motivation indistinguishable across conditions, format did not change whether employees scrutinised the material but which part of it they scrutinised: text onto individual roles, the tree onto the relationships between them — without leaving a trace in the measures the cognitive literature normally

uses to detect format effects.

Two pathways to retention, each bounded by the recipient

Our second contribution is to show that a career representation does not influence retention in one way but in two, and that each of the two is held back by something the reader brings, not by the material. The careers literature treats perceived career opportunity as one aggregate outcome of the practices that produce it (Allen et al., 2003; Kraimer et al., 2011; Weng et al., 2010). Our data show this is too coarse: separate the routes by which the material touches retention and they behave differently, and they are limited by different things.

The phrase "reach retention" needs a precise meaning here: the material reaches retention when participants connect it, in their own accounts, to a stated disposition to stay or leave Dagab, captured both in the qualitative accounts and in the Likert items on intention to stay and on seeing oneself at Dagab in two years. With that fixed, two routes become visible. The direct pathway is the material changing a participant's own career plan, which then bears on whether they stay. The indirect pathway is the material changing how the participant reads the organisation, which bears on whether they stay even when their plan is unchanged. The contribution is to separate the two and show that each has a different recipient-side ceiling.

The direct pathway was weak, and what capped it was the reader, not the format. The theme *Career stage shapes how career information is received* was the most evenly balanced in the data (twenty-five quotes, thirteen text and twelve tree), and its content was consistent across formats: P14, P13, and P11 reached near-identical conclusions, attributing their response not to what they saw but to when in their careers they saw it. Drawing on Weick's (1995) identity and retrospect and Dutton and Dukerich's (1991) finding that organisational identity acts as an interpretive filter, and with format held constant by design, these filters set a ceiling on the direct pathway that no format in our data raised. The careers literature treats perceived career opportunity as something practices produce; our evidence locates the constraint on the direct pathway with the reader instead.

The indirect pathway operated even where the direct one did not. Participants in both conditions reflected on what structured information of this kind would signal about the organisation, that Dagab invests in internal development, without revising their own plans at all (P09, P05, P01). This fits Allen et al.'s (2003) mediation logic, in which HR practices reduce turnover not directly but by making employees feel the organisation supports them. Our contribution is to show that a career pathway representation can work as one of these signals: it makes employees read the organisation as one that invests in its people, and that perception, rather than any change to their own plans, is what nudges them toward staying. But the signal has no fixed meaning: the same document reads as opportunity or as pressure depending on how a manager frames it. Participants were consistent on exactly this point (P07, P15, P02). This is also why the low pressure and comparison scores in our

data (means at or below the scale midpoint: 3.14 and 3.29 on pressure, 2.86 and 3.29 on comparison) should not be read as evidence that the material is inherently low-pressure. We introduced it neutrally, in exploratory terms, and the low scores reflect that framing choice rather than a property of the material itself; a manager who framed the same document as an expectation would, on the participants' own account, produce different numbers. The contribution, then, is not only that career representations work as a support signal, but that the manager's framing is the switch determining whether that signal is sent at all.

Put precisely, the material reaches retention through two separable pathways, each limited by something different on the employee's side. The direct pathway is capped by career stage and identity, which no format can override; the indirect pathway by how a manager frames the material, which decides not just how strong the signal is but whether it reads as opportunity or as pressure. This extends Allen et al.'s argument by naming the condition under which a practice is read as supportive rather than as pressure.

An interpretive threshold that format cannot lower

Our third contribution names and locates a gap that runs through the first two: employees understood both formats well, yet for many that understanding did not turn into any change in motivation, perceived opportunity, or retention thinking. Understanding and effect came apart, and they came apart along a feature of the reader rather than the format. We call the point at which understanding does turn into effect an interpretive threshold.

The threshold sits in a gap the data shows between two measured states. The first is comprehension: high and format-insensitive, with both formats well above the scale midpoint. The second is the set of downstream outcomes (motivational engagement, expanded perceived opportunity, and retention thinking), which varied across readers and moved with neither format. An artifact crosses the threshold for a reader when the first state turns into the second, and fails to cross when comprehension is reached but no downstream shift follows. The threshold is the point at which a reader stops just understanding the material and starts using it to think about their own career. It is determined by how specific its cues are, how personally relevant it feels, and how much social context surrounds it.

Where the threshold sat was determined by the reader, not the format. For early-career participants without a settled career identity, both formats more often crossed it (P03, P04). For participants whose identity was settled, and whose experience had given them a stock of cases to judge the material against, neither format consistently crossed it (P13, P11, P08). Format moved the threshold for nobody; reader characteristics moved it for everybody.

This is where manager dialogue enters the argument, and we mean something specific by it. Manager dialogue here is guided sensemaking in Maitlis's (2005) sense: an interaction in which a manager supplies the personal relevance and contextual interpretation that the artifact, a general representation addressed to no one in particular, cannot give a specific reader. It is not the material plus encouragement. The document was tailored to each

reader's role and level, but not to the things that actually determine whether it lands: the reader's career stage, professional identity, and where they stand in their own career thinking. A pre-built document cannot know who is reading it; a manager can. That is what the conversation adds. Participants themselves pointed to manager dialogue, not to a better format, as what would reliably move them across this threshold: a point that came up in nineteen quotes under the theme *Preference for combining career tools with human dialogue*.

In short, comprehension above the midpoint in both conditions, set against downstream outcomes that moved in neither, shows a gap that no format closes. The interpretive threshold names that gap, locates it on a reader characteristic (settled versus unsettled career identity) rather than format, and identifies guided manager dialogue as what closes it for a varied readership. The practical implication is direct: organisations should invest less in whether the material is text or visual and more in whether the social context around it can carry a given reader across the threshold. We offer the construct tentatively and invite work to test, refine, or replace it.

Limitations and Future Research

Most of these limitations concern how much weight the first contribution can carry. The asymmetric format effect rests on fourteen interviews, balanced on career level, specialisation, and age. The pattern is clear and fits established cognitive theory, but the quote counts are sensitive to sample size and to the coding choices in Section 3.3. We treat the mechanism as plausible and the size of the effect as provisional. The Likert data carry the same caution. With seven participants per condition, the study cannot reliably detect differences in comprehension or motivation, which is why we report these scores descriptively. The flat scores are therefore not evidence that format has no effect; a larger sample might reveal differences this design cannot. This does not weaken the first contribution. That contribution does not claim format leaves comprehension untouched. It claims format changes which part of the material employees scrutinise, and that pattern holds in the qualitative data whether or not the score differences are truly zero. What is provisional is the narrower claim that the two formats are equivalent on comprehension and motivation; a better-powered study should test it directly. The first and second contributions together imply a mediation claim we can suggest but not establish: the attentional asymmetry may be the mechanism through which format produces the downstream differences. Random assignment balanced the interpretive filters across conditions, but at this sample size it could not stop them producing large within-condition variance, and that variance is the most likely alternative explanation for the differences we observe. A larger study, with participants matched on career stage and professional identity, would isolate the mechanism better.

The interpretive threshold in the third contribution is a proposal grounded in our data, not a validated construct. Its boundary conditions and measurement are open questions; we offer

it as hypothesis-generating.

How participants met the material is a further limitation. We told them it was our own analysis, not an official communication from Dagab. The indirect signalling pathway in the second contribution therefore operates here in projected form: participants reflected on what such material would signal if the organisation provided it, rather than reacting to a real signal. This may also have lowered the credibility they attached to specific role placements. Whether the same signalling effects hold, and whether placements read as more authoritative, when the material is official organisational communication is a question our design cannot answer and one future research could take up.

The finding that spatial structure can carry normative messages about valued career behaviour rests on less evidence than the others, articulated most pointedly by a single participant (P08). It opens a question rather than settling one.

Combining an interpretivist sensemaking lens with an experimental format variation brings together epistemological assumptions that are not fully aligned. A reader who rejects this combination would draw narrower conclusions from the same evidence.

Finally, all participants came from one function in one organisation. The mechanisms we identify are general in form and likely to operate elsewhere, but their specific content at Dagab is unlikely to transfer unchanged. Replication across organisations and functions would strengthen confidence in these contributions.

6 Conclusion

This study asked how employees interpret representations of career pathways, and how those interpretations shape motivation, perceived career opportunity, and retention intentions. We addressed this through a qualitative study at Dagab, a large Nordic logistics organisation, in which fourteen supply chain employees were randomly assigned to one of two conditions and interviewed after engaging with career pathway material presented either as a running text or as an interactive visual career tree. Both versions came from the same career framework and were held equivalent in content, so any difference in response could be attributed to format. We analysed the interviews thematically through a sensemaking lens (Weick, 1995; Maitlis and Christianson, 2014), structured around three interacting dimensions: the filters the employee brings to the encounter, the cues the format makes available, and the social and organisational context in which interpretation takes place.

Our findings show that career pathway representations are sensegiving artifacts, but their effects on motivation, perceived opportunity, and retention do not come from the material itself. They come from the interpretive process the material triggers, and that process is shaped by who is reading and the conditions under which they read. On this basis, our study contributes to the literatures on career information and cognitive representation in three ways. First, we identify a previously undocumented asymmetry: the two formats produce comparable comprehension scores but invite different kinds of critical engagement, with text drawing employees' attention to the content of individual roles and the visual tree drawing it to the relationships between them. Second, we specify the two pathways through which the material reaches retention: a direct pathway through the employee's own career plan, and an indirect signalling pathway that works through perceived organisational support and can be switched on or undermined by how management frames the material. Each is bounded on the recipient side. Third, we introduce the notion of an interpretive threshold to capture why the same material produces different effects on different readers, and why the most reliable way to move a reader across it is not a different format but guided sensemaking (Maitlis, 2005) through manager dialogue. Sensemaking connects research on perceived career opportunity (Allen et al., 2003; Kraimer et al., 2011; Weng et al., 2010) with research on cognitive representation (Larkin and Simon, 1987; Sweller, 1988; Tversky, 2011), but that connection is the move that makes these contributions possible, not a contribution in itself.

These findings have direct implications for how organisations design and use career pathway communication. The first is that format alone is not the lever it is often assumed to be. Polished visual materials are more accessible than running text, but our study did not find that either format, on its own, consistently shifted motivation, perceived opportunity, or retention without the social context around it. Format may influence these outcomes under conditions our design could not isolate, but the practical point is that better format cannot substitute for the development conversations and managerial framing that give the material

meaning. The second implication follows: the question for organisations is less whether to communicate career pathways in text or visual form, and more whether the conversations between employees and managers are ready to use the material as a starting point. The third implication concerns delivery framing. The same artifact can be read as opportunity or as expectation depending on how managers introduce it, and this framing choice is at least as consequential as the choice of format. Finally, organisations should be aware that the spatial structure of a career visualisation carries normative messages about valued career behaviour, and that a structure implying that climbing is the goal may not fit the range of career identities in their workforce. Recognising specialist, lateral, and intra-role development as legitimate forms of career growth may matter more than the choice between text and visual form.

Our study also opens several directions for future research. The most direct extension would be a larger study with participants matched or grouped on the filters our findings identify, especially career stage and professional identity. Such a study would test whether this attentional difference — text toward content, tree toward structure — is the mechanism linking format to motivation, perceived opportunity, and retention, a link our data can suggest but not prove. A second direction is to develop and test the idea of an interpretive threshold more fully, identifying the factors that make it higher or lower for a given employee and finding ways to measure it in practice. A third direction is longitudinal: studies that follow employees over time as career representations are introduced would go beyond our snapshot design and show how interpretations develop with experience.

Taken together, our study shows that career pathway communication is not a neutral act of passing on information. It is an act of organisational sensegiving, and its effects depend on who is reading, what cues the format makes visible, and whether the social context around the material is enough to turn understanding into personal meaning. Organisations that recognise this will treat their career materials not as documents to be consumed, but as starting points for the conversations in which careers are actually shaped.

References

[1] Allen, D.G., Shore, L.M. and Griffeth, R.W. (2003) 'The role of perceived organizational support and supportive human resource practices in the turnover process', *Journal of Management*, 29(1), pp. 99–118. Available at: https://doi.org/10.1177/014920630302900107.

[2] Axfood (n.d.) *Dagab*. Available at: https://www.axfood.se/our-companies/dagab/ (Accessed: [date]).

[3] Bidwell, M. (2011) 'Paying more to get less: The effects of external hiring versus internal mobility', *Administrative Science Quarterly*, 56(3), pp. 369–407. Available at: https://doi.org/10.1177/0001839211433562.

[4] Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77–101. Available at: https://doi.org/10.1191/1478088706qp063oa.

[5] Creswell, J.W. and Plano Clark, V.L. (2018) *Designing and conducting mixed methods research*. 3rd edn. Thousand Oaks, CA: Sage.

[6] Czarniawska, B. (1997) 'Sensemaking in organizations', *Scandinavian Journal of Management*, 13(1), pp. 113–116. Available at: https://doi.org/10.1016/s0956-5221(97)86666-3.

[7] De Vos, A. and Dries, N. (2013) 'Applying a talent management lens to career management: The role of human capital composition and continuity', *The International Journal of Human Resource Management*, 24(9), pp. 1816–1831. Available at: https://doi.org/10.1080/09585192.2013.777537.

[8] Dutton, J.E. and Dukerich, J.M. (1991) 'Keeping an eye on the mirror: Image and identity in organizational adaptation', *Academy of Management Journal*, 34(3), pp. 517–554. Available at: https://doi.org/10.5465/256405.

[9] Flick, U. (2004) 'Triangulation in qualitative research', in Flick, U., von Kardoff, E. and Steinke, I. (eds.) *A companion to qualitative research*. London: Sage, pp. 178–183.

[10] Ghauri, P. and Grønhaug, K. (2005) *Research methods in business studies: A practical guide*. 3rd edn. Harlow: Pearson Education.

[11] Gioia, D.A. and Chittipeddi, K. (1991) 'Sensemaking and sensegiving in strategic change initiation', *Strategic Management Journal*, 12(6), pp. 433–448. Available at: https://doi.org/10.1002/smj.4250120604.

[12] Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2013) 'Seeking qualitative rigor in inductive research: Notes on the Gioia methodology', *Organizational Research Methods*, 16(1), pp. 15–31. Available at: https://doi.org/10.1177/1094428112452151.

[13] Goretzki, L. and Messner, M. (2016) 'Coordination under uncertainty: A sensemaking perspective on cross-functional planning meetings', *Qualitative Research in Accounting & Management*, 13(1), pp. 92–126. Available at: https://doi.org/10.1108/qram-09-2015-0070.

[14] Hom, P.W., Lee, T.W., Shaw, J.D. and Hausknecht, J.P. (2017) 'One hundred years of employee turnover theory and research', *Journal of Applied Psychology*, 102(3), pp. 530–545. Available at: https://doi.org/10.1037/apl0000103.

[15] Kallio, H., Pietilä, A.-M., Johnson, M. and Kangasniemi, M. (2016) 'Systematic methodological review: developing a framework for a qualitative semi-structured interview guide', *Journal of Advanced Nursing*, 72(12), pp. 2954–2965. Available at: https://doi.org/10.1111/jan.13031.

[16] Kraimer, M.L., Seibert, S.E., Wayne, S.J., Liden, R.C. and Bravo, J. (2011) 'Antecedents and outcomes of organizational support for development: The critical role of career opportunities', *Journal of Applied Psychology*, 96(3), pp. 485–500. Available at: https://doi.org/10.1037/a0021452.

[17] Larkin, J.H. and Simon, H.A. (1987) 'Why a diagram is (sometimes) worth ten thousand words', *Cognitive Science*, 11(1), pp. 65–99. Available at: https://doi.org/10.1111/j.1551-6708.1987.tb00863.x.

[18] Lukka, K. and Modell, S. (2010) 'Validation in interpretive management accounting research', *Accounting, Organizations and Society*, 35(4), pp. 462–477. Available at: https://doi.org/10.1016/j.aos.2009.10.004.

[19] Maitlis, S. (2005) 'The social processes of organizational sensemaking', *Academy of Management Journal*, 48(1), pp. 21–49. Available at: https://doi.org/10.5465/amj.2005.15993111.

[20] Maitlis, S. and Christianson, M. (2014) 'Sensemaking in organizations: Taking stock and moving forward', *The Academy of Management Annals*, 8(1), pp. 57–125. Available at: https://doi.org/10.1080/19416520.2014.873177.

[21] Mayer, R.E. and Moreno, R. (2002) 'Aids to computer-based multimedia learning', *Learning and Instruction*, 12(1), pp. 107–119. Available at: https://doi.org/10.1016/S0959-4752(01)00018-4.

[22] Meyer, J.P., Allen, N.J. and Smith, C.A. (1993) 'Commitment to organizations and occupations: Extension and test of a three-component conceptualization', *Journal of Applied Psychology*, 78(4), pp. 538–551. Available at: https://doi.org/10.1037/0021-9010.78.4.538.

[23] Miles, M.B. and Huberman, A.M. (1994) *Qualitative data analysis: An expanded sourcebook*. 2nd edn. Thousand Oaks, CA: Sage.

[24] Paivio, A. (1991) 'Dual coding theory: Retrospect and current status', *Canadian Journal of Psychology*, 45(3), pp. 255–287. Available at: https://doi.org/10.1037/h0084295.

[25] Qu, S.Q. and Dumay, J. (2011) 'The qualitative research interview', *Qualitative Research in Accounting & Management*, 8(3), pp. 238–264.

[26] Sandberg, J. and Tsoukas, H. (2015) 'Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development', *Journal of Organizational Behavior*, 36(S1), pp. S6–S32. Available at: https://doi.org/10.1002/job.1937.

[27] Seligman, L. (2006) 'Sensemaking throughout adoption and the innovation-decision process', *European Journal of Innovation Management*, 9(1), pp. 108–120. Available at: https://doi.org/10.1108/14601060610640050.

[28] Shadish, W.R., Cook, T.D. and Campbell, D.T. (2002) *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.

[29] Simms, L.J., Zelazny, K., Williams, T.F. and Bernstein, L. (2019) 'Does the number of response options matter? Psychometric perspectives using personality questionnaire data', *Psychological Assessment*, 31(4), pp. 557–566.

[30] Starbuck, W.H. and Milliken, F.J. (1988) 'Challenger: Fine-tuning the odds until something breaks', *Journal of Management Studies*, 25(4), pp. 319–340.

[31] Sturges, J.E. and Hanrahan, K.J. (2004) 'Comparing telephone and face-to-face qualitative interviewing: A research note', *Qualitative Research*, 4(1), pp. 107–118. Available at: https://doi.org/10.1177/1468794104041110.

[32] Sweller, J. (1988) 'Cognitive load during problem solving: Effects on learning', *Cognitive Science*, 12(2), pp. 257–285. Available at: https://doi.org/10.1207/s15516709cog1202_4.

[33] Tversky, B. (2011) 'Visualizing thought', *Topics in Cognitive Science*, 3(3), pp. 499–535. Available at: https://doi.org/10.1111/j.1756-8765.2010.01113.x.

[34] Weick, K.E. (1995) *Sensemaking in organizations*. Thousand Oaks, CA: Sage Publications.

[35] Weng, Q. and McElroy, J.C. (2012) 'Organizational career growth, affective occupational commitment and turnover intentions', *Journal of Vocational Behavior*, 80(2), pp. 256–265. Available at: https://doi.org/10.1016/j.jvb.2012.01.014.

[36] Weng, Q., McElroy, J.C., Morrow, P.C. and Liu, R. (2010) 'The relationship between career growth and organizational commitment', *Journal of Vocational Behavior*, 77(3), pp. 391–400. Available at: https://doi.org/10.1016/j.jvb.2010.05.003.

Appendix A: Stimulus Material

This appendix presents the stimulus materials used in the study. Two versions of the material were developed from the same underlying career framework: a text-based PDF and an interactive visual career tree. Separate versions were produced for each of the three specialisations (Procurement, Strategic Sourcing, and General Supply Chain Operations) so that the material was personally relevant to each participant.

Interactive Career Trees (Visual Condition)

The interactive career trees were built as web applications using React, TypeScript, and React Flow, with development carried out on the Lovable platform. The four trees used in the study are available at:

- Procurement: `https://karriarflow-explorer.lovable.app`
- General Supply Chain Management: `https://supplychainoperations.lovable.app`
- Strategic Sourcing: `https://strategicsourcing3.lovable.app`
- Procurement (Senior): `https://procurement3.lovable.app`

Text-Based Descriptions (Text Condition)

The structured PDF text descriptions accompanies this thesis as a supplementary file. Each document presents the same content as the corresponding interactive tree, organised linearly by section.

Appendix B: Interview Protocol

Career Pathway Visualisation and Employee Interpretation. Estimated total duration: approximately 40 minutes. The protocol was structured in six sections: introduction, background and prior exposure, exposure to the stimulus material, open discussion questions, Likert-scale items, and closing questions.

Introduction (read aloud)

Thank you for participating. We are studying how employees perceive and interpret different ways of presenting career development opportunities within organisations. There are no right or wrong answers; we are interested in your honest impressions. Everything will remain anonymous and used only for academic research.

Important note to participants: We want to emphasise that this is our own analysis of how one can grow within the company, based on data we received from Axfood. In other words, the following material is our own interpretation and does not represent Dagab as an organisation. Additionally, what will be shown are specialisations, not job titles. Specialisations are broader categories under which multiple titles may fall; this is simply to make the material clearer and easier to understand.

Before we start, is it okay if we record the conversation?

Background Questions

- How long have you worked at the company?
- Which age group do you belong to? (e.g. 20–29, 30–39, 40–49, 50+)

Prior Exposure

- Have you previously seen or received similar information about career pathways within the company?
- (If yes) In what format was this information presented?

Exposure to Career Information

Participants were shown either the visualised career pathway (experimental group) or the equivalent text-based explanation (control group). Participants were given approximately five minutes to review the material.

Part 1: Open Discussion Questions

1. How do you generally think about your career within the company?
2. Can you walk me through how you see your career progression here so far?
3. What was your immediate reaction when you saw this career pathway explanation?
4. How easy or difficult was it to understand this information? Why?
5. What stood out to you the most?
6. How did this way of presenting career opportunities make you feel about your future here?
7. Does it influence how you think about developing or progressing within the company? How?
8. Is there anything about this that could feel unclear, discouraging, unrealistic, or frustrating?
9. If you could improve how career opportunities are communicated here, what would you change?

Part 2: Likert-Scale Items

Scale used: 1 = Strongly disagree, 7 = Strongly agree

Interpretation and Opportunity

- I have a clear understanding of possible career pathways within this company.
- I understand what is required to progress within the company.
- I have a clear picture of my potential future within the company.

Motivation and Retention

- This information makes me feel more motivated to develop within the company.
- This information increases my interest in pursuing a long-term career here.
- I am unlikely to leave this organisation in the near future.
- I see myself working here two years from now.

Organisational Commitment

Affective Commitment

- I feel emotionally attached to this organisation.
- I feel a strong sense of belonging to this organisation.

Continuance Commitment

- It would be difficult for me to leave this organisation right now.
- Too much of my life would be disrupted if I decided to leave this organisation.

Normative Commitment

- I feel a sense of obligation to remain with this organisation.
- I would feel guilty if I left this organisation.

Potential Downsides

- This way of presenting career opportunities could create pressure among employees.
- This way of presenting career opportunities could lead to comparisons with others.
- This way of presenting career opportunities could create unrealistic expectations about career progression.

Closing Questions

1. What would you rather choose: a visualised career pathway or an equivalent text-based explanation?
2. Is there anything else you would like to add about career development opportunities or how they are communicated here?

Appendix C: Thematic Analysis Workbook

The full thematic analysis workbook accompanies this thesis as a supplementary file. The workbook contains five tabs: (1) *Participants*, listing the fourteen participants with their condition, role, tenure, and age group; (2) *Coding*, listing all 242 coded quotes with their first-order concepts and second-order themes; (3) *Theme Overview*, summarising the twelve second-order themes; (4) *Likert*, containing the structured Likert responses; and (5) *Data Table (Themes)*, presented below as Table C.1.

Table C.1: Themes, Supporting Quotes, and Distribution by Condition

Table C.1 is included in Table C. Each row presents one of the twelve second-order themes, with columns for primary RQ dimension, definition, total quote count, distribution across the Text and Visual conditions, and three representative supporting quotes (Text-condition quotes shaded cream, Visual-condition quotes shaded blue).]

Appendix D: Familiarisation Notes

The Familiarisation Notes accompanies this thesis as a supplementary file. As an initial step in the thematic analysis, all fourteen interviews were carefully reviewed in order to develop a preliminary understanding of the data, organised by condition (text-based presentation, visual career tree) and concluding with an initial cross-condition comparison oriented toward the research question.

Appendix E: AI Disclosure

This appendix discloses our use of generative AI tools in the thesis work, in line with the SSE Artificial Intelligence Policy. We have been transparent and careful with these tools, and the research question, empirical work, analysis, and conclusions are our own.

Tools Used and How

We used a few different tools at different stages of the work.

Anthropic's Claude (Sonnet 4.5) was used to brainstorm and think through the structure of the thesis, including general guidance on how to set up the literature and theory section for a qualitative study. Later, we used Claude to help us analyse the interview transcripts, and through the Claude plug-in for Excel we were able to highlight codes in the transcripts that we then sorted into the twelve themes that connect to our research question. Claude was also used to revise sections of the text.

Lovable is a vibe-coding platform, and we used it to build the career tree visuals that we showed to half of the interviewees. The visuals can be found in Appendix A.

OpenAI's ChatGPT (GPT-5.3) was used mainly to help us write effective prompts for the vibe-coding platform we used to build the career trees. Prompt design was a meaningful part of the building process, as the quality of the output depended heavily on how clearly we framed our instructions. ChatGPT was also used occasionally to help refine sections of the text.

SciSpace was used to find peer-reviewed literature for the thesis, alongside the SSE Library and Scopus. We also asked Claude for suggestions on good search terms to use in those databases.

TurboScribe was used to transcribe the recorded interviews into text, which became the basis for our thematic analysis.

How the Tools Improved Our Work

The tools helped us in several ways. Claude made it easier to brainstorm and structure our thinking throughout the thesis, to work through a large amount of interview data during coding, and to refine sections with clearer language and more consistent phrasing in alignment with academic writing conventions. ChatGPT and Lovable together made it possible to build the career tree prototypes, which strengthened the empirical design and would otherwise have been difficult to do within a bachelor's thesis. SciSpace helped us find peer-reviewed sources we might not have come across through regular searches, and TurboScribe saved us a lot of time on transcription, which meant more time for the actual analysis.

Risks We Identified and How We Handled Them

We were aware of a few risks when using AI, and tried to handle them in the following ways.

AI models can suggest sources that are not always relevant or trustworthy. For this reason, every reference cited in the thesis was looked up by us in the SSE Library and Scopus, and we reviewed the source before citing it (most sources are peer reviewed).

There was also a risk that the AI could steer the coding and push us toward its own interpretation of the interview material. To mitigate this, we did not rely on Claude for analytical judgment, but used it as a supporting tool to help break down the transcripts, organise quotes, and suggest candidate codes, while the actual coding decisions, themes, and interpretation were made by us.

Moreover, the trees were built from an Excel file shared by Axfood containing role and career information. Before any of this data was used with an AI tool, we evaluated and cleaned it to remove anything sensitive or personally identifying, and only the cleaned version was used as input to Lovable and ChatGPT (this in alignment with Axfood). This data also served as the foundation for our own understanding of how the trees could realistically be structured: what roles existed, how they related, and what transitions were possible within the organisation.

TurboScribe can make small transcription mistakes, so we checked the text against the recordings where it mattered, and we verified any direct quotes used in the thesis manually.

We followed the AI and Copyright Policy and did not upload any course materials, such as lecture slides, handouts or readings, to any AI tool. We were also careful with the interview material so that participant confidentiality was respected.

Finally, since AI was used to revise the written text, there was a risk of the text drifting away from what we actually meant, or of AI phrasing replacing our own voice. We handled this by treating the AI as a writing assistant that worked from our input rather than as an author. The research question, the interview material, the analysis, the findings and the conclusions come from us, and we read, edited and approved every AI-assisted passage before including it. We also checked factual claims against our sources and data, and we take responsibility for the final text.

What We Learned from Using AI

One thing we learned is that AI is most useful as a thinking and writing partner, not as an author or analyst. It is good at structuring and exploring ideas quickly, but it also makes mistakes that sound confident. Verification is not optional.

We also learned that the quality of the output depends a lot on how you prompt the tool and on what material you give it. The more clearly we framed a question, and the more of our own notes we fed in, the more useful the response became.