Digital Communication Structures in Construction Production

Increasing the Use of Digital Tools Among Subcontractors

Master’s thesis in the master’s program Design and Construction Project Management

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Abstract

Digital tools are increasingly used in construction production to support communication, coordination, and information management between project actors. However, construction projects still involve complex communication processes, as several subcontractors often work simultaneously under changing site conditions. This creates challenges related to access to updated information, coordination between trades, onboarding, and consistency in communication practices. The purpose of this master's thesis is to examine how digital information structuring supports communication between main contractors and subcontractors during the production phase of construction projects. The study focuses on the use of Dalux Field in selected Peab projects and investigates how the platform is used in practice, which communication challenges arise, and how onboarding and organizational conditions influence subcontractors' use of digital systems.

The study is based on a qualitative case study approach, combining semi-structured interviews and surveys with production staff and subcontractors. The empirical findings were analyzed in relation to previous research on BIM, digitalization in construction, technology acceptance, diffusion of innovation, and knowledge transfer.

The findings show that Dalux supports production communication by improving accessibility, traceability, coordination, and continuity of project information. It provides a shared digital environment for drawings, tasks, inspections, deviations, and documentation, reducing some fragmentation traditionally associated with construction communication. However, the study also shows that digital systems do not replace verbal communication. Instead, production communication becomes hybrid, where verbal interaction supports clarification and coordination, while digital systems support documentation and follow-up.

The results indicate that the effectiveness of Dalux depends on onboarding, organizational support, shared routines, and collective system adoption. Differences in digital maturity and previous experience affect how naturally subcontractors integrate the system into daily work. Limited onboarding and inconsistent usage may reduce the communicative value of the platform and create continued dependence on parallel communication channels outside the system. The thesis concludes that successful digital information structuring should be understood as both a technological and organizational process. Digital communication platforms such as Dalux can strengthen coordination and information management, but their effectiveness depends on whether project organizations create sufficient conditions for consistent use, onboarding, and collaboration between actors.

Keywords: BIM, digitalization in construction, communication, Dalux, subcontractors, onboarding, knowledge transfer, technology acceptance, diffusion of innovation.

Digitala kommunikationsstrukturer i byggproduktion
Ökad användning av digitala verktyg bland underentreprenörer

Examensarbete inom masterprogrammet organisering och ledning i bygg- och fastighetssektorn
Institutionen för arkitektur och samhällsbyggnadsteknik
Chalmers tekniska högskola

ERIK HAMMARSTRÖM OLSSON & MARCUS LAVE

Sammanfattning

Digitala verktyg används i allt större utsträckning inom byggproduktion för att stödja kommunikation, samordning och informationshantering mellan projektaktörer. Byggprojekt innefattar dock fortfarande komplexa kommunikationsprocesser, eftersom flera underentreprenörer ofta arbetar samtidigt under föränderliga förhållanden på byggarbetsplatsen. Detta skapar utmaningar kopplade till tillgång till uppdaterad information, samordning mellan yrkesgrupper, onboarding och enhetlighet i kommunikationsrutiner.
Syftet med detta examensarbete är att undersöka hur digital informationsstrukturering stödjer kommunikationen mellan huvudentreprenörer och underentreprenörer under produktionsfasen i byggprojekt. Studien fokuserar på användningen av Dalux Field i utvalda Peab-projekt och undersöker hur plattformen används i praktiken, vilka kommunikationsutmaningar som uppstår samt hur onboarding och organisatoriska förutsättningar påverkar underentreprenörers användning av digitala system.
Studien bygger på en kvalitativ fallstudieansats där semistrukturerade intervjuer och enkäter kombineras med produktionspersonal och underentreprenörer. Det empiriska materialet analyserades i relation till tidigare forskning om BIM, digitalisering inom byggbranschen, technology acceptance, diffusion of innovation och knowledge transfer.
Resultaten visar att Dalux stödjer kommunikationen i produktionen genom att förbättra tillgänglighet, spårbarhet, samordning och kontinuitet i projektinformationen. Plattformen erbjuder en gemensam digital miljö för ritningar, uppgifter, besiktningar, avvikelser och dokumentation, vilket minskar en del av den fragmentering som traditionellt förknippas med kommunikation inom byggproduktion. Studien visar dock även att digitala system inte ersätter verbal kommunikation. I stället blir kommunikationen i produktionen hybrid, där verbal interaktion stödjer förtydligande och samordning, medan digitala system stödjer dokumentation och uppföljning.
Resultaten indikerar att Dalux effektivitet beror på onboarding, organisatoriskt stöd, gemensamma rutiner och kollektiv systemanvändning. Skillnader i digital mognad och tidigare erfarenhet påverkar hur naturligt underentreprenörer integrerar systemet i det dagliga arbetet. Begränsad onboarding och inkonsekvent användning kan minska plattformens kommunikativa värde och skapa ett fortsatt beroende av parallella kommunikationskanaler utanför systemet. Examensarbetet drar slutsatsen att framgångsrik digital informationsstrukturering bör förstås som både en teknisk och organisatorisk process. Digitala kommunikationsplattformar såsom Dalux kan stärka samordning och informationshantering, men deras effektivitet beror på om projektorganisationer skapar tillräckliga förutsättningar för konsekvent användning, onboarding och samarbete mellan aktörer.

Nyckelord: BIM, digitalisering inom bygg, kommunikation, Dalux, underleverantörer, onboarding, kunskapsöverföring, technology acceptance, diffusion of innovation.

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Gothenburg, June 2026
Marcus Lave & Erik Hammarström Olsson

1 Introduction

During the production phase of construction projects, information constantly moves between different actors on site. Drawings are updated, tasks are handed over between trades, and questions need to be solved while production is ongoing. Since several subcontractors often work in parallel during the same period, coordination becomes an important part of the daily work.

In many projects, this information is currently handled through digital systems instead of paper drawings and separate document flows. Platforms such as Dalux are used to distribute drawings, manage tasks, document deviations, and follow up on production-related issues directly on site. At the same time, the practical use of these systems can differ between projects and between actors depending on routines, previous experience, and how the system is introduced during production. Subcontractors are a central part of this environment since much of the practical work is carried out by external trades working under changing project conditions. Their ability to access updated information and coordinate their work with the main contractor can therefore affect how smoothly production activities are carried out on site.

This thesis examines how digital structuring of project information can support communication between main contractors and subcontractors during construction production, with a particular focus on the use of Dalux Field within projects at Peab.

1.1 Background

Construction production involves a constant flow of information between the actors working in the project. Drawings are updated, inspections are carried out, questions appear during production, and different trades need information from each other to continue their work. Since several activities often take place at the same time on site, even smaller changes can affect other parts of the production process. Dubois and Gadde (2002) describe construction projects as temporary collaborations between several organizations, where coordination between actors becomes an important part of the production work.

One development within construction production is how project information is handled on site today. Earlier, drawings and documentation were often managed through printed material and separate document flows. In many projects, this information is now instead accessed directly through digital systems during ongoing production work. It is common for both supervisors and subcontractors to use phones or tablets on site to look at drawings, follow up tasks, or register issues as they appear during the workday. Disney et al. (2024) observe that digital platforms are increasingly used to support coordination and information sharing directly from the construction site.

At the same time, daily production work still depends heavily on coordination between people on site. Even if information exists in the system, misunderstandings can still happen if updates are missed, information is difficult to locate, or actors interpret the same information differently during ongoing work. Talamo and Bonanomi (2020) discuss similar challenges related to fragmented information handling and coordination in projects involving several actors.

The way digital systems are used can also differ considerably between projects and organizations. Some subcontractors are already used to handling drawings and communication digitally in their daily work, while others still work more through verbal coordination and traditional routines on site. There are also projects where new subcontractors enter during ongoing production and need to understand both the project structure and the digital systems within a short period of time. El Masry and Chronéer (2025) argue that differences in digital maturity and organizational conditions continue to influence how consistently digital systems are used in Swedish construction production. Systems such as Dalux are currently used in many projects to distribute drawings, manage tasks, and document production-related issues. At the same time, communication during production rarely takes place through one system alone. Meetings, phone calls, and direct discussions on site are still an important part of how coordination works during everyday production activities.

Because of this, digital systems become closely connected to communication between the main contractor and subcontractors during production. The way information is structured and introduced in the system can therefore influence how communication and coordination function during the project.

1.2 Problem discussion

Digital tools are increasingly used in construction today, but communication challenges still remain in many projects. A system may be available, but that does not automatically mean that everyone works in the same way or receives the same information. Different companies often have their own routines, and experience of digital systems can vary between users.

This can become clear during the production phase, where many subcontractors enter the project for shorter or longer periods. They are expected to start quickly, understand current procedures, follow site routines, and know where to find the right information. If the introduction is brief or unclear, there is a greater risk of misunderstandings and repeated questions.
When several trades depend on each other, even small communication issues can affect the daily work. Delays, unclear responsibilities, or outdated information may create unnecessary interruptions on site.

This study is based on projects within Peab, where Dalux is used as a platform for drawings, documentation, and communication. Even though the system is available, the benefits may differ depending on how it is introduced and used in practice. This creates a need to examine how digital information structuring can support communication between main contractors and subcontractors during production.

1.3 Purpose

The purpose of this study is to examine how a clearer digital structure for project information can facilitate communication between main contractors and subcontractors during production. The focus is on how information is shared in daily work, how people get access to it, and how it is used on site. The study also looks at how this can affect coordination between the different actors involved in the project.

A further purpose is to investigate how Dalux is currently used within Peab projects to distribute information and support communication with subcontractors. By studying current ways of working, the thesis aims to identify both strengths and challenges connected to the use of digital platforms in production.

The study also seeks to identify areas for improvement related to the introduction and practical use of digital systems among subcontractors.

1.4 Research questions

This study is based on one main research question and two supporting sub-questions. The main question reflects the overall purpose of the thesis, while the sub-questions are used to examine specific parts of the topic in more detail.

Main research question:
How does digital information structuring support communication processes between main contractors and subcontractors in construction projects?

Sub-questions:
What communication challenges commonly arise between main contractors and subcontractors during the production phase of construction projects?

How is Dalux currently used to structure and distribute project information to subcontractors?

1.5 Delimitations

This study is limited to the production phase of construction projects, where communication between main contractors and subcontractors is a central part of the daily work. Earlier project stages such as design, procurement, and tendering are therefore not included.

The empirical part of the study is based on selected projects within Peab Bygg. As a result, the findings should be understood in relation to the working methods, routines, and conditions found within this company context.

The study focuses on the use of Dalux as a platform for structuring and sharing project information. More specifically, the analysis is centered on Dalux Field, which is the part of the platform mainly used during production for drawings, tasks, registrations, and site-related communication. Other parts of Dalux are therefore not examined in detail.
The main focus is communication between main contractors and subcontractors. Communication involving consultants, clients, or suppliers is only included when relevant to the overall project context.

The study does not aim to measure financial outcomes or compare productivity levels between projects. Instead, the focus is on experiences, routines, and perceived challenges connected to information sharing and communication during production.

1.6 Sustainability perspective

Sustainability is a relevant aspect of this study, since improved communication and clearer information management can contribute to more efficient construction processes. When drawings, tasks, and updates are easier to access, the risk of misunderstandings may decrease. This can help reduce unnecessary rework, waiting time, and material waste during production.

There is also a social sustainability perspective. Clearer routines and better access to information can make the daily work easier for those involved in the project. For subcontractors entering a new workplace, a structured introduction and clear communication may create better conditions to start the work safely and efficiently.

From an economic perspective, better coordination between project actors can support productivity and reduce avoidable disruptions. More effective use of time and resources may benefit both the project and the companies involved.

2 Theoretical Framework

This chapter presents the theories used to understand how digital tools affect communication in construction production. Since the use of Dalux depends not only on the system itself, but also on how people adopt it, communicate through it, and share knowledge, four theories are combined. Diffusion of Innovation, Media Richness Theory, Knowledge Transfer Theory, and the Technology Acceptance Model are used to explain adoption, communication needs, knowledge sharing, and user acceptance. Together, they help analyze digital communication as both a technical and organizational process.

2.1 Diffusion of Innovation theory

Scholarly interest in how new ideas spread predates the digital era. Long before construction began focusing on digital transformation, researchers sought to understand why certain practices were adopted rapidly while others encountered resistance. One of the most influential contributions in this area is Rogers' Diffusion of Innovation theory.

Diffusion has been described as the process through which an innovation is communicated over time within a social system (Rogers, 2003). A notable aspect of this definition is the framing of diffusion as communication rather than implementation. The theory does not assume that innovations are simply transferred from one actor to another. Instead, adoption is understood as depending on how individuals interpret, discuss and evaluate what they encounter.

An innovation is defined as something perceived as new by an individual or organizational unit (Rogers, 2003). The emphasis on perception is central. A technology may exist for years and still be experienced as new within a specific organizational context. In project-based industries such as construction, this becomes visible when certain firms or projects demonstrate high levels of digital maturity while others rely on more established routines.

Diffusion unfolds through communication channels, within social structures and over time. The social system – whether an organization, professional network or industry – shapes how information circulates and how attitudes toward innovation develop (Rogers, 2003). Diffusion is therefore inherently contextual and cannot be understood independently of the environment in which it occurs. Recent research highlights that innovation adoption in the construction industry is influenced by organizational context, knowledge levels and the way technologies are perceived by professionals, indicating that diffusion processes are not strictly linear (Weerapperuma et al., 2025).

2.1.1 The Five Attributes of Innovation

Rogers' discussion of innovation attributes is frequently cited as one of the most practical elements of the theory. At the same time, the attributes are often treated as stable variables, even though they are inherently contextual (Rogers, 2003). Their significance does not lie in their existence as categories, but in how they are interpreted within specific environments.

Relative advantage is rarely assessed in isolation. What is perceived as beneficial depends on professional priorities and institutional pressures. Kapoor et al. (2014) demonstrate that empirical studies tend to identify relative advantages as influential, yet they also show considerable variation in how it is operationalized. In some contexts, advantage is associated with measurable efficiency. In others, it is linked to legitimacy or alignment with industry direction.

Compatibility may be particularly sensitive in established organizational structures. García-Avilés (2020) notes that prior experience and accumulated routines shape how new technologies are interpreted. When an innovation resonates with existing knowledge frameworks, it is more likely to be considered viable. Conversely, if it challenges embedded practices, the perceived misalignment may overshadow technical potential.

Complexity does not necessarily reflect objective difficulty. Rather, it concerns the effort required to make sense of the innovation. In organizational contexts involving multiple actors, complexity may be experienced unevenly. A system that simplifies coordination for one role may increase workload for another.

Trialability and observability are often described as mechanisms that reduce uncertainty. However, their effect depends on how experimentation and results are communicated within professional networks. Rogers (2003) emphasizes the importance of interpersonal channels, yet observable outcomes are not interpreted uniformly. What one organization views as evidence of success may be regarded as inconclusive by another.
For this reason, the five attributes should be understood less as predictive factors and more as analytical entry points for examining how technologies are evaluated in practice.

2.1.2 The Innovation-Decision Process

The innovation-decision process is frequently presented as a progression from initial awareness to continued use. Such representations, however, risk conveying a degree of clarity and order that may not fully correspond to organizational practice. Rogers (2003) describes the stages as analytical constructs rather than prescriptive steps, yet they are often interpreted as sequential in application.
In practice, engagement with an innovation rarely follows a strictly linear trajectory. Awareness does not automatically lead to evaluation, nor does evaluation necessarily culminate in adoption. Exposure may occur repeatedly before actors form a relatively stable position. Diffusion is embedded in communication structures, and knowledge is continuously reshaped through interaction within professional networks (García-Avilés, 2020). As a result, actors may shift between curiosity, hesitation and renewed interest over time.

The stage commonly described as decision is similarly complex. Formal approval within an organization does not guarantee consistent or uniform use. Decision-making processes are frequently layered and shaped by hierarchical authority as well as informal professional norms (Lundblad, 2003). Adoption may therefore unfold unevenly, with certain units or projects integrating a technology more thoroughly than others.

Implementation further complicates the staged representation. Technologies are often interpreted and adjusted in response to local conditions. Rogers refers to this adaptation as reinvention, emphasizing that diffusion does not imply exact replication (Rogers, 2003). In technologically complex environments, such modification may be less an exception than an expected outcome, particularly when prior investments and interdependencies are present (MacVaugh & Schiavone, 2010).

Finally, confirmation is sometimes described as a stabilizing phase. Yet experience may prompt reassessment rather than closure. Diffusion research has traditionally focused on sustained adoption, while discontinuance has received comparatively limited attention (Rogers, 2003). This observation reinforces the view that adoption is not irreversible but remains subject to ongoing evaluation.

The innovation-decision process therefore offers useful conceptual vocabulary for analyzing technological uptake. At the same time, it abstracts from organizational complexity and should be applied with sensitivity to contextual variation, particularly in multi-actor environments.

2.1.3 Adopter Categories

The classification of adopters into distinct groups is one of the most recognizable aspects of Diffusion of Innovation theory. The categorization was introduced to describe variation in adoption timing within a social system rather than to establish a rigid typology of individuals (Rogers, 2003). The graphical representation in Figure 1 illustrates this variation through a cumulative S-shaped curve.

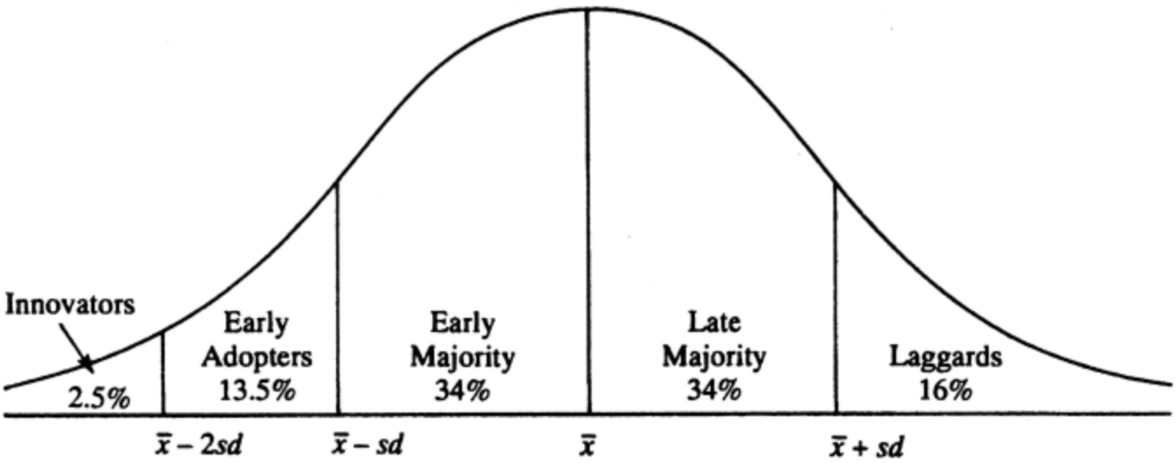

Figure 1. Innovativeness and adopter categories according to the Diffusion of Innovation theory. Reproduced from Rogers (2003).

Although the distribution assigns approximate percentages to different segments, these proportions are theoretical rather than predictive (Rogers, 2003). The curve functions as a simplified representation of how diffusion tends to accelerate once a critical mass is reached. García-Avilés (2020) observes that the model has been widely reproduced across disciplines, sometimes without careful reflection on its simplifying assumptions.

The categories themselves – innovators, early adopters, early majority, late majority and laggards – should be interpreted as relative positions within the adoption process. Actors may occupy different positions depending on the innovation under consideration. In technologically complex systems, positioning along the curve may be influenced by prior investments and network interdependencies rather than by individual disposition (MacVaugh & Schiavone, 2010).

The segment traditionally labelled laggards has also been debated. Delayed adoption may reflect structural constraints, regulatory conditions or strategic priorities rather than attitudinal resistance (Lundblad, 2003). Consequently, the curve should be treated as an analytical abstraction rather than a normative hierarchy.

Overall, Figure 1 provides a conceptual lens for discussing variation in diffusion over time. It highlights cumulative adoption while abstracting from contextual complexity. When applied in empirical research, the model therefore requires careful interpretation.

2.1.4 DOI in Organizational and Technological Implementation

The application of Diffusion of Innovation in organizational research has generated ongoing debate. While the theory offers a structured way of analyzing adoption processes, it may not fully account for institutional constraints and structural interdependencies (Lundblad, 2003). In industries characterized by collaboration across independent actors, diffusion extends beyond individual perception.

This perspective is also reflected in recent research on digital transformation in construction, where innovation adoption is influenced by organizational context, knowledge levels and how technologies are perceived by professionals (Weerapperuma et al., 2025). Research on technologically complex environments suggests that diffusion may be shaped by path dependency and network structures (MacVaugh & Schiavone, 2010). Once particular technologies become embedded, switching trajectories may involve substantial cost. These dynamics extend beyond the original emphasis on perceived attributes.

Another critique concerns the implicit normative orientation of diffusion research. Non-adoption is sometimes framed as lagging rather than as contextually rational. Rogers (2003) acknowledged that diffusion studies have often privileged successful adoption cases, thereby reinforcing a pro-innovation perspective.

Despite these critiques, the theory remains analytically relevant. Its strength lies not in deterministic explanation but in its capacity to sensitize researchers to variation in timing, communication patterns and uncertainty reduction (García-Avilés, 2020). When applied cautiously, DOI does not prescribe adoption; rather, it enables examination of how new practices are interpreted within specific social systems.

In organizational contexts involving digital transformation, diffusion may unfold gradually and unevenly. Rather than a singular event, it can be understood as a shift in routines shaped by interaction, negotiation and accumulated experience.

2.2 Media Richness Theory

Media Richness Theory was introduced by Daft and Lengel (1986) to explain why managers rely on different communication channels depending on the nature of the task. Rather than assuming that communication media are neutral carriers of information, the theory suggests that media vary in their capacity to convey meaning. This variation becomes particularly relevant in situations characterized by uncertainty or ambiguity.

Daft and Lengel (1986) use the concept of equivocality to describe contexts in which information may be interpreted in multiple ways. When ambiguity is high, communication requires more than simple transmission of facts; it requires clarification, feedback and contextual cues. In such cases, richer media are considered more appropriate. Richness is commonly associated with immediacy of feedback, the number of cues available, language variety and the degree of personalization.

Face-to-face communication is typically presented as the richest medium, as it allows for immediate interaction and the exchange of multiple verbal and non-verbal cues. Written communication, in contrast, is generally regarded as leaner. However, the theory does not argue that richer media are inherently superior. Instead, its central claim concerns the alignment between communication task and medium. Routine or well-structured information may be handled efficiently through lean media, whereas ambiguous situations may require richer interaction.
The strength of the theory lies in this notion of fit. Media effectiveness is not absolute but contingent on the nature of the information being communicated.

2.2.1 Developments and Critiques of Media Richness Theory

Subsequent research has questioned whether media richness can be understood solely as an objective property of a communication channel. Carlson and Zmud (1999) propose Channel Expansion Theory, arguing that perceptions of richness are shaped by user experience. Familiarity with the medium, prior interaction with communication partners and understanding of organizational context influence how rich a channel is experienced to be. A medium initially perceived as limited may, through experience, become more effective in handling complex communication.

Organizational studies have further suggested that media choice is influenced by social and structural factors. Timmerman (2002) highlights that individual dispositions and social influence processes can moderate how media are selected and interpreted within organizations. This perspective challenges the idea that communication channel selection is purely rational or task-driven.

Recent research extends Media Richness Theory (MRT) to digital platforms, showing that perceived richness shaped by social presence, interaction, expectations, and experience influences continued use (Wang, 2022). MRT should be seen not as a static hierarchy of channels but as a framework for understanding how media are perceived and used in organizations, with richness developing through medium traits, user experience, and task complexity. In construction contexts, recent research highlights that digital tools such as BIM platforms enable more interactive, visual and real-time communication between project actors, thereby improving coordination and reducing ambiguity in project environments (Disney et al., 2024). From a Media Richness perspective, such tools can be understood as increasing the richness of communication by providing multiple cues and enabling faster feedback.

2.3 Knowledge Transfer Theory

The distinction between tacit and explicit knowledge has become central in discussions of organizational learning. Nonaka and Takeuchi (1995) frame tacit knowledge as experience-based and difficult to articulate, while explicit knowledge can be codified and communicated in structured form. However, this distinction is rarely straightforward in practice.

In organizational settings, what appears as explicit knowledge, for instance documented procedures or formal guidelines often relies on shared experience to be meaningful. Interpretation depends on prior familiarity with context, tasks and expectations. In this sense, explicit knowledge may function more as a reference point than as a complete representation of practice.

Nonaka and Takeuchi (1995) emphasize that knowledge develops through interaction rather than through passive storage. Their work suggests that documentation alone cannot substitute for engagement. The tacit–explicit distinction therefore draws attention to the limits of formalization rather than offering a simple categorization.

From this perspective, knowledge transfer cannot be reduced to the movement of documents or data. It involves processes through which information is interpreted, adapted and integrated into situated practice.

2.3.1 Barriers and Embeddedness in Knowledge Transfer

It has long been recognized that making information available is not the same as ensuring that it will actually be used. Szulanski (1996) describes this as internal stickiness, referring to the kinds of frictions that can arise when knowledge is transferred within organizations. In practice, these frictions often appear when knowledge is moved into a new context, where conditions, expectations or ways of working differ.

This becomes more noticeable when tacit knowledge is involved. Unlike explicit knowledge, it is difficult to document in a way that fully captures how it is used. Much of it is based on experience and tied to specific situations. As Kiessling et al. (2023) highlight, tacit knowledge is closely connected to its social context, which makes it harder to transfer across individuals and organizational boundaries. Even when information is stored and shared through digital systems, this does not fully address the issue. Access to information does not guarantee understanding, and in many cases, the meaning still has to be interpreted in relation to the situation in which it is used.

A similar point can be seen in how knowledge is described as embedded in organizations. Argote and Ingram (2000) argue that knowledge resides not only in individuals but also in tools and routines. This makes it difficult to separate knowledge from the context in which it was developed. In other words, transferring knowledge is not simply about passing on information, but also about whether it can be used in a new setting. Kiessling et al. (2023) point out that this depends primarily on social embeddedness. When actors share a common understanding, knowledge is more likely to be applied. Without that, it may remain available but unused.

When knowledge is transferred between organizations, the process often becomes more complicated. Differences in experience, professional background and working practices can influence how information is interpreted. Easterby-Smith et al. (2008) note that knowledge transfer in such situations often involves some degree of adjustment rather than direct application. This is particularly relevant in project-based environments, where collaboration takes place between actors who do not necessarily share the same frame of reference from the outset.

2.3.2 Digital Systems and Knowledge Management

The increasing use of digital systems has expanded organizations' ability to capture and distribute explicit knowledge. Alavi and Leidner (2001) argue that knowledge management systems support processes such as storage, retrieval and combination of information. However, they caution against equating information systems with knowledge itself.

Digital platforms can strengthen certain aspects of knowledge transfer, particularly those related to explicit knowledge. Yet tacit dimensions remain dependent on interpretation and contextual understanding. The existence of a digital repository does not eliminate issues of stickiness or absorptive capacity (Szulanski, 1996).

Knowledge Transfer Theory therefore underscores the distinction between recording information and embedding knowledge in organizational practice. Effective transfer occurs when knowledge becomes integrated into routines and professional judgement, not merely when it is documented.

In present-day industrial contexts, recent research highlights that digital systems increasingly support the structuring, integration and analysis of knowledge across organizational boundaries. For example, knowledge-based frameworks and knowledge graphs are used to combine data with domain knowledge, enabling more effective interpretation and coordination in complex project environments (Su & Chen, 2025). However, these systems do not eliminate the need for contextual understanding. Rather, they reinforce that knowledge must still be interpreted and embedded in practice to become meaningful.

2.4 Technology Acceptance Model

The Technology Acceptance Model (TAM) is widely used to examine how users come to accept and adopt new technologies, particularly electronic services and systems (Aljarrah et al., 2016). The model originates from Ajzen and Fishbein's Theory of Reasoned Action (TRA) and was formalized by Davis as a framework for explaining user behavior toward information technology. TAM is one of the most frequently used models for studying technology adoption because it links user beliefs to attitudes, intentions, and actual system usage (Ma & Liu, 2004). TAM explains technology acceptance by focusing on a limited set of psychological determinants that shape users' adoption behavior. By emphasizing user perceptions rather than technical features alone, the model helps explain why similar systems may be accepted or resisted depending on how they are evaluated by users.

The model is mainly based on two beliefs: perceived usefulness (PU) and perceived ease of use (PEOU), and how they shape a user´s attitude toward a technology and their intention to use it. This in turn determines actual system usage (Ma & Liu, 2004). Perceived usefulness is defined as the extent to which an individual believes that using a particular system will improve job performance, such as increasing productivity, effectiveness or efficiency. Perceived ease of use refers to the degree to which a person believes that using the system will require minimal effort. Findings from Ma and Liu's meta-analysis of 26 empirical studies show strong relationships between perceived usefulness and technology acceptance, as well as between perceived ease of use and perceived usefulness. However, the direct relationship between perceived ease of use and acceptance is weak, indicating that ease of use primarily influences adoption indirectly by enhancing perceived usefulness. Overall, perceived usefulness emerges as the most important determinant of technology acceptance. This suggests that system designers should prioritize functionality and performance benefits while also ensuring usability to support positive user perceptions.

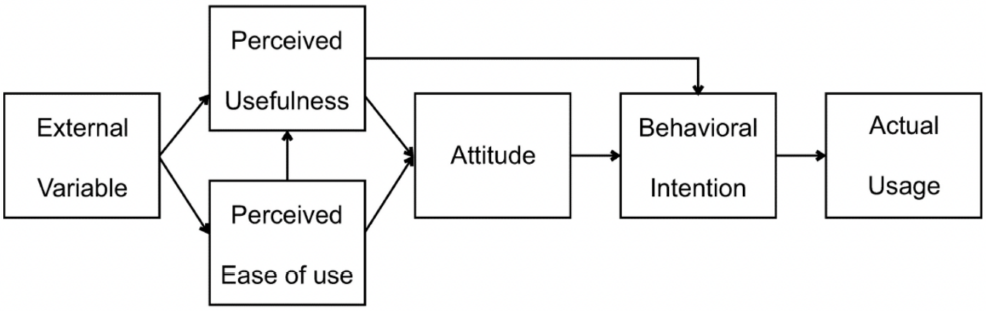

Figure 2. Technology Acceptence model. Factors of the Technology Acceptance Model for Construction IT, by E. S. Park and M. S. Park (2020).

In the construction context, TAM has been extended to account for industry-specific external factors that influence perceived usefulness and perceived ease of use. Park and Park (2020) identified five key external variables acceptance type, educational satisfaction, usage knowledge, usage enjoyment, and usage experience alongside the traditional internal TAM constructs of perceived usefulness, perceived ease of use, attitude, and behavioral intention. Their results show that perceived usefulness remains the strongest predictor of behavioral intention and actual system use, while perceived ease of use mainly influences acceptance indirectly through usefulness, consistent with prior TAM research. However, unlike other industries, prior IT experience and usage frequency did not significantly improve perceptions of ease or usefulness, reflecting the specialized and fragmented nature of construction technologies. Instead, educational satisfaction and usage enjoyment emerged as critical drivers of both perceived usefulness and ease of use, highlighting the importance of structured training, accessible interfaces, and continuous education. In addition, acceptance type, educational satisfaction, usage enjoyment, and usage experience significantly affect perceived usefulness, while educational satisfaction and usage enjoyment also affect perceived ease of use, reinforcing the need for procedural learning and user-centered system design to support positive attitudes and behavioral intentions toward construction IT adoption.

2.5 Theoretical Synthesis

Digital structuring of information in construction projects is difficult to explain through one theory alone. The implementation of digital systems involves organizational adoption, individual behavior, communication practices and the way knowledge is shared between actors. For that reason, the theories presented in this chapter are treated here as connected perspectives rather than separate explanations.

Introducing a digital platform does not necessarily mean that it becomes part of everyday work. Some project teams adopt new systems quickly, while others continue to rely on earlier routines. Rogers (2003) links such variation to how an innovation is perceived, for example whether it seems useful, compatible with existing work methods or unnecessarily complex. A similar point is made in the Technology Acceptance Model, where continued use is connected to perceived usefulness and ease of use (Ma & Liu, 2004). In practice, a system may be formally implemented but still only used selectively if users do not see enough value in it.

Use alone is also not enough if the system does not support communication needs on site. Construction production often involves coordination under changing conditions, where actors need quick clarification and updated information. Media Richness Theory suggests that some situations require richer forms of communication than static messages or delayed updates (Daft & Lengel, 1986). In that sense, digital tools that combine visual information, shared access and faster feedback may support coordination better than fragmented channels. Recent construction research points in that direction, particularly in relation to collaborative BIM environments (Disney et al., 2024).

Improved communication does not by itself mean that knowledge is shared effectively. Nonaka and Takeuchi (1995) separate knowledge that can be documented from knowledge that is mainly gained through experience. Both are important in construction projects. Drawings, checklists and issue logs can be stored in a digital system, yet many decisions on site still rely on the judgement of those carrying out the work. Kiessling et al. (2023) also point out that knowledge is influenced by context and by interaction between people. As a result, having access to information is not always the same as being able to use it well.

These issues become more visible in project-based organizations where several firms, subcontractors and professional groups work together for a limited period of time. Under such conditions, one actor may adopt a system fully, another may use it only partly, and some communication may continue outside the platform. Information can therefore become available without necessarily becoming integrated across the project.

The present study therefore views digital structuring of information as a socio-technical process. The effect of a system depends not only on its technical functions, but also on whether people choose to use it, communicate through it and turn available information into workable knowledge during production.

3 Method

This study adopts a primarily qualitative research approach to investigate how digital structuring of information influences communication processes and knowledge transfer in construction organizations and their work in individual projects. A qualitative approach was selected since the purpose of the study is to examine how practices and experiences related to digital systems are understood and enacted in project settings, rather than to measure predefined variables. This enables a more nuanced analysis of communication processes and knowledge transfer in construction projects.

The focus on communication, information flow, and knowledge transfer in construction production further motivates this approach. These phenomena are inherently complex and context-dependent, shaped by interactions between multiple actors, organizational structures, and situational conditions. As such, they cannot be fully captured through quantitative measurement alone but require interpretation of how individuals perceive and use digital systems in their daily work.

3.1 Research approach

This study follows an interpretive research approach, focusing on how the use of digital systems is shaped within project-based construction environments. Rather than examining causal relationships between predefined variables, the study emphasizes how communication processes and knowledge transfer emerge in practice when working with Dalux Field.

The interpretive perspective is particularly relevant as the use of digital systems varies between actors depending on their roles, experience, and project conditions. This means that the effects of digital structuring cannot be understood as fixed or uniform but must be examined in relation to the context in which the system is applied.

This approach also fits with the theoretical framework used in the study. Across the different theories, a common point is that digital systems do not lead to the same outcomes in all situations. Instead, how they are used and what effects they have tend to depend on how they are understood by the people working with them, how communication takes place in the project, and how well the system fits with existing ways of working.

This is particularly noticeable in construction projects, where several actors with different roles and responsibilities work under varying conditions. In such settings, the same system can be used in different ways depending on the context. It also becomes clear that knowledge is not simply transferred between actors but needs to be interpreted and applied in relation to the situation. For this reason, the study focuses on how these processes take shape in practice, rather than trying to describe them as fixed relationships.

3.2 Research design

This study is based on a case study focusing on the use of Dalux Field within Peab's construction projects. The focus is on the project Botaniska trädgården, which has been studied in more detail, while the project Indigo is included to provide an additional point of reference. By looking at two projects, it becomes easier to see how the system is used in practice and whether similar patterns appear across different project settings.

The study focuses on the production phase, where coordination between different actors is central and where Dalux Field is actively used in daily work. This makes it possible to examine how communication and information handling take place on site, rather than how the system is intended to function. Since several roles are included, such as site managers, engineers, and subcontractors, the study also captures variation in how the system is experienced and used.

The intention is not to produce results that can be generalized in a statistical sense, but rather to provide a more grounded understanding of how digital systems are used in project-based construction environments. Even though the study is based on a limited number of projects, the findings can still be relevant for similar organizations working under comparable conditions.

3.3 Literature review

The literature review was carried out to build a basic understanding of how digital systems are used in construction, with a particular focus on communication and knowledge transfer in project settings. The aim was not only to identify relevant theories, but also to get a sense of how similar problems have been approached in previous research. Snyder (2019) describes literature reviews as a way of identifying and synthesizing existing research within a selected topic area through a structured and transparent process.

Relevant literature was mainly collected through databases such as Scopus and Google Scholar. The search was based on a set of keywords connected to the research topic, including *BIM*, *digitalisation in construction*, *knowledge transfer*, *communication*, *diffusion of innovation*, *digital tools in construction*, and *technology acceptance*. These were used as a starting point, and the search developed along the way as certain areas became more relevant than others. Xiao and Watson (2019) emphasize the importance of a structured search process when selecting and evaluating literature for research studies.

The material mainly consists of peer-reviewed articles and more recent studies, but some earlier and more established theories were also included where they were considered useful. These were not only used to structure the theoretical framework but also influenced how the study was approached more generally.

During the process, some themes kept coming back, especially around system adoption, communication, and how knowledge is shared between actors. These were then taken into the interview guide and later used when going through the empirical material. In that sense, the literature review was not a separate step, but something that followed the work throughout the study.

3.4 Data collection

The data collection is mainly based on interviews, supported by survey data and additional material from Peab. The different sources were used together to get a broader understanding of how Dalux Field is used in practice, both from an individual perspective and across projects. Creswell and Creswell (2018) describe the use of multiple data sources as a way to create a broader understanding of the studied phenomenon.

The combination of interviews, survey data, and secondary material also made it possible to compare information from different perspectives within the projects. This contributed to a more grounded understanding of how communication, coordination, and information handling take place during ongoing production work.

3.4.1 Interviews

The main part of the data collection consists of semi-structured interviews. Kvale and Brinkmann (2015) describe semi-structured interviews as suitable when the purpose is to understand experiences and perspectives within a specific context while still allowing flexibility during the conversation. A more open interview format was therefore chosen, since the purpose was to understand how Dalux Field is used in practice during ongoing production work.

The interview guide mainly functioned as support during the conversations. Certain topics were included in all interviews, but the discussions still varied depending on the respondent and their experiences from the project. Some interviewees spoke more about practical work on site, while others focused more on coordination, onboarding, or how drawings and tasks were handled in Dalux. When interesting situations or experiences were brought up during the interviews, additional questions were asked to understand the context better.

Respondents from different parts of the selected projects were included to capture several perspectives related to the use of the system. Interviews were carried out with site managers and project engineers from Peab, subcontractors, and a representative from Dalux. Since the respondents worked with the platform in different ways during production, the interviews also showed differences in how the system was understood and used in practice.

Most interviews were carried out on site during ongoing production work. This created opportunities to discuss practical examples connected to the projects and how the system was used in daily routines. A smaller number of interviews were instead conducted digitally when physical meetings were not possible. All interviews were recorded after approval from the respondents and later transcribed to support the analysis work.

INTERVIEWEE	ROLE	COMPANY
A1	Digital Lead	Peab AO
A2	Contract Engineer	Peab Bygg Bostad
A3	Site Supervisor	Peab Bygg Bostad
A4	Electrician foreman	AW elteam
A5	Plumbing foreman	Bravida VS
A6	Contract Engineer	Peab Bygg
A7	Design Manager	Peab Bygg Bostad
A8	Project Manager plumbing	KJ con
A9	Customer Success Manager	Dalux
A10	Site Manager	Peab Bygg Bostad

Table 1. Table describing interviews, their role and production and the company.

3.4.2 Surveys

The survey was used as a complement to the interviews to collect additional perspectives connected to the use of Dalux Field during production. The purpose was to gather responses from a larger number of people involved in the project and identify recurring experiences related to communication, onboarding, and information handling.

The survey included both closed and open questions related to communication, onboarding, and the use of Dalux Field during production. The questions were partly based on earlier surveys used within Peab, but were adjusted to better fit subcontractors instead of internal staff. A relatively short survey format was chosen since many respondents worked in active production environments with limited time available during the workday. Dillman et al. (2014) describe shorter and more focused surveys as beneficial for improving participation rates in professional environments where respondents may have limited time available.

The survey was distributed digitally to subcontractors connected to the selected project, Botaniska Trädgården. A total of 14 subcontractors received the survey, of which 6 respondents completed it. Most questions used fixed response alternatives, while some also allowed respondents to leave additional comments in their own words. This created the possibility to identify both broader patterns and more individual experiences connected to the use of the system.
The survey results were mainly used to support the interview material and contribute additional perspectives to the analysis.

3.4.3 Secondary data

In addition to the interviews and survey, secondary data from Peab was used to support the study. This included material related to Dalux Field, such as how the system is structured and used in projects. This information was mainly used in the empirical part to describe how the system works in practice.
Earlier surveys conducted within Peab were also reviewed. These were used as a reference when designing the survey for this study and were complemented and adjusted to better fit the purpose and the selected respondents.

3.5 Data analysis

The interview material was analyzed by reviewing the transcriptions and identifying recurring themes related to the research question. The interviews were then summarized and organized under the subheadings presented in Chapter 5.3, which reflect how Dalux is used in projects, including communication, coordination, system usage, and how information is shared and followed up.

These summaries were later used in the analysis in Chapter 6, where the empirical material was compared with the literature review. The theoretical framework was used as a support when interpreting the findings, in order to relate the observations from the projects to existing concepts. The analysis was not carried out using a strict coding method, but by grouping similar observations and comparing responses between different roles. This made it possible to identify both common patterns and differences in how Dalux Field is used.

The survey data was analyzed in a simpler way by comparing responses and identifying general trends. It was mainly used to support the interview results and to see whether similar patterns could be observed across a larger group.

3.6 Research quality

The quality of the study was considered in terms of validity and reliability, which are commonly used criteria to assess the quality of research methods and findings (Bryman, 2016). The focus was mainly on making sure that the chosen methods matched the research question and that the material used in the analysis was relevant.

Validity was addressed by keeping a clear link between the research question, the theoretical framework, and the data collection (Bryman, 2016). The interview questions were based partly on the literature review and partly on the authors' own experiences from construction projects. This made it possible to include topics that are relevant in practice, not only in theory. Using both interviews and survey data also made it possible to compare results from different sources.

Reliability was considered by working in a consistent way during the study. The same interview guide was used as a base, even though the interviews developed differently depending on the respondent. The overall approach to collecting and analyzing the material followed the same structure throughout the work (Bryman, 2016).

The study is based on a limited number of projects and respondents, which affects how the results can be used. The aim has therefore not been to generalize the findings, but rather to describe the context and the way of working clearly, so that the results can be understood in relation to similar situations.

3.7 Ethical considerations

Ethical aspects were considered throughout the study, both in relation to how the research was conducted and the potential implications of the topic investigated. Prior to the interviews, all participants were informed about the purpose of the study and that participation was voluntary. The respondents were also informed that they could decline to answer specific questions or withdraw from participation at any stage. The interviews were recorded only after consent had been obtained and were later transcribed for analysis.

To protect confidentiality, no personal names are presented in the report. Instead, respondents are referred to through codes. The collected material has only been used for this study and has been handled with care to avoid identifying individual participants or revealing sensitive company information. Since several respondents were involved in the same projects, the findings are presented on an aggregated level with emphasis on overall patterns rather than individual statements. Data management was approached with consideration for privacy and responsible handling of information. Interview recordings, notes, and transcriptions were stored in a restricted manner and only accessed by the authors for the purpose of the thesis work. No personal data beyond what was necessary for the study was collected.

Transparency and research integrity were also considered throughout the process. The study reflects the authors' own assessment of the collected material and should not be interpreted as representing Peab's official views. Efforts were made to present findings fairly, acknowledge limitations, and avoid selective interpretation of responses.

As the study concerns digitalization and efficiency improvements in construction projects, broader ethical implications were also considered. Digital tools may change work routines and reduce certain administrative tasks, which can influence existing roles and responsibilities. However, the purpose of this study is not workforce reduction, but rather to improve onboarding, communication, coordination, and the effective use of existing competence and resources within projects.

3.8 Use of AI in the Research Process

During the work with the thesis, AI was used as practical support in some limited parts of the process. It was mainly used to test ideas, discuss possible structures for chapters, and get suggestions on how text could be organized. AI was also used when handling interview material, mainly to support transcription and to create shorter summaries that were later checked by the authors.

AI was not used to make decisions in the study or to analyze the results on its own. The authors were responsible for the research design, selection of theory, interview questions, interpretation of the material, and all final conclusions. Material produced with AI was reviewed and adjusted before any use. The use of AI should therefore be seen as administrative and practical support during the writing process. Responsibility for the content and quality of the thesis remained with the authors throughout the study.

4 Literature review

4.1 Digitalization in the Construction Industry

Digitalization in the Construction Industry represents a shift towards an integration of information technologies to improve planning, coordination, efficiency and decision-making in project planning and production. A key technology used in the construction industry is Building Information Modeling (BIM). BIM combines 3D models with scheduling and other information, thereby improving planning and control of production (S. V. Bovteev et al., 2024).

4.2 Building information modeling (BIM)

Building Information Modeling (BIM) is a digital approach to design, construction, and facility management that uses an accurate virtual building model containing both geometry and technical data (Vozzola et al., 2009). This shared model supports construction, fabrication, procurement, and analysis, enabling information exchange among all project stakeholders. Unlike traditional workflows that rely on separate, non-interoperable software and duplicated data, BIM centralizes information in a single parametric model. Any design change is automatically reflected across drawings, schedules, and calculations, improving coordination between architectural, structural, and building services disciplines. BIM also supports interoperability through standardized formats such as IFC, allowing data transfer between modeling, structural analysis, cost evaluation and visualization tools. Quantities, costs, and performance analyses can be directly derived from the model, enabling early evaluation of design choices

With continuous development in the construction sector, projects and the production phase are becoming increasingly complex. This creates a need to improve safety and quality throughout the project's production phase. Modern construction projects produce a large and growing amount of documentation. This documentation must accurately show how the work was done, which materials were used, who was responsible, and whether design and regulatory requirements were met. Many activities performed on a construction site can easily be hidden by subsequent activities. Timely documentation, approval, and traceability therefore become essential to prevent safety risks and quality deficiencies (Khalil, 2023). The continuous use of effective information handling and coordination is therefore key to a successful production phase of a project.

Documentation alone cannot guarantee effectiveness in production. For documentation to be useful, information sharing and coordination among actors on the construction site must be effective. Poor communication and information flow can lead to additional work, which in turn can result in time and cost overruns (Renalda et al., 2021). Construction projects typically involve multiple parallel teams working simultaneously, often across organizational boundaries. This multi-team environment increases the complexity of information exchange, as information must be transferred not only within individual organizations but also between contractors, subcontractors, and other stakeholders.

4.3 BIM Maturity

BIM maturity refers to the level of development and effectiveness with which BIM is implemented within an organization (Böes et al., 2021). BIM maturity describes the extent, depth, quality, predictability, and repeatability of this ability. In other words, maturity indicates how consistently and systematically BIM processes are performed, reflecting the overall progress in BIM adoption. BIM maturity is commonly assessed through maturity models, which identify stages of development and support organizations in understanding their current position and future improvement paths. Maturity models are intended to highlight progress across different dimensions rather than only providing a single maturity score.

The BIM maturity structure can be based on three main fields: Policy, which includes institutional initiatives, strategic vision, faculty training, and organizational commitment to BIM, Process, which refers to how BIM is applied in teaching, research, publications, and the training of users, and Technology, which covers the availability of software, hardware, infrastructure, and institutional agreements with technology providers (Böes et al., 2021). Together, these fields represent the organizational environment required for effective BIM implementation. BIM maturity can be assessed through a progressive five-level scale, starting with Pre-BIM, characterized by the absence of BIM practices, followed by Initial, representing early and informal adoption, and defined, where BIM practices become formalized and reach medium maturity. Higher levels include Integrated, marked by coordinated and institutionalized BIM use, and Optimized, which represents the highest maturity level, characterized by full integration and continuous improvement

This staged development aligns closely with broader digital maturity frameworks, which describe transformation through the phases of Mobilization**,** Coordination**,** and Acceleration (DigJourney, 2025). Mobilization focuses on creating awareness and acceptance of change, with early digital initiatives often operating separately from core activities. Coordination involves formalizing strategies and aligning digital efforts across the organization, requiring strong leadership to integrate new practices with existing operations. In the Acceleration phase, digital ways of working become embedded in everyday processes, enabling organizations to focus externally on value creation and market engagement. Applied to BIM in construction, this highlights that successful maturity progression requires not only technological investment but also aligned policies, structured processes, and organizational commitment, enabling BIM to transition from isolated adoption toward fully integrated and optimized practice.

BIM maturity models describe the capability to implement and manage BIM but they do not necessarily reflect the technical sophistication of the BIM models used in individual projects. It is therefore important to distinguish between organizational BIM maturity and project-level BIM implementation levels. While maturity relates to governance, strategy, and institutional integration, BIM levels describe the technical and informational complexity of the models themselves (BIM Alliance, 2018). Together, these perspectives provide a more comprehensive understanding of BIM adoption, linking organizational readiness with model advancement and lifecycle integration.

Level 0 – At the lowest level of digital information management, digital tools are mainly used to create drawings and documents. However, the official information is still primarily handled in printed form, such as paper drawings, binders, and other analogue documents. This means that the printed document remains the main carrier of information rather than a digital model (BIM Alliance, 2018).

Level 1 – At Level 1, digital files make it possible for different actors to coordinate and review information together (BIM Alliance, 2018). Buildings may be represented as 2D or 3D CAD models, but the information is still managed mainly as separate files. Since the models do not contain structured objects, they cannot easily be connected to other systems, such as property management or cost-estimating systems.

Level 2 – Level 2 introduces object-based models, where building elements such as spaces and components include associated data (BIM Alliance, 2018). These objects can carry attributes and be linked to other information, which makes it possible to connect model geometry with documents, technical data, or cost information. Reaching this level requires clear requirements in contracts, because several disciplines need to agree on how the information should be created, structured, shared, and used throughout the project.

Level 3 – Level 3 represents a more advanced and future-oriented stage of digital information management (BIM Alliance, 2018). Information is structured with common standards and support processes across the full building lifecycle. Instead of being stored in isolated systems, data can be connected through open databases and digital services, making it easier to search, combine, and use building and facility management information across a property portfolio.

Level 4 – Level 4 introduces time as a component of the information model. This level incorporates scheduling data that defines how long each project phase will take and how different building elements are sequenced (Lorek, 2022). By using a shared data environment, teams can visualize construction progress, analyze concrete pour sequences, and break down structural activities more effectively.

Level 5 – Level 5 expands the model by integrating cost-related information, including estimates, budget analysis, and ongoing cost tracking (Lorek, 2022). At this stage, project owners gain c insight into financial performance, allowing them to monitor expenses throughout the project lifecycle and make informed budget decisions.

Level 6 – Level 6 focuses on sustainability and operational performance (Lorek, 2022). It enables energy consumption to be calculated before construction begins, ensuring that designers consider long-term efficiency in addition to initial costs. This level helps stakeholders deliver buildings that are both environmentally responsible and sustainable.

In Sweden, BIM is used primarily during the planning and design phases of construction projects, while its application in the production phase on construction sites remains limited. Larger construction firms and public clients generally lead the adoption of BIM and digital workflows, whereas contractors, subcontractors, and on-site teams often lack the necessary conditions to fully integrate BIM into daily production activities (El Masry & Chronéer, 2025). As a result, BIM implementation across the Swedish construction industry is uneven, with many companies still relying on traditional methods during the construction phase. This gap is particularly evident among small and medium-sized enterprises, where limited digital skills, insufficient integration of

BIM into existing workflows, and a lack of clear client requirements or incentives restrict broader adoption. Although national initiatives such as the Smart Built Environment program aim to accelerate digital transformation and improve industry-wide BIM practices, significant technological, organizational, and environmental barriers continue to hinder the widespread use of BIM in construction production in Sweden.

4.4 Total BIM

Total BIM can be explained as the most developed use of BIM. Total BIM can be explained as BIM being used throughout the whole life cycle of a project, all the way from project planning through production into management (Disney et al. 2022). It is also characterized with BIM being the only source of information in contrast to traditional use of BIM where it is mainly in the planning process and as a compliment to 2D drawing. When BIM is used in parallel with traditional method two different flows of information are used. This results in duplicated work, inconsistencies between documents, and reduced trust in the BIM model during later project stages. In projects where a BIM model is used as a legally binding document, this becomes particularly relevant since information contained in the model must continuously be reproduced, reinterpreted, or reformulated for subcontractors who do not use digital models, thereby undermining the principle of a single source of information.

4.5 Challenges with BIM Implementation

Implementing BIM in construction projects is often complicated by the way the industry is structured. Construction projects typically involve several organizations working together for a limited period, which creates challenges when trying to establish common routines and ways of working. According to Lidelöw et al. (2023), the fragmented nature of the industry makes coordination and standardization difficult. Different companies may also rely on different digital tools and BIM-related practices, which can make collaboration less efficient and create uncertainty regarding how information should be managed and shared (Bosch-Sijtsema & Gluch, 2021).

The level of BIM knowledge and experience also varies considerably between project participants. While some organizations have integrated BIM into their daily operations, others still have limited experience of working with digital models and BIM-based processes. Lidelöw et al. (2023) note that many companies struggle to fully understand how BIM can support project activities in practice. Similar challenges can be found among clients, who may lack the knowledge needed to define BIM requirements and expectations at an early stage (Réka Andersson & Maria Eidenskog, 2023). When project participants have different levels of competence, it becomes more difficult to establish a consistent way of working across the project.

Project conditions can further affect the implementation process. Construction projects are often characterized by demanding schedules and cost pressures, leaving limited opportunities to introduce new routines or invest time in learning digital tools. Bosch-Sijtsema and Gluch (2021) argue that organizations frequently prioritize immediate project needs over longer-term development initiatives. As a consequence, BIM-related improvements may receive less attention, even when there is a recognized need for change.

Another challenge concerns roles and responsibilities. As BIM has become more common, new roles have emerged to support digital coordination and information management. However, these roles do not always fit neatly within existing project structures. Bosch-Sijtsema and Gluch (2021) describe how responsibilities may overlap with more traditional project roles, creating uncertainty regarding ownership of BIM-related tasks. At the same time, the introduction of new digital ways of working may be met with skepticism from actors who are accustomed to established routines, making organizational change more difficult to achieve.

4.6 Information Management in Construction Production

Construction is a traditional industry organized into decision-making, design, construction and handover often resulting in low productivity. Information does not flow continuously across these stages, forcing data to be repeatedly recollected and models rebuilt. Because information is rarely shared among participants, each contractor or subcontractor must independently gather drawings, schedules, quantities, and requirements, creating major inefficiencies. This fragmented approach to information management is a key barrier to improving construction performance.

Information management in construction can further be examined 5 different stages to be better understood (Hu, 2008). 1. Creation and Receipt where Information originates internally or is received from external sources, including drawings, reports, correspondence, and digital records. 2. Information once created is distributed, managed and shared, both internally and externally, becoming formal records of transactions. 3. Distributed information supports decision-making, documents actions, and fulfills operational needs. 4. Information is maintained through filing, retrieval, and transfer, ensuring information remains accessible and organized. 5. Information that is no longer frequently accessed is relocated or archived according to retention policies and eventually removed when obsolete. However, in traditional construction practice these stages are not connected. Information is transferred manually between phases and frequently recreated. This lack of continuity across the project life cycle reinforces fragmentation and highlights the need for a more integrated information management approach.

BIM addresses the fragmentation of traditional construction information management by integrating all stages of information creation distribution, use, maintenance, and archiving into a single digital environment (Inzerillo et al., 2023). Instead of repeatedly recreating data BIM enables information to be generated once and reused throughout the project lifecycle. A central benefit of BIM is the creation of a shared digital model (digital twin) that stores all project data. This allows stakeholders to access consistent up-to-date information which improves coordination and reduces errors. BIM provides a "comprehensive digital representation" that supports all phases from design to maintenance.

BIM also enhances collaboration by enabling real-time information sharing which reduces miscommunication between project participants (Inzerillo et al., 2023). In addition, its ability to support simulation and planning improves decision-making which allows teams to optimize construction methods and scheduling. BIM improves long-term information management by maintaining a continuous and accessible data environment, supporting efficient maintenance and lifecycle management. Overall, it transforms disconnected processes into an integrated system, significantly improving construction productivity and performance.

4.7 Digital Management in Construction Industry

Construction projects are often described as temporary production systems where several independent organizations collaborate during a limited period of time. Contractors, subcontractors, consultants and clients must coordinate their work while relying on different routines and information systems. Dubois and Gadde (2002) describe the construction sector as a loosely coupled system, where coordination between actors becomes one of the central management challenges. In practice, this means that project performance often depends on how information moves between organizations during the production process.

The role of digital technologies in construction management has therefore received increasing attention in recent years. Davies and Harty (2008) note that digital tools do not only provide technical support for storing project information. They may also influence how work is organized and how actors communicate within projects. Earlier construction projects often relied heavily on paper drawings and verbal instructions on site. When digital platforms are introduced, drawings, documents and models can instead be shared through common systems that allow several actors to access the same information.

One of the technologies most frequently discussed in the literature is Building Information Modelling (BIM). Azhar (2011) describes BIM as a digital representation of a building that combines geometric information with other types of project data. Instead of managing multiple sets of drawings and documents, project participants can interact with a shared model that contains information about building components, quantities and schedules. Succar (2009) argues that BIM should therefore be seen as a collaborative information process rather than simply a design technology.

Discussions about digital management are also closely linked to productivity challenges within the construction industry. Several reports have highlighted that productivity growth in construction has remained relatively slow compared with other sectors of the economy. Barbosa et al. (2017) suggest that fragmented information flows and repeated manual handling of project data contribute to these inefficiencies. Similar observations are made by Talamo and Bonanomi (2020), who note that project information is often recreated or manually transferred between project stages, which increases the risk of inconsistencies during construction.

For this reason, construction companies have increasingly introduced digital systems intended to support communication and coordination in projects. Mobile technologies are one example. Kim et al. (2013) show that mobile devices can allow engineers and site managers to access drawings, report issues and document work directly from the construction site. Chen and Kamara (2011) report similar findings, arguing that mobile information systems can improve how site information is collected and distributed during production activities.

At the same time, the introduction of digital technologies does not automatically change work practices in construction projects. Gu and London (2010) emphasize that BIM adoption often depends on organizational factors such as training, previous experience with digital tools and support from project management. In many cases, digital systems are introduced gradually and coexist with more traditional ways of communicating on site.

Recent studies therefore describe digitalization in construction as an organizational as well as a technological process. According to Sacks et al. (2020), digital technologies are increasingly shaping how information flows through construction projects, but their impact depends on how they become integrated into everyday project routines. Digital management can thus be understood as an ongoing development where project coordination, information management and digital technologies gradually become more closely connected.

4.8 Information lifecycle in construction projects

Construction projects depend on a continuous exchange of information between different project participants. During both planning and production, new documentation is created in the form of drawings, schedules, inspection records and technical descriptions. These documents support coordination between project actors, but they also create challenges related to organization and accessibility. Research has therefore increasingly highlighted information management as a central issue in construction projects (Hu, 2008).

The idea of an information lifecycle is often used to describe how project information develops during a project. Rather than being treated as static documentation, information is understood as something that evolves over time. It may be produced during design work, revised during planning activities and later interpreted in the production phase. Hu (2008) notes that these stages rarely occur in a strict sequence, since project information is frequently revisited and modified as the project progresses.

In construction projects, the transfer of information between these stages can be complicated by the organizational structure of the industry. Projects are typically carried out by temporary constellations of companies that collaborate for a limited period of time. Dubois and Gadde (2002) describe the construction sector as a loosely coupled system, where coordination relies heavily on project-based arrangements rather than permanent organizational structures.
These characteristics influence how information is used on the construction site. Documentation produced earlier in the project must often be interpreted by site managers, engineers and subcontractors who were not directly involved in its creation. When information is incomplete or difficult to access, project actors may rely on additional communication to clarify the situation. Chen and Kamara (2011) observe that such situations can increase coordination efforts and may slow down decision-making during the production process.

Digital technologies have increasingly been introduced to address some of these difficulties. According to Sacks et al. (2020), digital platforms can allow information generated during earlier project stages to remain accessible during construction. Instead of transferring information between multiple documents and systems, project participants may access drawings, models and documentation within shared digital environments.

At the same time, digital systems do not automatically ensure continuity in information management. Talamo and Bonanomi (2020) point out that effective information lifecycle management still depends on how project participants document and update information in practice. Even when digital platforms are available, inconsistencies in documentation routines may limit the usefulness of stored information.

More recent research has also highlighted the importance of maintaining information continuity between project phases. El Masry and Chronéer (2025), studying BIM implementation among Swedish contractors, observe that digital environments can support the transfer of information between design and construction. However, they also emphasize that the benefits of such systems depend on how consistently they are used by different project actors.
In recent years, several digital site management systems have been introduced to support these processes, enabling construction teams to document issues, monitor progress and share information directly from the construction site (Sacks et al., 2020).

For this reason, the lifecycle perspective remains relevant when analyzing information management in construction projects. It highlights that information is not only stored but continuously interpreted and reused by project participants. Understanding how information moves through different project stages therefore provides an important basis for analyzing digital tools that support communication, documentation and coordination in construction production.

4.9 Monitoring, documentation and planning in construction production

Monitoring ongoing work is a central responsibility during the production phase of construction projects. Site managers and engineers must continuously form an understanding of how activities on the construction site are progressing and whether emerging issues may influence the planned schedule. This understanding typically develops through a combination of observations on site, discussions with subcontractors and different forms of project documentation. In construction management literature, documentation is often described as a key mechanism for maintaining coordination and situational awareness in projects where many actors work simultaneously (Sacks et al., 2020).

Monitoring activities on construction sites are therefore closely connected to everyday work routines. Supervisors frequently collect information while walking the site, discussing tasks with subcontractors and reviewing the progress of ongoing work. These informal exchanges provide valuable insights into the current situation, yet maintaining a consistent overview becomes more demanding as project size and organizational complexity increase. In projects where multiple work activities take place at the same time, fragmented information may complicate coordination and make it more difficult to maintain an updated understanding of project progress (Talamo & Bonanomi, 2020).

Digital technologies have increasingly been introduced to support these monitoring processes. Research on Construction 4.0 emphasizes that mobile devices and cloud-based platforms allow information from the construction site to be documented and shared in real time between project participants. According to Sacks et al. (2020), such digital environments enable project teams to access updated information about work progress, construction issues and project documentation more easily than through traditional paper-based systems.

Digital documentation systems may also improve traceability of project information during production. When inspections, observations and reported issues are recorded in shared digital environments, project participants can follow how different activities have been performed over time. Talamo and Bonanomi (2020) highlight that digital information systems can support knowledge sharing in construction projects by allowing actors to retrieve and interpret previously documented information more efficiently.

Recent research focusing on digitalization in Nordic construction contexts highlights similar developments. Disney et al. (2024), analyzing BIM implementation in Nordic projects, observe that digital platforms increasingly support coordination between planning and production activities. When project information is documented within shared digital systems, different actors may access updated information about work progress and construction tasks more easily.

At the same time, the introduction of digital monitoring systems does not automatically transform existing work practices. Studies of BIM adoption among Swedish contractors indicate that digital tools are often implemented gradually and may coexist with traditional documentation routines for some time. El Masry and Chronéer (2025) show that organizational conditions, digital competence and project characteristics influence how consistently such systems are used in construction production.

Monitoring activities are also closely connected to planning processes. Information gathered through inspections, progress reports and documented issues often feeds back into short-term planning and coordination of work activities. Digital platforms can support this process by providing updated information about ongoing tasks and completed work, which may help project teams adjust schedules and coordinate resources more effectively (Sacks et al., 2020).

For this reason, monitoring, documentation and planning are often described as interconnected processes within construction management research. Reliable monitoring depends on consistent documentation of site activities, while effective planning relies on accurate information about project progress. In projects where many actors collaborate simultaneously, digital systems are increasingly used to support these processes and improve the flow of information between participants during the production phase.

4.10 Rules and regulations regarding BIM in Sweden

In Sweden, BIM is not regulated with enforced laws but is instead largely influenced by industry shared guidelines. This has led to a situation where digital tools are instead more discussed which have led to them to be increasingly used, but where there is still some variation in how BIM is applied in practice. An important initiative in this context is the national guidelines developed within the Smart Built Environment Program (Jongeling et al., 2021). These guidelines target organizations responsible for setting and overseeing information requirements in construction projects. Rather than focusing on specific technical solutions, they describe how information can be structured and handled throughout a project.

A recurring idea in the guidelines is the lifecycle perspective. Information is not treated as something static, but as something that is created, updated and used in different stages, such as procurement, project execution and facility management (Jongeling et al., 2021). This also means that BIM is not limited to design but is connected to how information is managed over time.

There is also a practical side to the guidelines. They, for instance, provide guidance on defining information requirements and organizing and naming information to ensure clarity among various stakeholders (Jongeling et al., 2021). The objective is to facilitate collaboration, particularly in complex projects involving multiple organizations where effective information sharing is essential. The guidelines are meant to be adaptable rather than applied identically across all projects. Organizations can interpret and use them in ways that suit their experience and digital development (Jongeling et al., 2021). This approach aligns with the diverse sizes and practices found among Sweden's construction industry players.

As a result of this, BIM in Sweden can be seen as guided rather than enforced. The guidelines provide a common reference point, but they do not determine how BIM is used in everyday projects. Instead, this is shaped by how organizations interpret the guidelines and how they choose to implement them in specific projects.

5 Empirical part

This chapter presents the empirical material collected during the study regarding the use of Dalux Field in construction production. The material consists of interviews, survey responses, and project-related documentation from the selected case projects, together with descriptive information about Dalux and Dalux Field collected from official material published by Peab and Dalux. The empirical findings are organized around recurring themes connected to communication, coordination, onboarding, and information handling in practice.

5.1 Dalux

In construction projects, information is often distributed across multiple actors, disciplines and organizations. This creates a need for digital systems that can support coordination and ensure that relevant information is accessible to those involved in the project. Dalux addresses this need by offering a centralized digital environment where project-related information can be stored, viewed and shared among project participants (Peab, n.d.).

Dalux is not a single-purpose system but consists of several modules that are adapted to different phases of a construction project. These modules support activities such as document management, model viewing and on-site follow-up. As a result, Dalux can be understood as a digital infrastructure rather than a standalone production tool.

Within this platform, Dalux Field represents the module that is specifically intended for use during the production phase. While Dalux provides the technical framework for managing project information, Dalux Field focuses on how information is created, communicated and followed up on the construction site (Peab, n.d.). For this reason, Dalux as a general platform is not the main focus of this thesis. Instead, the emphasis is placed on Dalux Field and its role in production-related communication and knowledge transfer.

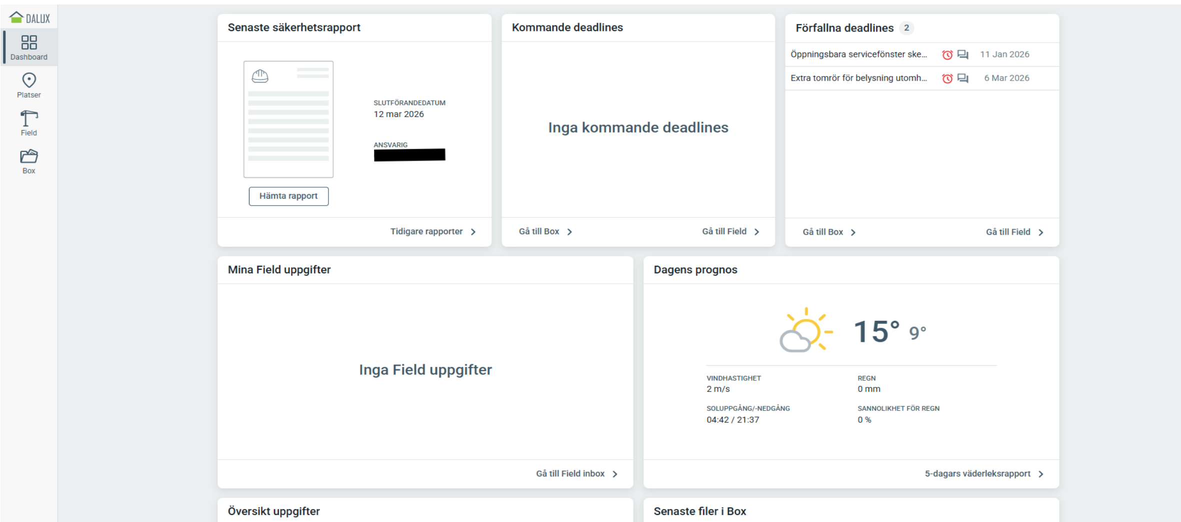

Figure 3. Overview of the Dalux dashboard interface showing how project information can be accessed through a centralized digital environment. Authors' own screenshot from Dalux (2026).

This distinction is important, as the challenges addressed in this thesis are primarily related to how digital tools are used in everyday production work rather than how project information is stored at an overall level. The following chapter therefore examines Dalux Field in more detail, with particular attention given to its intended use in communication processes and the transfer of knowledge between project actors.

5.1.1 Dalux Field

On a construction site, many issues are handled directly as they occur. Decisions are often made quickly and based on the information available at the moment, sometimes without all involved actors being present. As a result, information can remain with a limited number of individuals and may not reach others who are affected later in the production process.

Dalux Field is used in production to capture some of this information when issues arise. Instead of relying solely on verbal communication or memory, observations and required actions are documented and assigned to a responsible actor. These issues may concern quality deviations, coordination between different trades or tasks that need to be completed before work can continue. When such issues are documented in the system, the information becomes accessible to others who were not present when the situation first occurred.

Using Dalux Field in this way affects how information is handled on site. Information that would otherwise be temporary or situation-specific is stored and can be reviewed later. This can be particularly relevant when new actors enter the site or when work is resumed after interruptions. Access to previously documented issues makes it easier to understand what has happened and which actions have already been taken.

At the same time, documenting issues requires time and effort from those working in production. Under time pressure, not all information is recorded with the same level of detail, and some issues may still be resolved informally. This means that the information available in Dalux Field does not always represent a complete picture of everything that happens on site, but rather those situations that users choose or have time to document.

From a communication perspective, Dalux Field shifts some interaction away from direct conversation and towards written documentation. Responsibilities and actions become visible in the system rather than being communicated only verbally. This can reduce misunderstandings, but it also introduces a more formal way of communicating that may be experienced as additional administrative work.

In addition to communication, Dalux Field also has implications for how knowledge is transferred within a project. Information about recurring problems, coordination challenges or quality-related issues is stored digitally and can be revisited over time. When such information is documented in a clear and consistent manner, it can help project actors learn from earlier situations rather than relying solely on personal experience.
However, the extent to which Dalux Field supports knowledge transfer depends on how it is used in practice. If information is recorded in an unstructured or inconsistent manner, its value beyond the immediate task may be limited. Knowledge transfer therefore relies not only on the technical functionality of Dalux Field but also on shared practices regarding how information is documented and communicated.

From this perspective, Dalux Field can be seen as both a technical tool and an organizational mechanism. Its potential benefits in terms of improved communication and knowledge transfer are closely linked to how it is integrated into everyday production routines. Understanding this interaction between system functionality and practical use is essential for evaluating the role of Dalux Field in construction production.

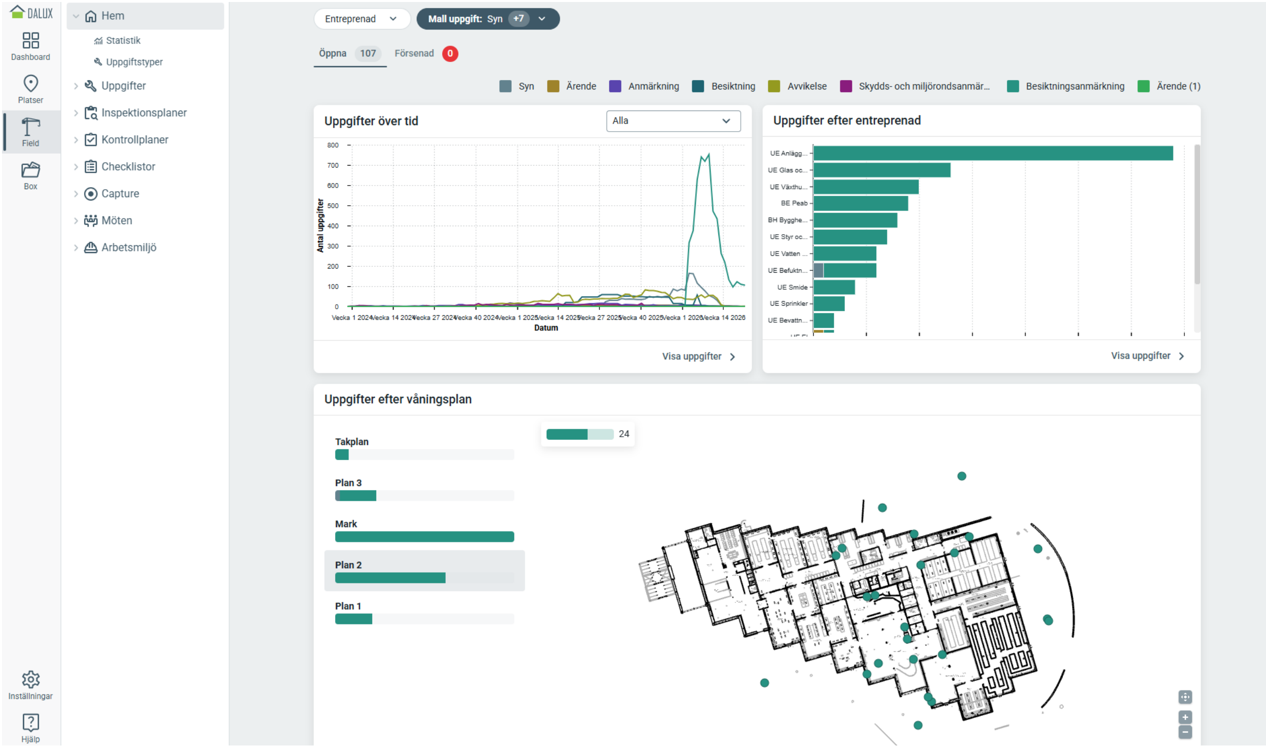

Figure 4. Dalux Field interface illustrating task distribution, issue statistics, and location-based follow-up of activities in the production phase. Authors' own screenshot from Dalux (2026).

5.2 The Role of Dalux Field in Production Communication

At Peab, Dalux Field is used as a digital support tool during the production phase of construction projects. The system is primarily used to handle issues, tasks and documentation that arise in everyday site work. Rather than functioning as a general information platform, Dalux Field is integrated into production routines where coordination between Peab and subcontractors takes place daily.

The use of Dalux Field at Peab is shaped through a combination of centrally defined structures and project-level adaptations. Before production starts, the system is configured with predefined roles, permissions, and issue structures that are partly standardized within the organization. Certain functions and workflows are therefore managed centrally to maintain consistency between projects (Peab, n.d.). At the same time, project teams can adapt parts of the system to fit local project conditions and production needs, for example regarding metadata, issue categorization, and practical workflows. As a result, Dalux Field follows a common organizational structure across Peab projects while still allowing some flexibility at project level.

In production, Dalux Field is mainly used to manage issues related to quality, coordination and completion of work. Issues are often created by Peab representatives such as site managers or supervisors and assigned to subcontractors responsible for the relevant work. Through this process, communication that would otherwise take place verbally or through informal channels is instead documented within the system. This makes responsibilities more explicit and allows actions to be followed up over time.

For subcontractors, Dalux Field functions as a channel through which tasks and requirements from Peab are communicated. Subcontractors are expected to respond to assigned issues, document completed work and, in some cases, upload photos or other supporting material. This means that Dalux Field becomes part of the interface between Peab and subcontractors, where production-related communication is formalized and made traceable.

At the same time, the level of use among subcontractors varies between projects and actors. Differences in experience with digital tools, time pressure in production and varying levels of onboarding influence how consistently Dalux Field is used. In some cases, issues are documented thoroughly, while in others the system is used more selectively, with parts of communication still taking place outside the tool.

From Peab's perspective, Dalux Field provides a way to gain overview and structure in production-related communication. By collecting issues and documentation in one system, it becomes easier to track outstanding tasks, identify recurring problems and follow up responsibilities. However, this overview depends on information being entered consistently and in a comparable manner across different actors and work packages.

The use of Dalux Field at Peab therefore reflects both technical and organizational factors. While the system offers functionality for structured communication and documentation, its role in production is shaped by how it is introduced, configured and used in practice. Understanding how Dalux Field is applied in Peab's projects is essential for analyzing its contribution to communication and knowledge transfer between Peab and subcontractors.

5.3 Interviews

This chapter presents the empirical findings from the conducted interviews. The purpose is to describe how Dalux Field how it is used in daily production work and comparing it…... by the system.

5.3.1 Strategic Purpose and Role of Dalux

Dalux Field was introduced primarily to support the digital transformation of production processes and to simplify the daily work of site managers (A1). A key motivation was to provide mobile digital tools that could be used directly on construction sites, replacing earlier systems that were mainly accessible through computers. In addition, Dalux aimed to unify previously fragmented digital tools across projects into a shared platform (A1, A2). This purpose is also reflected at the project level, where Dalux is described as a central tool in daily production work, where most production-related activities are gathered within one system (A10). As one respondent explains, the system functions as "the main working tool in production, where almost everything except financial management is handled" (A10).

Dalux is also described as a platform for managing project documentation and communication, with the purpose of centralizing information that was previously scattered across multiple tools such as Word documents, Excel sheets, and file storage systems (A2). By enabling real-time input of information directly on site through mobile devices, the system reduces reliance on paper-based workflows and improves accessibility to project data. This is further supported by subcontractors, who emphasize the importance of having direct access to drawings and project information in the system, which facilitates their daily work in production (A5, A4). A similar function is described in the design phase where Dalux is used to gather drawings, documents and questions in one shared place which reduces the need for multiple parallel tools (A7).

Dalux also enables broader collaboration by having both management and workers using the same platform. This enables broader participation in tasks such as checks, access to drawings, and risk identification which contributes to improved coordination and faster problem solving on site (A3). From the perspective of subcontractors, this shared platform is reflected in how the system is used as a primary tool for handling tasks, inspections, and production-related issues (A4).

Another important objective is to improve the connection between the design and production phases. Information generated during design was previously not easily accessible in production, and Dalux aims to reduce this gap by providing a shared platform for information exchange (A1). This is also visible in projects where both design and production are integrated within the same system, enabling actors to revisit earlier project stages and access design-related information during production (A7, A8). The system is also perceived to reduce the risk of information loss and improve transparency within project organizations (A2), particularly by increasing traceability of communication and documentation (A10).

Dalux is further described as a tool that consolidates multiple functions in production into one platform which allows users to access drawings, models, tasks, and inspection notes in a single interface (A6). This reduces the need for multiple applications and ensures that users always work with the latest updated information. It also enables documentation and information-sharing across all project participants, rather than limiting access to individual email threads. From a project management perspective within subcontractors, this is particularly valuable in larger and more complex projects, where structured issue management within a shared digital platform is described as more efficient than relying on traditional communication tools such as email (A8).
At the same time, several respondents emphasize that the value of Dalux is closely tied to how it is used in practice. While the system provides structure and accessibility, its effectiveness depends on how clearly information is documented and communicated, for example through the use of images and detailed descriptions (A5). As one respondent notes, the usefulness of the system "depends entirely on how clearly information is entered, where images and descriptions make a significant difference" (A5). The system is also described as contributing to time savings in production, particularly through faster access to drawings and information, although this is dependent on consistent and correct use (A4, A5, A7).

Overall, Dalux is described as both a strategic and operational tool. While it is introduced as part of a broader digitalization strategy, its role in practice is closely connected to supporting daily production work, improving access to information, and enabling more structured communication between project actors. This purpose is further reinforced by the Dalux perspective, where the system is described as primarily developed to improve communication between actors and reduce misunderstandings through clear, documented communication flows (A9).

5.3.2 Implementation and Organizational Strategy

Dalux began to be used within Peab around 2016, initially through individual project initiatives rather than as a centrally coordinated system (A1). Over time, a more structured and organization-wide implementation was introduced, including pilot projects, templates, and standardized structures. By 2025, Dalux had been fully integrated into the company's operational system (A1). The current strategic focus is shifting from implementation toward utilizing the data generated in the system. Peab aims to analyze accumulated data to identify patterns and improve work processes, with potential future use of artificial intelligence for analyzing project documentation (A1).

Despite this structured implementation, the second interview suggests that there is no clearly communicated overarching strategic vision regarding how Dalux should be used in detail at the project level (A2). While manuals and updates exist, projects retain flexibility in how they configure and apply the system in practice (A2). This is also reflected within the studied project (Botaniska Trädgården), where the system is perceived as something that is provided centrally but shaped within the project depending on needs and working methods (A2, A10). This reflects a balance between standardization and project-level adaptation, where templates and company profiles exist but allow for local adjustments (A1, A2). This is also true in design where it is explained that the company profile has become more developed over time which has created a clearer and more consistent structure between projects (A7).
Project teams often develop their own ways of working with Dalux based on experience rather than formal guidelines. Strategic documents and guidance exist but are not always actively used or known at the project level, leading to a more experience-based implementation (A3). This is also evident within the same project context, where subcontractors describe that the use of Dalux is largely learned through practice rather than through structured onboarding processes (A4, A8). One respondent explains that the system is primarily learned through continuous use and problem-solving during the project rather than through formal training sessions (A4). The same has been experienced in design where comparison of current use with earlier projects and describes a gradual development of both structure and experience (A7).

This flexibility is further reinforced by the possibility for project teams to test new functions and adapt workflows independently (A6). From the Dalux perspective this variation is expected as both implementation and system use are described as highly dependent on the customer's organizational structure, needs, and processes rather than following a fixed model (A9). Decisions regarding new features are often made at the project level and occasional feedback is provided to central system managers. From the perspective of subcontractors within the same project, this is reflected in how support is often provided on demand during the project rather than through predefined implementation phases, allowing the use of the system to evolve based on actual project needs (A8). In addition, some subcontractors rely on internal company structures and training rather than support from the main contractor, indicating that implementation is also influenced by each organization's internal capabilities (A5).

5.3.3 System Configuration and Organizational Structure

The configuration of Dalux is governed through a multi-level organizational structure (A1). Each project typically has a project administrator responsible for managing the system locally, supported by regional digital coaches and central teams coordinating system development.

In practice, the initial configuration of Dalux in projects is often based on standard company settings, with external support used during early stages to define structures such as locations and organizational divisions (A2). This can result in limited influence from the project team during the initial setup phase. At the same time, within the studied project, the system is described as allowing further adjustments after initial setup, where project teams can adapt structures such as metadata and organization depending on project needs (A10).

Larger system changes are typically discussed in steering groups or developed in collaboration with specialists, enabling a balance between centralized control and project flexibility (A1). At the same time, the administrator plays a key role in maintaining workflows, managing permissions, and supporting users within the project (A2). This role is also reflected in practice, where project-specific support functions and key individuals are described as important for assisting both internal users and subcontractors in navigating the system (A8).

Configuration in practice is often based on previous project experience rather than guidelines. Predefined user groups and access rights are commonly used but detailed customization is limited (A3). This is also reflected in how subcontractors experience the system, where structures and templates are sometimes perceived as fixed or insufficiently adapted to specific needs, for example in relation to how information is presented or accessed (A4). In addition, the usability of the system is influenced by how well drawings and documents are structured, where unclear naming conventions or limited search functionality can create challenges in locating relevant information (A4). Similarly, it describes that Dalux includes a predefined framework for where and how information should be entered while some adjustments can still be made by administrators when needed (A7).

In some projects the system configuration is also influenced by the client's pre-existing structure which means that project teams may need to adapt to previously established frameworks rather than applying standard company structures (A6). This can lead to variations between projects and reduced consistency across the organization. At the same time, subcontractors highlight that the practical usability of the configuration is closely tied to how well it supports day-to-day work, particularly in terms of accessing drawings and handling tasks efficiently (A5).

5.3.4 Roles, Permissions, and Responsibilities

Dalux uses predefined user groups and permission structures based on standard project organizations, including roles such as site managers, supervisors, workers, and subcontractors (A1). In larger projects, teams may be divided into smaller functional units to filter information and reduce overload. This is also reflected in practice, where responsibility structures can be adapted depending on project size, for example by dividing responsibilities into smaller units or blocks rather than following a strictly hierarchical structure (A10).

The role of the Dalux administrator is described as central but also demanding. Responsibilities include setting up communication workflows, managing checklists, maintaining system structure, and supporting subcontractors (A2). Compared to previous systems, this role involves a higher administrative workload, particularly in ensuring that communication flows and documentation are properly maintained (A2). This is further reflected at the project level, where the system requires active management to ensure that information is correctly assigned and that tasks reach the appropriate actor, especially when multiple parties are involved (A10).

Subcontractors are integrated into the system with specific permissions and communicate with the main contractor through tasks and issue management (A1). However, subcontractors often submit documentation in external formats, requiring the administrator to adapt and upload the information into Dalux, which increases the administrative burden (A2). At the same time, from the subcontractor perspective, the system can involve a degree of controlled communication, where information is often routed through the main contractor rather than shared directly between subcontractors, limiting direct interaction within the platform (A10).

The role of the digital coordinator also includes providing continuous user support, managing access rights, and developing control plans and templates (A3). In practice, this formal support function is complemented by informal support structures within project teams, where more experienced users assist colleagues in navigating the system and completing tasks (A8).

For example, when a subcontractor with limited knowledge of Dalux requires assistance, they are typically expected to contact their company's project manager rather than the digital coordinator directly (A5). The project manager then provides support to the best of their ability and, if necessary, escalates the issue to the digital coordinator. This layered support structure helps reduce the coordinator's workload while maintaining efficient problem resolution.

Although predefined permission structures are in place, they are often implemented with limited customization. In many cases, access rights are assigned based on immediate practical needs rather than through detailed planning or strict governance (A8). This can make the system more flexible and easier to use in day-to-day operations, but it may also lead to inconsistencies in access control across the project.

Permissions are often actively managed to limit too much information which ensures that users only see information relevant to their tasks, making information clearer (A6). This approach is also reflected in how subcontractors experience the system, where access to information is sometimes restricted to avoid information overload, but may also result in limited visibility of the full communication context behind certain tasks or issues (A4). Additional user groups may be created to reflect project-specific structures, for example separating subcontractors from their own subcontractors or restricting access to sensitive information.

5.3.5 Use of Dalux in Production

Dalux is used across all types of projects, although the degree of standardization has evolved over time (A1). Initially, projects had significant flexibility, but increased experience has led to more standardized configurations and guidelines.

From Dalux side the primary use in production is described as combining documentation, visualization of design information, and data collection to support decision-making and organizational development (A9).

In daily work, Dalux is widely used by internal staff, while subcontractor usage varies significantly (A2). From the perspective of the main contractor, the system is described as a central tool in daily production work, supporting activities such as quality management, documentation, and follow-up (A10). Some subcontractors actively use the system, while others rely on their own tools and later submit documentation as PDF files. This variation can reduce efficiency and create additional administrative work. At the same time, within the studied project, several subcontractors describe that Dalux is used extensively in daily work, particularly for accessing drawings, managing tasks, and handling inspections (A5, A4). However, differences remain in how consistently the system is used, both between companies and between individuals.

The system is primarily used for documenting tasks, deviations, inspections, and formal communication (A2). It enables real-time documentation through photos, notes and tasks directly on site, improving traceability and transparency (A1, A2). This is also reflected in practice, where subcontractors describe that documentation and inspections are handled directly in the system and that this contributes to more efficient workflows compared to previous paper-based methods (A5, A4). From the main contractor perspective, the system is also used to create overview and control of production status, enabling easier follow-up of quality and deviations (A10). As one respondent describes, the system "saves time, especially when accessing drawings and finding information quickly" (A5). However, for more complex discussions, communication often takes place outside the system, such as through meetings or phone calls, with results documented afterward in Dalux (A2). Other reasons for different communication methods are also the need for speed and sometimes human interaction which Dalux cannot replace (A6), which is also reflected in how subcontractors often prefer phone calls for more complex or urgent issues (A5, A4). Similarly in design meetings and phone calls are still used, but important decisions are documented afterward in Dalux (A7).

Dalux also does not fully replace other communication channels, as users do not always check the system regularly and notifications can be overwhelming (A3). This leads to continued use of phone calls and emails alongside the system. In addition, some subcontractors highlight that not all information is always visible within the system, which can require additional communication outside Dalux to fully understand tasks and decisions (A4).

Inspections and task management are particularly valuable functions (A3). The ability to register issues directly on site, assign tasks, and link them to specific locations significantly improves efficiency compared to previous paper-based or Excel-based workflows. This is also emphasized by subcontractors, who highlight that inspection processes and issue tracking are clearer and more structured within Dalux (A5, A4). The system is also used for accessing drawings and models directly in production, enabling workers to navigate digital models and retrieve information on-site

(A6). From a project management perspective, the system is also described as effective for handling large volumes of issues and maintaining structure in complex projects (A8).

5.3.6 Training and Onboarding

Training and onboarding are mainly handled at the project level, supported by educational materials and guidelines (A1). Training typically starts with basic functions and gradually expands to more advanced features.

However, time constraints often limit the use of available training materials (A2). Instead of formal centralized training, the organization relies on flexible learning methods and support from digital coaches when needed (A1, A2). Training is therefore often informal and conducted on an as-needed basis. Instead of structured onboarding, users receive individual support when issues arise, which can lead to uneven levels of knowledge within the project (A3). This is also reflected among subcontractors, where several respondents describe that they did not receive formal training at project start but instead developed their knowledge through continuous use of the system and support when needed (A4, A8).

In instances where onboarding has been used Practical training methods such as workshops and hands-on demonstrations are effective since they allow users to test the system themselves during training sessions (A6). This is further supported by subcontractors who describe that internal company training, such as workshops and dedicated support functions, can play an important role in facilitating system use (A5). Users often perceive the system as additional work initially, but this perception tends to shift positively once they become familiar with its functions and benefits. This learning process is also described as gradual, where users become more comfortable with the system over time through repeated use (A4).

User adoption is strongly influenced by digital maturity, personal motivation, and perceived benefits of the system (A1, A2). Some users quickly recognize advantages such as improved visualization and access to information, while others require more support (A1). This variation is also evident among subcontractors, where differences in experience and digital maturity influence how quickly the system is adopted and how effectively it is used in daily work (A5, A4). The competence and engagement of the project administrator also play a crucial role in how effectively the system is used (A2). An experience-based learning process is also suggested from a design perspective as the respondent compares his current use of Dalux with earlier projects rather than referring to formal training (A7).

5.3.7 Communication, Documentation, and Knowledge Transfer

A key objective of Dalux is to centralize project communication within the system (A1). By documenting communication directly in Dalux, information becomes traceable and accessible to multiple stakeholders (A1). This aligns with the intended system design, where communication and documentation are closely integrated, meaning that communication itself becomes a form of documentation that can be traced and revisited (A9). This is also reflected in practice, where the system is described as enabling structured communication linked to specific tasks, drawings, and locations, improving clarity and follow-up in production (A10, A5). Design-related questions and responses are also documented directly in Dalux and linked to drawings and models (A7).

The system has improved documentation practices, particularly for quality deviations and inspections. Issues that were previously handled informally are now recorded more consistently, creating better traceability and a stronger legal record (A2). From a production perspective, this is also described as an important improvement, where communication and decisions can be traced and revisited when needed (A10). Subcontractors further emphasize that documentation through photos and task-based communication contributes to clearer information and reduces misunderstandings in production (A5). As one respondent describes, combining images with text makes it easier to "clearly explain and understand what needs to be done" (A5). Similarly it is highlighted that linking questions directly to drawings or models makes communication clearer and reduces misunderstandings (A7).

Despite this, communication is not always fully centralized. Mail and other external channels are still used, especially for unplanned or complex communication (A2). In such cases, important information is often documented in Dalux afterward to maintain records (A2). This is also reflected among subcontractors, who describe that phone calls and emails are often preferred in situations requiring quick responses or more detailed explanations (A5, A4). In addition, some respondents highlight that not all information is visible within the system, which can lead to additional communication outside Dalux to fully understand the context of tasks and decisions (A4). From a project management perspective, Dalux is still described as highly effective for structured issue management, particularly in large projects where communication would otherwise be difficult to manage through email alone (A8). This is also supported as Dalux functions as a complement to meetings and phone calls rather than replacing them completely (A7).

Knowledge transfer between projects remains a challenge. While best practices are sometimes shared through presentations or templates, systematic cross-project learning is still limited (A1, A2). There is no structured process for systematically using stored data to improve future projects (A3). Learning therefore mainly occurs informally. This is also reflected at the project level, where knowledge is primarily transferred within the project rather than between projects, and where the use of documented information for broader organizational learning is limited (A10).

Dalux contributes to better transparency by allowing multiple stakeholders to access the same information simultaneously, reducing reliance on private communication channels such as email (A6). However, there is still a need to balance digital documentation with personal communication to maintain effective collaboration and avoid too much reliance on system-based interactions. This balance is also highlighted by respondents who describe Dalux as a complement to, rather than a replacement for direct communication in production (A5, A10). It is further indicated that Dalux can support knowledge transfer from design to production by making the same drawings, questions, and decisions accessible across phases (A7).

5.3.8 Challenges with the Use of Dalux

Several challenges are identified in most interviews. A key issue is the varying level of digital maturity among users, which affects system adoption and effectiveness (A1, A2). This variation is also evident within the studied project, where differences in experience and familiarity with digital tools influence how effectively Dalux is used in daily work (A4, A5). Some users adapt quickly, while others rely more on traditional methods or require additional support.

Another challenge is the increased administrative workload, particularly for the Dalux administrator and during project startup phases (A2). The need to configure workflows, manage documentation, and support users requires significant time and effort (A2). This is also reflected at the project level, where managing information flow, assigning tasks correctly, and ensuring that documentation is properly handled requires continuous effort from the project organization (A10).
Integration with other internal systems also presents challenges, as differences in document structures and workflows require adjustments and technical solutions (A1). In addition, the system requires structured data management, including consistent use of metadata, to ensure that information can be easily retrieved (A1). From a subcontractor perspective, challenges are also linked to how information is structured and accessed in practice, where unclear naming of documents and limited search functionality can make it difficult to locate relevant drawings and information (A4).

Costs associated with the system have also been identified as a challenge, particularly during early implementation phases, although resistance has decreased over time (A1, A2).

Limitations in document handling is also a challenge, Dalux lacks certain functionalities compared to other tools handling larger PDF files and limited flexibility in structuring control plans (A3). This is also reflected in practice, where some users experience difficulties when working with technical documentation or when needing to access multiple documents simultaneously, particularly on mobile devices (A4, A5). As one respondent notes, it can be difficult to work efficiently when it is not possible to view different types of documentation at the same time (A4). The presence of multiple parallel digital systems within the organization is also described as a challenge as it creates inefficiencies and increases complexity for users. It is also added from a design perspective that some limitations are related to practical usability, such as difficulties uploading complete folder structures while keeping subfolders and file names intact (A7).

Another challenge is the complexity of system administration, as configuring settings often requires multiple steps and extensive manual work (A6). This can discourage project teams from customizing the system or testing new features. Additionally, variation in system use between projects can reduce consistency and create confusion for users moving between projects. From a project management perspective, limitations in system functionality compared to other digital tools are also highlighted, particularly in relation to model handling and integration with other software (A8).

In addition, variation in both system configuration and actual use is highlighted as inherent to the construction industry, where no projects or organizations are identical, contributing to inconsistencies in how Dalux is applied in practice (A9).

5.3.9 Future Development and Improvements

Dalux is expected to remain a core digital tool within production processes, although continuous evaluation of digital systems is necessary due to rapid technological development (A1). This is also reflected at the project level, where the system is perceived as well-established and likely to continue playing a central role in future projects, particularly as digital tools become increasingly integrated into production workflows (A10).

Future development is expected to focus on better utilization of project data, improved integration with other systems, and increased digital maturity within the organization (A1). The potential use of artificial intelligence for analyzing project data is also highlighted (A1). From a project perspective, there is a need for additional support resources, particularly during the initial setup phase. Dedicated regional support roles could improve system configuration, training, and overall usage (A2).

Dalux has the potential to evolve into a more integrated platform that replaces several existing systems (A3). A more unified digital environment could simplify onboarding, reduce complexity, and improve overall efficiency in projects. This ambition is also reflected among subcontractors, who express a need for fewer parallel systems and more centralized handling of information within a single platform (A4).

Other improvements are to simplify the system configuration, reducing the number of required actions for administrative tasks and improving usability (A6). From a user perspective in production, there is also a need for improved functionality related to document handling, searchability, and the ability to work more efficiently with drawings and technical documentation (A4, A5). In addition, improvements in mobile functionality and usability are highlighted as important for supporting work directly on site (A5). Improved file handling and more efficient support when system limitations are identified are also highlighted as important areas for future development (A7).

From a project management perspective, further development is also suggested in relation to system functionality, particularly by drawing inspiration from other digital tools with more advanced model handling and integration capabilities (A8). This includes improved filtering, visualization, and interaction with digital models, which could enhance both design and production processes.

5.4 Results from Surveys

Due to the relatively low number of responses, the results from subcontractor foremen and project managers are presented together. The findings should therefore be seen as indicative rather than generalizable. Where relevant, differences between roles are briefly highlighted.

5.4.1 Use and Application of Dalux

The responses suggest that Dalux is used regularly in daily project work. Most respondents indicate that they use the system every day, while the rest use it several times during the week. This points to Dalux being part of the everyday workflow for both foremen and project managers.

In terms of functionality, Dalux is mainly used to access drawings and handle tasks in the project. All respondents state that they use it to view drawings, and several also use it to receive tasks from the main contractor, manage deviations, and handle inspection remarks. Among project managers, the system is also used for communication and coordination.

At the same time, the results show that not all functions are used to the same extent. Some respondents report limited use of features such as photo documentation and work preparation. This suggests that while Dalux is widely used, the way it is used varies between individuals and roles.

Another aspect is that most respondents register information in Dalux themselves. This indicates that the system is used directly in production rather than being handled only by administrative staff. Overall, the results point to Dalux having an important role in daily work, especially for drawings and task-related activities, even though the level of use differs somewhat.

5.4.2 Communication and Perceived Value

The responses show that Dalux is not the only way communication takes place in the project. All respondents state that they communicate with the main contractor both through Dalux and through other channels such as meetings or phone calls. This indicates that the system is used as part of the communication, but not as a complete replacement.

Several respondents describe that Dalux helps when it comes to finding information and keeping track of tasks. At the same time, the answers are not identical. Some experience clear benefits in terms of time savings, while others are more neutral. This suggests that the usefulness of the system may depend on how it is applied in daily work.

Among the project managers, the responses are more consistent. They all indicate that Dalux supports coordination with the main contractor and improves traceability in the project. This points towards the system being particularly valuable for structuring communication and keeping an overview.

Overall, Dalux seems to work well for handling structured communication, especially when it is linked to specific tasks or issues. However, for situations that require discussion, clarification, or quick decisions, other forms of communication are still used.

5.4.3 Training, Challenges, and Improvement Needs

The results suggest that formal training from the main contractor is limited. Most respondents indicate that they have not received any structured introduction to Dalux from Peab. Some mention that they have received a small amount of support, but not in a more organized way. This points to onboarding largely happening outside of formal training settings.

Even so, the system is not generally described as difficult to use. Instead, the challenges that come up are more practical. Several respondents mention that it can be difficult to find the right information, especially when documents are not clearly structured. There are also comments related to how drawings are handled and how easy it is to navigate between different types of information.

When it comes to improvements, the answers vary but follow a similar direction. Some highlight the need for better structure in documents, while others mention functions such as filtering in models or the possibility to mark progress directly in drawings. There are also comments about the need for clearer updates when changes are made in project documentation.

At the same time, not all respondents see major issues. A few indicate that they do not experience any significant problems with Dalux in their daily work. This suggests that while there are areas that could be improved, the system is generally seen as usable in its current form.

6 Research Findings

This chapter presents the main research findings identified from the empirical material. The findings are based on recurring patterns observed across interviews and survey responses and are organized into broader themes connected to information accessibility, communication practices, onboarding, and organizational challenges related to the use of Dalux Field.

6.1 Overview of Findings

The interviews and the survey indicate that Dalux Field is used frequently during the production phase. Most respondents describe it as tool they use on a regular basis, especially when it comes to drawings and handling tasks. At the same time, its practical use appears to differ considerably between different actors. This becomes more visible in the Gephi network. Some themes are much more connected than others. Structured communication appears in many parts of the network. It appears alongside several other aspects, which makes it difficult to treat it as a single isolated function. Instead, it seems to be part of how the system works overall in practice.

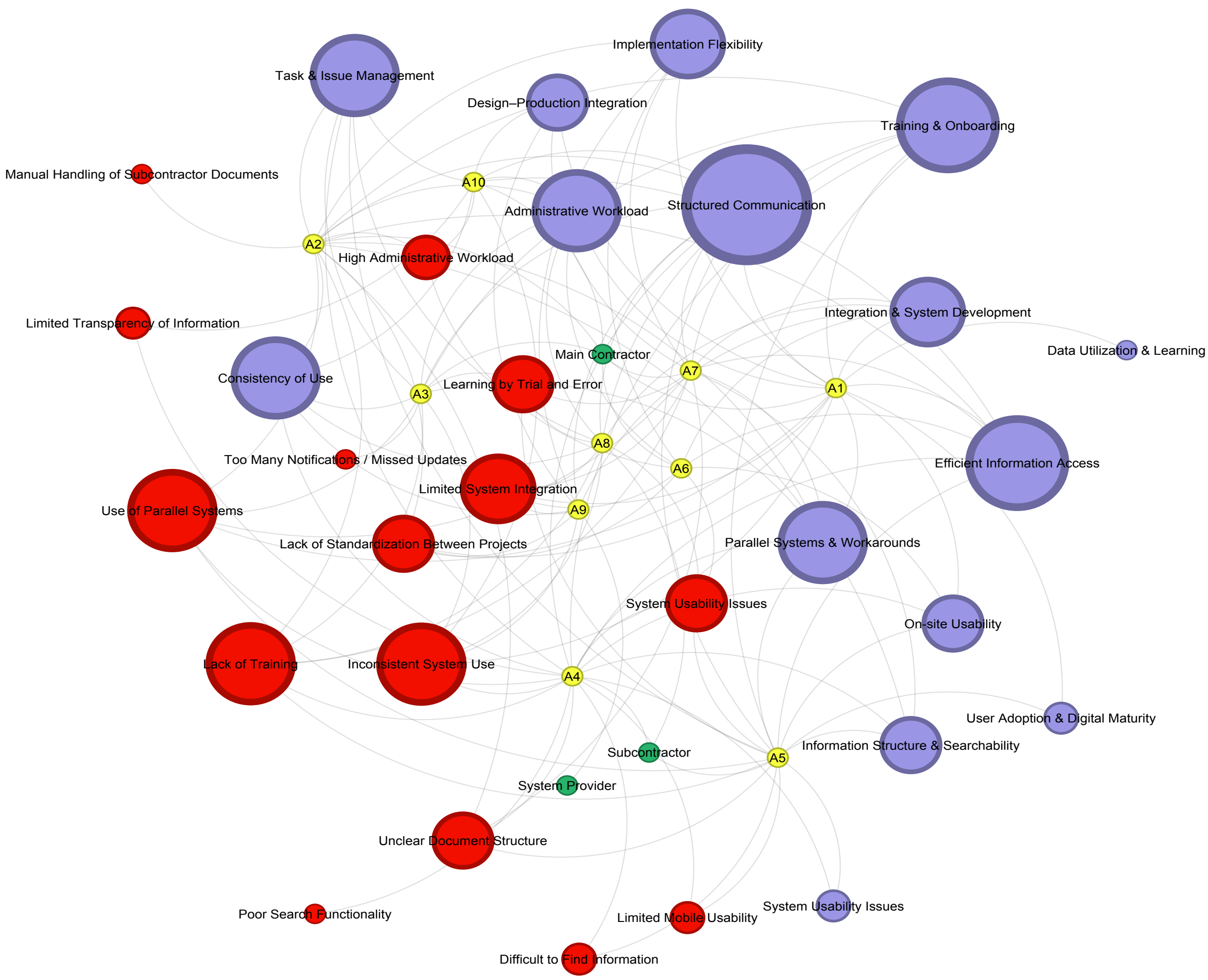

Figure 5. Network visualization of interview findings created in Gephi. Nodes represent themes and respondents, where larger nodes indicate a higher number of connections. The links illustrate how different aspects are connected based on the interview data.

Identified Theme	Frequency
Challenges	
Inconsistent system usage	6
Insufficient training	6
Parallel communication systems	6
Limited system integration	5
Limited standardization between projects	4
Informal learning processes	4
System usability challenges	4
Unclear information structure	4
Increased administrative workload	3
Difficulties accessing information	2
Limited mobile functionality	2
Limited information transparency	2
Manual document handling	1
Limited search functionality	1
Too many notifications and missed updates	1
Benefits	
improved communication structure	9
improved information accessibility	7
support for onboarding and learning	7
reduced administrative workload	6
improved consistency	6
flexible communication workflows	6
improved task and issue management	6
flexible system adaptation	5
system integration and development	5
improved design–production integration	4
improved information structure and searchability	4
mobile and on-site accessibility	4
system usability benefits	2
increased digital adoption	2
data utilization and organizational learning	1

Table 2. Table shows the number of connections (edges) between the interviews and each identified problem and benefit in the network analysis. A higher number of edges indicates that the theme was more frequently mentioned by the respondents and therefore more

Several examples also show that the system helps to create order in daily work. Tasks are assigned, followed up and documented in a way that was not always done before. However, this does not appear to work equally well in all cases. A few respondents point out that the outcome depends largely on how information is entered into the system from the beginning.

Several respondents also emphasize that access to information does not automatically mean that it is easy to use. Even when documents are available, they are not always straightforward to find or understand. In some cases, it takes time to locate the right drawings, or the structure is not completely clear. This points more to how the information is organized, rather than just whether it exists or not.

It is also noticeable that Dalux is not used on its own. Other forms of communication are still present in parallel. Phone calls and quick discussions on site are still used, especially when something needs to be clarified directly. In those situations, Dalux is sometimes used afterward, rather than during communication itself.

Taken together, the findings are not unidirectional, but they do show some recurring patterns. The system supports structure and documentation, but how well it works seems to depend on how it is used, and by which users.

6.2 Information Structure and Accessibility

A pattern that appears frequently across the material is related to how information is structured in the system. The issue is less whether information exists and more how easy it is to use once available..

Several responses point in the same direction here. Drawings and documents are generally available in Dalux, but that does not always mean they are easy to navigate. In some situations, it takes time to find what is needed, and in others it is more about not being completely sure where to look. This seems to vary depending on how the information has been set up in the project.

In the Gephi network, this part is connected to multiple other aspects rather than standing on its own. Issues related to document structure, searchability and general usability appear close to each other in the network. This suggests that they are not separate problems, but part of the same underlying issue.

There are also examples where the system works well, especially when the structure is clear from the start. In those cases, access to updated drawings and documents is described as something that saves time and makes the work easier. The difference between these situations and the more difficult ones seems to come down to how consistently the information is organized.

Another observation is that the responsibility for maintaining this structure is not always clearly defined. In practice, it depends on how different actors choose to work with the system. If information is entered in different ways, or if naming and organization are not aligned, it quickly becomes harder to use the system as intended.

Overall, this part of the findings points towards a simple idea, but one that seems to have a large impact. The system provides access to information, but the actual usefulness depends on how that information is structured and handled in everyday work.

6.3 Communication and Use of Dalux

How Dalux is used in communication varies considerably depending on the situation. It is clearly part of the daily work, especially when it comes to handling tasks and different types of follow-ups. However, it is not used for every type of communication.

In the system, communication is often tied to something specific, such as a task, a deviation, or a location. In those cases, it works well. It becomes clear what needs to be done and who is responsible. Several parts of the material point in that direction. However, outside these situations, communication practices differ. When an issue needs to be resolved quickly, people tend to talk directly instead. either on site or over the phone. This is perceived as the faster option. Dalux is then used afterward, more to document what was already decided.

This is also shown in the Gephi network. Structured communication is one of the more connected parts, but it is also linked to other ways of communicating. Therefore, even if the system is used frequently, it does not replace the existing ways of working.

Another issue is that the system is not used in the same way by everyone. Some users check it frequently, while others do so less often. This affects how information moves through the system. If something is not seen in time, it can slow down processes, which again leads to people choosing other ways to communicate. Therefore, the system appears to work best when communication is clear and linked to a specific task. In other situations, especially when situations are more unclear or need quick discussion, people rely on other working methods.

6.4 Training, Onboarding and User Differences

Another part that comes up clearly in the material is related to how users are introduced to the system in the first place, and how that affects the way it is later used. There is no single standardized approach. In many cases, it appears to be handled informally.

Several responses indicate the same pattern. Instead of a structured introduction, users often learn the system by using it during the project. Some receive support from colleagues or project managers, but it does not seem to follow a consistent approach. This leads to differences in how comfortable users are when working in the system.

Those differences become visible in how Dalux is used. Some users rely on it daily and seem to see clear value in it. Others use it when needed but still fall back on other ways of working. Therefor, even if the system is available to everyone, the level of use is not the same. In the Gephi network, this part is connected to several other aspects, especially things related to usability and consistency. It does not appear to be a separate issue. Instead, it seems to influence how the system works more generally across the project.

It also seems to matter how the system is introduced at the beginning. If it is initially unclea, some users tend to use it less, at least in the early stages. Others describe that it becomes easier over time, once they get used to how it works. In those cases, the system is more likely to be used as part of the daily work.

There are also differences between users when it comes to previous experience. Some are already used to similar systems and adapt relatively quickly. Others need more time and sometimes rely on support from colleagues. Because of this, the same system can be used in quite different ways within the same project.

Overall, this part of the findings points towards variation rather than consistency. The system itself is the same, but how it is used depends on how users are introduced to it, how they understand it, and how it fits into their existing way of working.

6.5 Organizational and System-Related Challenges

Some findings concern not only how the system is used by individuals. They also relate to how it is set up in the project. This is not always clearly visible at first, but it becomes more noticeable when looking at several parts of the material together.

Dalux is also not used on its own. In many cases, there are other tools involved at the same time. As a result, information does not always remain in one place. Sometimes it moves between systems, and that can make information handling more complicated than intended. Issues may also be handled outside the system first, then added later. This seems to depend on the situation. If something needs to be solved quickly, people often choose a faster way. Dalux is then used more as a place to register what has already been done.

It is not always clear who is responsible for what is in the system. In some cases, a few people end up doing more of the setup or helping others get started. That can vary between projects, and it sometimes leads to an uneven distribution of work.

There are also differences between projects. Even if the same system is used, it does not always look the same in practice. Some projects seem to have a clearer structure early on. Others develop a clearer structure over time. This appears to affect how consistent the system use becomes. Overall, this part of the findings indicates a simple but important point. The system is one part of the overall process, but not the entire picture. How it is set up, and how people choose to work with it, appears to matter just as much.

6.6 Summary of Key Findings

Across the results, a few recurring themes emerge, even if they do not always show up in the same way. One of these themes concerns information. The material shows that drawings and documents are usually available in the system, but that does not automatically make them easy to use. In some situations, it works well, especially when things are clearly organized. In others, it takes longer to find what is needed, or it is not completely clear how things are structured.

A similar pattern can be seen in how the system is used for communication. Dalux is often used when tasks need to be handled or followed up. This function appears to work reasonably well. But outside of that, other ways of communicating are still used. If an issue needs to be resolved quickly, people tend to talk directly instead. The system is then used afterward, rather than during the conversation itself.

There are also clear differences between users. Some work in the system on a daily basis, while others use it more occasionally. This seems to depend both on how they were introduced to the system, and on their previous experience. As a result, the same system can be used in different ways within the same project.

Another point is that the system does not appear the same in every project. The setup can differ, and so can the way people choose to work with it. Over time, this affects how consistent the use becomes. Therefore, even if the system supports structure and documentation, this does not provide the full explanation. How it is used in practice, and how it fits into the project, appears to matter just as much.

7 Discussion

This chapter discusses the findings of the study in relation to the literature review and the theoretical framework presented earlier in the thesis. The discussion focuses on communication processes, digital information structuring, onboarding, and organizational conditions influencing the use of Dalux Field in construction production.

7.1 Digital structuring as support for production communication

The findings suggest that Dalux Field has become an important part of communication during the production phase, particularly in relation to how information is structured and distributed between the main contractor and subcontractors. Across both interviews and survey responses, the system is mainly used for drawings, tasks, inspections, deviations, and production-related documentation. Rather than relying solely on verbal updates or separate document flows, communication is increasingly connected to a shared digital structure where information can be traced and revisited throughout the project. This reflects broader developments in construction digitalization, where digital platforms are increasingly used to support coordination and information management across multiple project actors. Sacks et al. (2020) describe how digital construction systems are gradually moving beyond isolated documentation tools towards integrated environments for communication and production coordination.

At the same time, the findings indicate that the benefits of digital structuring are closely connected to how information is organized within the system. Several respondents describe that access to updated drawings and project documentation generally works well when the structure is clear and consistent from the beginning of the project. In these situations, Dalux appears to improve overview and reduce time spent searching for information. Talamo and Bonanomi (2020) similarly argue that digital systems can strengthen coordination and traceability when information is managed consistently between project participants. However, the material from this study also points towards situations where unclear naming structures or inconsistent organization of files made information more difficult to locate. This suggests that digital availability alone does not automatically create effective communication.

This becomes particularly relevant when viewed from a knowledge transfer perspective. Recent research highlights that access to digital information does not necessarily ensure shared understanding between project actors. Kiessling et al. (2023) argue that knowledge remains closely connected to organizational context and social interaction, meaning that information still needs to be interpreted and understood within the environment where it is used. The findings in this study reflect this quite clearly. Even when drawings and documentation are available in Dalux, users still need to understand how information is structured and how it should be interpreted within the project context. Similar observations are made by Su and Chen (2025), who emphasize that digital systems may support knowledge integration and coordination, while meaningful use of information still depends on contextual understanding and organizational practices.

The findings also suggest that Dalux functions particularly well when communication is connected to structured and task-oriented processes. Tasks, inspections, deviations, and responsibilities become easier to follow when communication is linked directly to drawings, locations, and assigned actors inside the system. Several respondents describe this as an improvement compared to earlier ways of working where communication was spread across emails, paper drawings, or undocumented verbal discussions on site. From this perspective, Dalux appears to support communication by creating clearer traceability and transparency between project actors. Similar benefits are discussed by Disney et al. (2024), who describe integrated BIM environments as supporting coordination and reducing fragmented information flows during construction production. Sacks et al. (2020) also highlight that shared digital systems can improve continuity of information between planning and production activities.

However, the material also shows that the communicative benefits of Dalux are uneven between projects and users. Some projects appear to have clearer structures and more integrated routines for documentation and communication, while others rely more heavily on parallel communication outside the system. This variation reflects recent research on digital adoption in construction, where implementation outcomes are strongly influenced by organizational context, user experience, and existing work practices. Weerapperuma et al. (2025) highlights that technological adoption in construction environments is shaped not only by the system itself, but also by organizational knowledge levels and how technologies are perceived by users in practice. Similar patterns can also be seen in the work of El Masry and Chronéer (2025), who show that BIM implementation among Swedish contractors often varies depending on project conditions, digital maturity, and organizational routines.

This also connects to the socio-technical perspective presented in the theoretical synthesis. The findings do not suggest that communication improves automatically simply because a digital platform is introduced. Instead, the effect seems strongly related to how the system becomes integrated into organizational routines and everyday production practices. In projects where information is entered consistently and responsibilities are clearly structured, Dalux appears to support coordination more effectively. In other situations, inconsistent structures and varying user practices instead create uncertainty and lead actors to rely more heavily on parallel communication channels outside the system. Bosch-Sijtsema and Gluch (2021) similarly argue that digital systems in construction are shaped by organizational practices and institutional structures rather than functioning as purely technical solutions.

Overall, the findings suggest that digital information structuring supports communication processes mainly by improving accessibility, traceability, and coordination of project-related information between the main contractor and subcontractors. At the same time, the study indicates that the communicative value of the system depends less on the technical platform itself and more on how the system is organized, interpreted, and maintained in everyday production work.

7.2 Dalux Field as a complement to verbal communication

When analyzing the results, the use of phone calls, meetings and informal conversation is not necessarily a weakness of Dalux implementation. Instead, it reflects that different situations require different kinds of communication. When information is connected to a specific task, however, Dalux should be used as the main communication method since it enables traceability and shared access. However, when issues are urgent, unclear, or require discussion between several actors, more direct communication is still important. The findings suggest that Dalux Field does not replace face-to-face or verbal communication. Instead, it supports it by documenting decisions and making responsibilities clear afterward.

This can be understood through Media Richness Theory since communication methods can differ in their ability to convey meaning and that more ambiguous or uncertain situations require richer media that allow feedback, contextual cues, varied language and personalisation (Daft & Lengel, 1986). Dalux can be seen as a relatively rich digital communication tool because tasks can include text, photos, locations, drawings, deadlines, responsible people, and status updates. This provides more contextual information than traditional written communication alone. By connecting information to a specific place or issue it reduces uncertainty.

However, Dalux is less effective when communication needs quick discussion or interpretation. Several respondents explained that phone calls, meetings, and face-to-face conversations are still used for urgent and more complex issues with the result later documented in Dalux. This proves that Dalux works best once an issue is clear enough to become a task, deviation, or decision. Before that, richer communication is often needed to create a shared understanding. Digital tools in construction can support more visual, interactive and real-time communication between project actors (Disney et al. ,2024). In relation to Dalux Field this suggests that photos, drawings, locations and task updates can make digital communication richer by giving users more context than traditional written messages alone.

Dalux Field therefore appears most useful after clarification has already taken place, since the system allows decisions, responsibilities, and follow-up activities to become visible and traceable within the project. The findings therefore suggest that communication during production should be understood as a combination of verbal coordination and structured digital documentation, where different communication forms support different parts of the production process.

In this way, Dalux can help reduce fragmentation in information handling. BIM programs can reduce fragmentation by allowing information to be generated once and reused throughout the project lifecycle, while also supporting real-time information sharing and coordination between project participants (Inzerillo et al. 2023). The findings from the interviews indicate this in the production phase. When information is documented digitally and made accessible to several actors it becomes less dependent on repeated verbal explanations or individually collected documents. Dalux Field can therefore be seen as supporting a more integrated approach to production communication even if verbal clarification remains necessary when issues are complex and in need of verbal communications.

7.3 Onboarding, adoption and user differences

One thing that became noticeable during the interviews was how differently Dalux was used between individuals and subcontractors. Some respondents described the platform as something they worked with continuously throughout the production phase, while others only used certain functions when necessary or dependent on colleagues for support. Previous experience seemed to have a clear impact on this. Users who had worked with Dalux before generally appeared more comfortable navigating the system, while less experienced users often needed more time to understand how information, tasks, and notifications were organized within the platform. Differences in onboarding and digital experience therefore appeared to influence how naturally Dalux became integrated into everyday production work.

The findings suggest that onboarding plays an important role in how Dalux is perceived and integrated into everyday work routines. Several subcontractors explained that they often received only limited introduction to the system when entering a project and instead learned how to use Dalux gradually during ongoing production. In many cases, training appeared informal and based on support when issues arose rather than through a structured onboarding process from the start of the project. Similar observations are discussed by Park and Park (2020), who highlight that user experience and educational support strongly influence how digital systems are perceived and adopted within construction environments.

A similar pattern can be identified in this study. Respondents who already had previous experience with Dalux or similar systems generally appeared more comfortable navigating drawings, handling tasks, and communicating through the platform. Other users instead described uncertainty during the early stages of projects, particularly when trying to locate information, understand notifications, or interpret how documentation was structured. This reflects findings presented by El Masry and

Chronéer (2025), who argue that uneven digital maturity remains a significant challenge within Swedish construction production, especially in projects involving multiple organizations and subcontractors with different levels of digital experience.

The findings also indicate that onboarding affects how useful the system is perceived to be in practice. If subcontractors are uncertain about how to find information, respond to tasks, or manage notifications, Dalux risks being viewed as additional administrative work rather than as a tool that simplifies communication and coordination. From a Technology Acceptance perspective, this becomes particularly important since perceived usefulness and perceived ease of use are closely connected to how users are introduced to the system and whether the practical benefits become visible early in the implementation process. Park and Park (2020) similarly argue that digital adoption in construction is strongly influenced by whether users understand how systems support their everyday work tasks.

At the same time, the interviews revealed a relatively clear organizational dilemma connected to onboarding and support. Several subcontractors expressed a desire for faster and more structured introductions to Dalux when entering projects, particularly during early production stages where access to drawings and tasks becomes important immediately. However, respondents from Peab also described that production teams often experience high workloads and limited time during ongoing projects, making it difficult to prioritize onboarding and continuous support for subcontractors. As a result, assistance often becomes reactive rather than planned, where users receive help only after problems or misunderstandings already occur.

This creates an important contradiction within the findings. On the one hand, subcontractors are expected to actively use Dalux as part of communication, documentation, and coordination during production. On the other hand, the organizational conditions required to create a shared understanding of the system are not always fully established in practice. The study therefore suggests that digital information structuring depends not only on access to the technical platform itself, but also on whether project organizations create sufficient conditions for users to understand how the system should be used in everyday production work.

The findings further suggest that Dalux is most effective when all intended actors use the system consistently throughout the project. If Peab uses the platform systematically while subcontractors only use it partly or inconsistently, communication risks becoming uneven between project participants. Information may then still need to be repeated through phone calls, meetings, or informal conversations outside the platform, which reduces some of the benefits of having a shared digital structure. In this sense, the communicative value of Dalux appears strongly connected to the collective adoption of the system rather than to individual use alone.

Several possible areas for improvement can therefore be identified from the findings. One option discussed during the study is the need for more dedicated support functions connected specifically to Dalux onboarding and implementation. Rather than relying entirely on already heavily loaded production staff, a dedicated support role focused on Dalux could potentially move between projects and assist subcontractors with onboarding, structure, and user support during critical production phases. Bosch-Sijtsema and Gluch (2021) similarly argue that successful digital implementation in construction often depends on organizational support structures that help maintain new working practices across projects.

At the same time, the findings also indicate that improvements do not necessarily require major organizational restructuring. Another possible approach could involve increasing the general level of Dalux competence within production teams so that support becomes more distributed between several actors in the organization. This could reduce dependence on single individuals while making onboarding more accessible as part of everyday production activities.

The study also identified a more practical and immediate improvement possibility through the development of simplified onboarding material for subcontractors. Since several respondents mainly struggled with a limited number of core functions, a shorter onboarding guide focusing on the most essential parts of Dalux could potentially improve the introduction process significantly. A concise two-page guide distributed during project registration could, for example, explain the most important functions related to drawings, tasks, communication, and issue handling. Such an approach would likely not replace practical support entirely, but it could reduce uncertainty during the early stages of system use and create a more consistent starting point between project participants.

Overall, the findings suggest that onboarding, organizational support, and differences in digital maturity strongly influence how Dalux is adopted and used within production communication. The study therefore indicates that successful digital information structuring depends not only on the technical platform itself, but also on whether project organizations create sufficient conditions for all actors to integrate the system into their daily work practices.

7.4 Organizational responsibility and system consistency

From the interviews it becomes apparent that the effectiveness of Dalux is not only based on the technical functionality of the system but also on how responsibilities and routines are organized within the project. Dalux provides a structured digital environment for communication and documentation, the empirical material shows that the practical value of the system depends heavily on whether information is managed consistently across actors and work packages.

An important observation from the interviews is that Dalux requires continuously active organizational management. Roles connected to administration, coordination and support become central for maintaining communication structures, assigning tasks and ensuring that information reaches the correct actors. This supports earlier research which emphasized that digital systems in construction should not be understood only as technical tools but as socio-technical systems shaped by organizational routines and coordination processes. This aligns with Gu and London (2010) and Sacks et al. (2020) who argue that the impact of BIM-related systems depends on how they become integrated into everyday work practices.

The findings further indicate that system consistency is closely connected to responsibility distribution. In projects where responsibilities for updating information, assigning tasks and following up issues are clearly defined, Dalux appears to support coordination more effectively. This is important since when responsibilities become unclear the quality of documentation and communication can become uneven. This is particularly important in temporary project organizations in construction where actors continuously enter and leave the production process. In such environments, continuity in information management depends on shared routines rather than individual experience alone.

The study also shows that there is a balance between standardization and project-level adaptation. Dalux uses predefined permission structures and standardized workflows, but projects still adapt the system depending on local conditions and practical needs. The ability to adapt the program is necessary in project-based construction environments where projects differ in size, organization and subcontractors. The findings also suggest that too much variation may create inconsistencies in communication and information handling. When responsibilities, permissions or routines are interpreted differently between projects or teams, the system risks functioning unevenly. Information may then become difficult to compare, follow up or retrieve in a consistent way.

This issue becomes particularly visible in relation to subcontractors. Several respondents describe that subcontractors often use Dalux differently depending on their previous experience, routines within the subcontractor's organization and level of onboarding. Some integrate the system into their daily work and others continue relying partly on verbal communication or parallel routines outside the platform. This creates situations where the formal communication structure in Dalux coexists with informal communication channels on site. From a Knowledge Transfer perspective, this reflects how digital systems alone cannot ensure that knowledge becomes shared or embedded in practice. The transfer of knowledge depends not only on access to information, but also on shared understanding and organizational context as stated by Kiessling et al. (2023).

The effectiveness of Dalux also appears to depend on certain key individuals within the project organization. Digital coordinators, administrators, and experienced users often act as intermediaries between the system and less experienced users, particularly subcontractors. While this support structure facilitates daily production work, it also creates a dependency on individual competence and engagement. In projects where such support is limited, maintaining consistent documentation and communication becomes more challenging. As a result, the support becomes temporary and person dependent, which can lead to inconsistencies.

Since construction projects are temporary and involve continuously changing project constellations routines that rely heavily on specific individuals may also be difficult to sustain over time. When experienced users leave the project or new subcontractors enter production, parts of the practical knowledge connected to the system risk being weakened or lost. The effectiveness of the digital workflow therefore depends not only on the technical system itself but also on whether knowledge and routines are collectively embedded within the project organization. The findings therefore suggest that digital implementation in construction should not be understood as a purely technical process, since the effectiveness of the system remains highly dependent on organizational competence and user support.

7.5 Implications for communication and knowledge transfer in construction projects

The findings of this study suggest that digital information structuring can support communication processes between main contractors and subcontractors by creating clearer access to project information, improving traceability, and connecting communication directly to tasks, drawings, and responsibilities during production. Through Dalux Field, information that was previously spread across paper drawings, verbal discussions, emails, or separate document flows can instead be gathered within a shared digital environment. This appears to strengthen coordination between project actors by making updates, deviations, inspections, and responsibilities easier to follow and revisit throughout the project. Sacks et al. (2020) describe similar developments in construction production, where integrated digital environments increasingly function as platforms for both information management and coordination between project actors. The findings from this study therefore suggest that digital information structuring supports communication not only by increasing information availability, but also by creating more transparent and structured communication processes during ongoing production work.
The findings also show that digital systems alone do not eliminate the need for verbal coordination during production. Instead, Dalux appears most effective when structured digital documentation complements existing communication practices on site.

The findings also indicate that communication during production continues to move between several parallel channels depending on the situation and the users involved. Differences in digital experience and system usage between project participants further influence how consistently information is handled and followed up throughout the project.

The study also shows that Dalux is primarily used as a shared platform for drawings, task management, inspections, deviations, and project documentation. By linking communication to locations, tasks, and responsibilities, the system appears to improve traceability and reduce some of the uncertainty that traditionally characterizes communication during construction production. At the same time, the findings indicate that the value of the system depends strongly on how information is structured and maintained throughout the project. When project structures are clear and users understand how the platform should be used, Dalux appears to support coordination more effectively. Where routines are inconsistent or onboarding is limited, communication instead risks becoming fragmented despite the existence of a shared digital system.

A particularly important finding concerns the role of onboarding and organizational support during implementation. Several respondents described limited time for structured onboarding despite subcontractors expressing a need for clearer introduction and support when entering projects. As a result, learning often became informal and based on solving problems during ongoing production instead of through planned introduction processes. El Masry and Chronéer (2025) describe similar challenges in Swedish construction projects, where differences in digital maturity and organizational conditions continue to influence how consistently digital systems are adopted between actors and projects. The findings therefore suggest that successful digital communication structures depend not only on technical implementation, but also on organizational conditions that support consistent system usage between project actors.

The study further indicates that digital communication structures are highly dependent on collective adoption within the project organization. Dalux appears to create the greatest communicative value when all intended actors use the platform consistently throughout production. If usage differs significantly between project participants, communication risks becoming uneven and information may still need to be repeated through verbal coordination or parallel communication channels outside the system. In this sense, the effectiveness of digital information structuring seems closely connected to organizational conditions, user behavior, and everyday working practices rather than to the technical platform alone.

Overall, the findings suggest that digital information structuring can support communication processes between main contractors and subcontractors by improving accessibility, coordination, traceability, and continuity of project-related information during production. However, the study also demonstrates that digital systems should not be viewed as isolated technical solutions capable of replacing existing communication practices. Instead, communication in construction production appears closely shaped by organizational routines, project structures, and the interaction between digital tools and human collaboration. Bosch-Sijtsema and Gluch (2021) similarly argue that digital implementation in construction should be understood from a socio-technical perspective, where organizational practices and working routines remain central for how digital systems function in practice.

8 Conclusion

8.1 Overall Conclusions

This Master's thesis has been made with aim of researching how digital information structuring supports communication processes between main contractors and subcontractors during the production phase of construction projects. This has been done with particular focus Dalux Field within projects at Peab. This thesis has proven that digital systems increasingly function as central communication environments during production by structuring drawings, tasks, inspections, deviations, and project-related documentation within a shared platform. Rather than replacing existing communication practices Dalux appears to support coordination by improving accessibility, traceability, and visibility of information between project actors.

The thesis has also shown that the value of communication in digital systems depends on how they are implemented and integrated into everyday production practices. The findings suggest that digital communication structures do not function independently of organizational routines, onboarding processes, or user competence. Communication quality appears strongly influenced by whether project actors share a common understanding of how information is structured, documented, and followed up within the system. The study therefore indicates that successful digital implementation in construction should be understood as both a technological and organizational process.

One of the clearest findings is the relationship between digital and verbal communication during production. Dalux Field does not completely replace the need for direct interaction between project actors. Instead, communication in construction production appears increasingly hybrid, where verbal communication is used for clarification, coordination, and interpretation, while digital systems support documentation, traceability, and follow-up. The findings therefore suggest that digital communication tools function most effectively when combined with existing communication practices rather than replacing them entirely.

The thesis has also highlighted the significant differences in adoption and usage between actors. Subcontractors with previous experience of Dalux generally appeared more comfortable integrating the system into daily work routines. Less experienced users instead often depend on informal support and gradual learning during production. Onboarding and organizational support therefore become important factors influencing whether Dalux is perceived as a helpful communication tool or as an additional administrative burden. The findings therefore suggest that uneven digital maturity among project actors continues to be a challenge of digitalization in production.

Another important conclusion is that digital communication structures remain dependent on organizational consistency and user support. The effectiveness of Dalux seems to be closely connected to clearly defined responsibilities, shared routines, and active system management within projects. The thesis indicates that digital workflows often rely heavily on certain key individuals, such as coordinators and experienced users who can support less experienced actors during production. Since construction projects are temporary and involve continuously changing project constellations these people's dependency may create challenges for continuity in communication and knowledge transfer over time.

8.2 Answering the Research Questions

The study shows that digital information structuring supports communication between main contractors and subcontractors mainly by improving accessibility, traceability, and coordination of project-related information during production. Through Dalux Field, communication connected to drawings, tasks, inspections, and deviations can be gathered within a shared digital environment, creating clearer information flows and improved follow-up between project actors.

At the same time, the findings demonstrate that communication challenges in construction production are not solved through digital systems alone. Verbal coordination, meetings, and direct interaction remain important parts of daily production work, particularly in urgent or more complex situations. Differences in onboarding, digital experience, and system usage also influence how consistently communication functions between project participants.

The study further shows that Dalux is mainly used for production-related documentation, task management, inspections, and coordination between actors. However, its effectiveness depends strongly on organizational routines, onboarding, and whether all intended users integrate the platform into their daily work practices. Overall, the findings suggest that digital communication structures function most effectively when digital systems and existing working routines support each other throughout production.

8.3 Future Research

Digitalization is in constant development, especially within the construction industry. The subject of this master's thesis is therefore not only relevant today but will likely become increasingly important as construction projects continue integrating digital systems into production processes and communication structures. Future research in this subject will therefore continue to be relevant as digital tools and other BIM-related systems and methods become more integrated into the construction sector. This is certainly true for Dalux which this thesis has researched with focus on production.

To further develop the understanding of Dalux and similar digital tools in construction, future research should examine their use beyond the production phase. A relevant area for future research is to investigate how Dalux or similar digital systems can be transferred from contractor to client after the project's completion. This includes how documentation, service information, maintenance instructions, and operational data can be transferred more effectively to the client through digital platforms. Dalux currently has a module for this function although it is limited. Future studies can therefore research how the digital handover process from contractor to client can be improved to create a more effective transition between production and facility management.

Another area for future research is to investigate how digital systems such as Dalux can support internal handover processes between different departments within Peab after project completion. One example is the transition between Peab Bygg and Peab Garanti. Project information and documentation need to be reorganized or recreated after the production phase before handover to Peab Garanti. Future studies could examine how Dalux can be improved to ease the transfer of information between production and warranty management to create a more efficient and continuous handover process within Peab.

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10 Appendix

QUICK GUIDE DALUX FOR SC

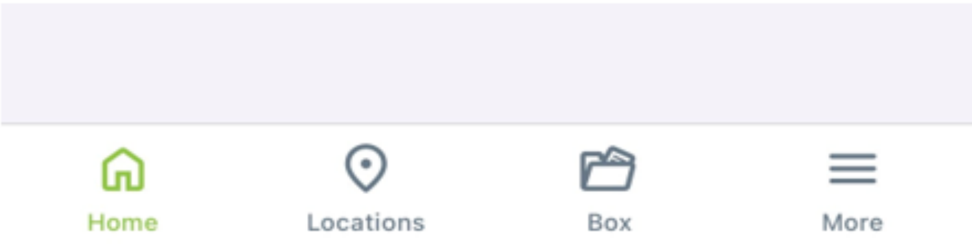
Botaniska Trädgården

Dalux is used in the project for drawings, documents and production follow-up. Here are the most common functions to get you started quickly.

- GOOD TO THINK ABOUT
- Always start from Home
- Use Locations for visualization
- Use Box for documents and drawings
- Use Field for production follow-up

1 HOME – YOUR HOMEPAGE

Home provides a quick overview of the project's most important features and is your home page when you log in to the app.



→ Start here when you open Dalux

→ See details and latest information

→ Navigate between modules in the bottom menu

2 LOCATIONS

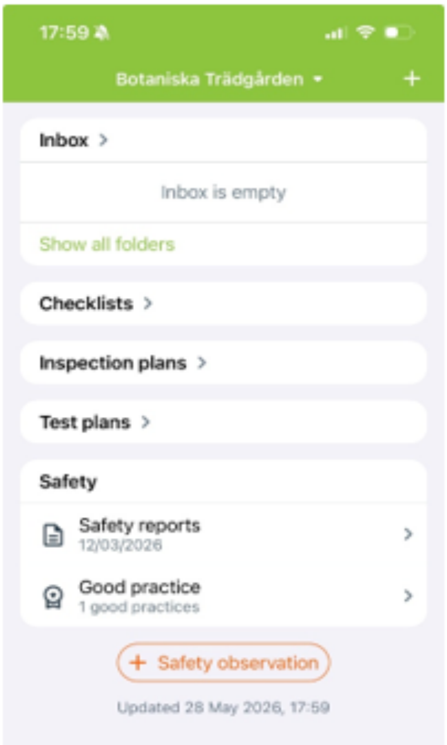
Here you can orient yourself in drawings and 3D models.

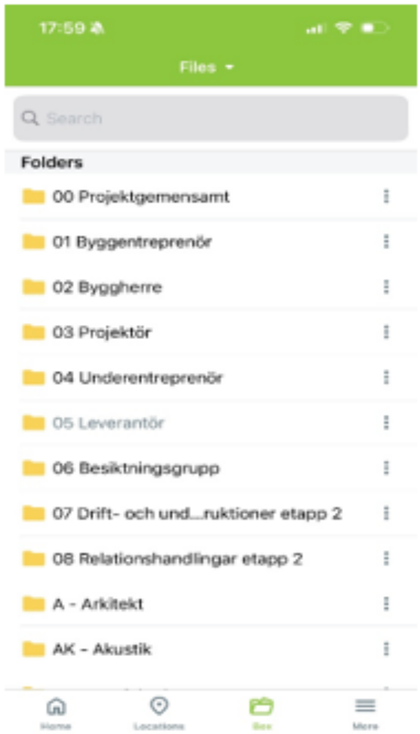
3 FIELD

This is where tasks, controls and follow-up are handled.

4 BOX

Here you will find the project's drawings, documents and records.





→ Find the right drawing or model

→ Filter information by floor

→ See tasks and notes

→ Register cases, deviations and self-checks

→ Filter by professional group

→ Filter document type

QUICK GUIDE DALUX FOR SC

Botaniska Trädgården PEAB

Here's how to work with tasks in Dalux Field on your mobile phone - from creating a new task on the drawing to viewing and managing existing tasks.

- GOOD TO THINK ABOUT
- Always starts from Locations
- Check that you are in the correct place in the drawing
- Choose the right type of task
- Fill in all the information requested

1 CHOOSE THE RIGHT PLACE – CREATE TASK

Navigate to the correct drawing or model and select where the task applies. Press "+ New registration".

→ Open Locations

→ Choose drawing or model

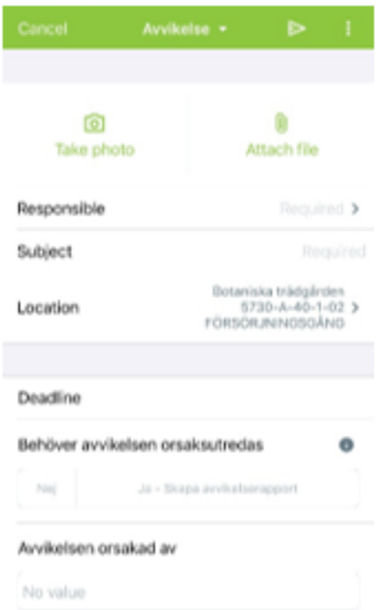
→ Press + New registration

2 SELECT TYPE OF TASK

Choose the type of task you want to create.

3 FILL IN THE INFORMATION

Fill in all required fields and attach files if necessary.



→ Fill in the person

→ Check location

→ Set Deadline

→ Describe the task

→ Take photos and attach files

4 SEE EXISTING TASKS

Filter on tasks to see all those that are in the drawing.

→ Select tasks from the menu

→ Selected task type is displayed on the drawing

→ The list shows all data on the selected drawing.

5 MANAGE TASK

Select a task to see information, add information or approve it.

→ Select a task on the drawing or in the list

→ See all information about the task

→ Complete, clarify or assign

→ Add information, approve or assign the task

More guides and videos can be found at support.dalux.com

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