CHANGE MANAGEMENT IN IT PROJECTS

UNIVERSITY OF
OXFORD

Saïd
Business
School

Contents

1. Executive summary

Some estimates put the annual investment in IT change at more than USD 1.2 trillion. Nearly all IT projects introduce new information technologies to organisations, which affect products, business processes, sales channels and supply chains. Organisational change is required to integrate and exploit investments in new technologies through changing organisational capabilities, business models, operational processes and user experiences.

Our study began with a systematic review of nearly 2,000 academic articles and conference papers. We also studied more than 100 frameworks for change management, which we found in books and other publications such as consulting reports.

We condensed this significant body of knowledge into the critical levers for managing organisational change in IT projects. We then held workshops with change practitioners to validate these levers before we went on to study 155 projects in depth.

The seven levers we investigated were:

1. Have a clear vision for change

2. Have a defined approach to change

3. Establish trust-based relationships

4. Provide effective training

5. Communicate effectively

6. Transfer ownership of change to management

7. Involve users at an early stage

Our analysis found that of the seven levers, only four are statistically significantly associated with transformation success:

· Effective communication (p <0.001)

· Trust-based relationships (p <0.001)

· Management ownership (p = 0.040)

· Effective training (p = 0.003)

Three levers were not statistically significantly associated with the success of digital transformations:

· Defined change approach (p = 0.072)

· Clear vision (p = 0.159)

· Early user involvement (p = 0.909)

Contribution of the seven levers to the success of the transformation

Increasing transformation success
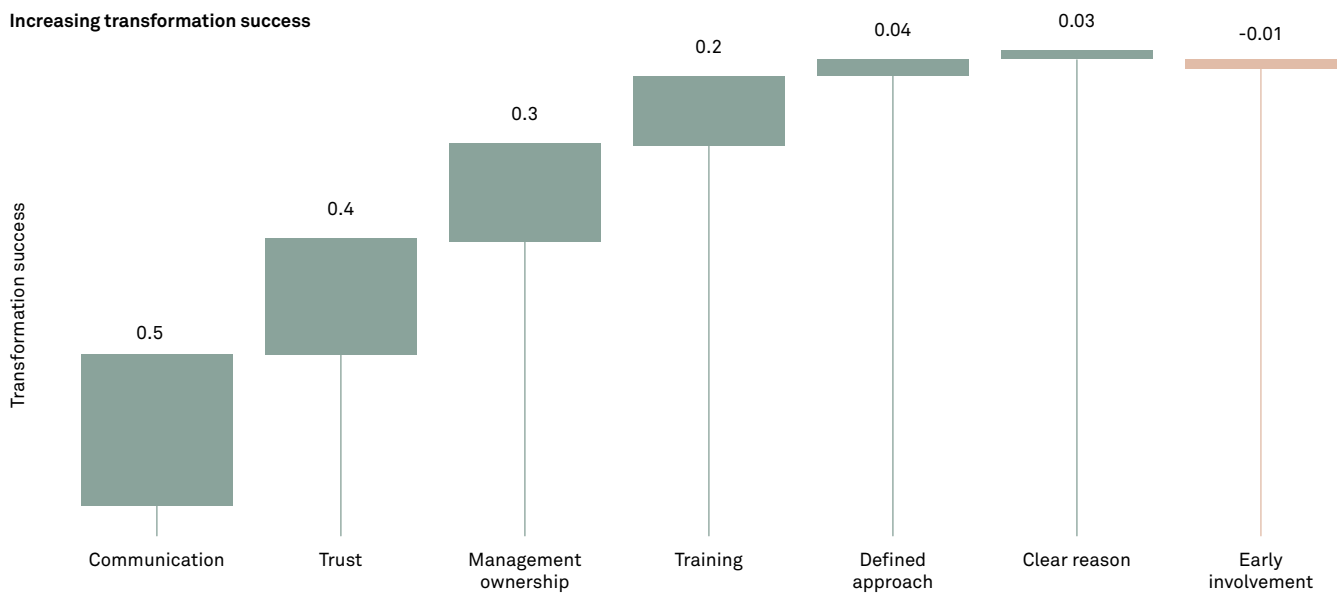
2. Introduction

2.1 Research background

As change management professionals working in IT project, we have often thought about gaining more knowledge and insight into pursuing an even better and more effective way of helping individuals and organisations change.

As seasoned change experts, we do what we know works. During our careers, we have accumulated this knowledge. We all began as novice change leaders, and we started by following the rules. We found those rules in the many frameworks and books on change, e.g. Kotter's eight steps, ADKAR and ACMP.

As our experience accumulated, we began to bend those rules, we learnt in what situations these rules apply, and when they do not. At some point in our careers, we became aware of some higher order rules that shape the context and the conditions of the change. We began identifying our first principles for change. Those first principles allowed us to quickly tailor our change approach to the specific transformation at hand.

Now, we are expert change professionals. Our intuition guides us in recognising patterns that tell us what to do and rules of thumb that tell us how to do this. Some of these patterns we have seen so often, and some of these rules we have applied so frequently that we could not even say what they are anymore. We tend to do what works.

Our journey is the journey of every expert in every field[1]. However, when experts get these patterns wrong or use outdated rules, disaster strikes. Thus, we decided to develop a data-based understanding of what works and what does not. We wanted to challenge traditional beliefs and put numbers behind our ideas and approaches to ensure maximum impact in our change management efforts.

Therefore, Implement Consulting Group and the University of Oxford set out to conduct a research study based on a proven and reliable methodology. We collected an extensive amount of data from a broad variety of IT projects to test the collective body of knowledge surrounding change management as a professional discipline.

To build on our knowledge and experience, we analysed almost 2,000 academic articles, reviewed popular frameworks and models and studied the current trends in change management.

---

[1] Dreyfus, Stuart E. "The five-stage model of adult skill acquisition." Bulletin of science, technology & society 24, no. 3 (2004): 177-181.

Our literature search went back to 1939. Here Elliott Dunlap Smith published the earliest book which we found on how to integrate and exploit novel technologies. Smith studied textile mills on the East Coast of the United States. He found that the textile mills that survived the Great Depression and that were able "to do more with less" were the ones that successfully implemented a revolutionary new technology to manage multiple looms at the same time. He observed that the change projects that did not end in walkouts, strikes or bankruptcy were the ones where management listened to the workers and actively engaged in a dialogue-based consultation about the technological change that was about to happen. What rings true in the 1930s is still true today.

After our literature search, we used a series of workshops with change practitioners and academics to extract and validate the seven key levers for successful change management.

Indeed, most professionals will, in some way, recognise and appreciate this list of influencing factors. As part of this research, we also studied key frameworks and models. Some theories or models will emphasise some aspects over others, and some models apply a sequence to these factors, but in broad terms, thinkers and practitioners of change agree that these seven levers are essential.

We have collected data from more than 155 IT projects through interviews and reviews of documentary evidence. We spent more than 210 hours alone on interviewing projects. Based on these data, we tested the seven levers and their importance for delivering successful change through IT projects.

This report will provide you with an in-depth walkthrough of our data and the conclusions from each of the seven areas. We hope that you will find it as exciting as we do.

2.2 The seven levers

In the below, we briefly describe each of the seven levers, which we have identified as the most commonly agreed factors influencing project success.

1. Having a defined approach to change

Scholars and practitioners alike emphasise the importance of managing change through a structured approach or methodology. Nearly all models and theories rely on some form of linear or cyclical process to explain the different steps necessary to affect change.

Overall, we found four types of models:

1. Process models – for example Lewin's 3-step model of unfreezing, moving, refreezing or Kotter's famous eight steps

2. Cyclical models of the Plan-Do-Check-Act variety, e.g. ACMP's standard for change management

3. Gap analysis models, e.g. Beckhard and Harris' model of change

4. Systems of systems models that identify and locate change within an organisation, e.g. Burke and Litwin's model of change or Weisbord's six-box model

A tiny minority of models, which receive increasing attention in change practice, focus on the non-linear and non-rational nature of change. All these models – even the non-linear ones – suggest frameworks to manage change, even if the structure is not linear.

2. Having a clear vision for change

Having defined the "WHY" behind the change is often cited as a critical factor in achieving success. The first step, according to most models, is to define a clear vision for success. The "WHY" can then be described as the need to change the current situation or as a vision of a future state – or a combination of the two. The insight from previous research is that a clear reason and vision for change allow leaders of the organisation to "sell" the change, create commitment to the change and overcome resistance to change.

3. Establishing trust-based relationships

Successful organisational change requires that the project, which brings about the change, has trusting relationships with its stakeholders and the end users affected by the change. Previous research has found that relational trust is a concept that encapsulates expectations about how the change is received in the organisation as well as the current state of the hearts and minds of the members of an organisation. Erosion of trust creates vicious circles that quickly destroy any change effort.

4. Providing effective training

The need for training is a frequently identified lever of the success of change and transformations. Training is vital for users to learn about new technologies, learn new behaviour and unlearn old behaviour, build capabilities and build confidence. Therefore, delivering an effective training programme fitting the needs of the end users is an essential parameter in achieving success.

5. Communicating effectively

To be able to send critical messages and distribute information is widely acknowledged as one of the core components of any change management effort. The psychology behind change communication and resistance to change is one of the best-researched areas in change management. In short, effective communication is thought to affect employees' attitude towards the change – i.e. commitment or resistance – and to create the behavioural intentions that make change stick. Communication is also essential in (re)-defining changing organisational identities that deal with negative emotions and anxiety about the change and build trust. Thus, focus on effective, dialogue-based communication is part of all theories and models that we have studied.

6. Transferring ownership of the change to management

Management plays a vital role in the success of transformations. Models, which conceptualise change management as a top-down process, start with top management setting a vision, providing focus, communicating the change and starting the programmatic process of change. Nearly all models speak to the importance of managers creating an environment of success for change initiatives: providing funds, resources and general support, kick-starting the analysis of what needs to change, governing the process of finding and shaping solutions and establishing rewards and incentives for change. Research has also found that management is crucial to role model behavioural and cultural change. Most research and models focus on the role of top management; however, previous research has also found an essential part of middle management as a multiplicator in change initiatives.
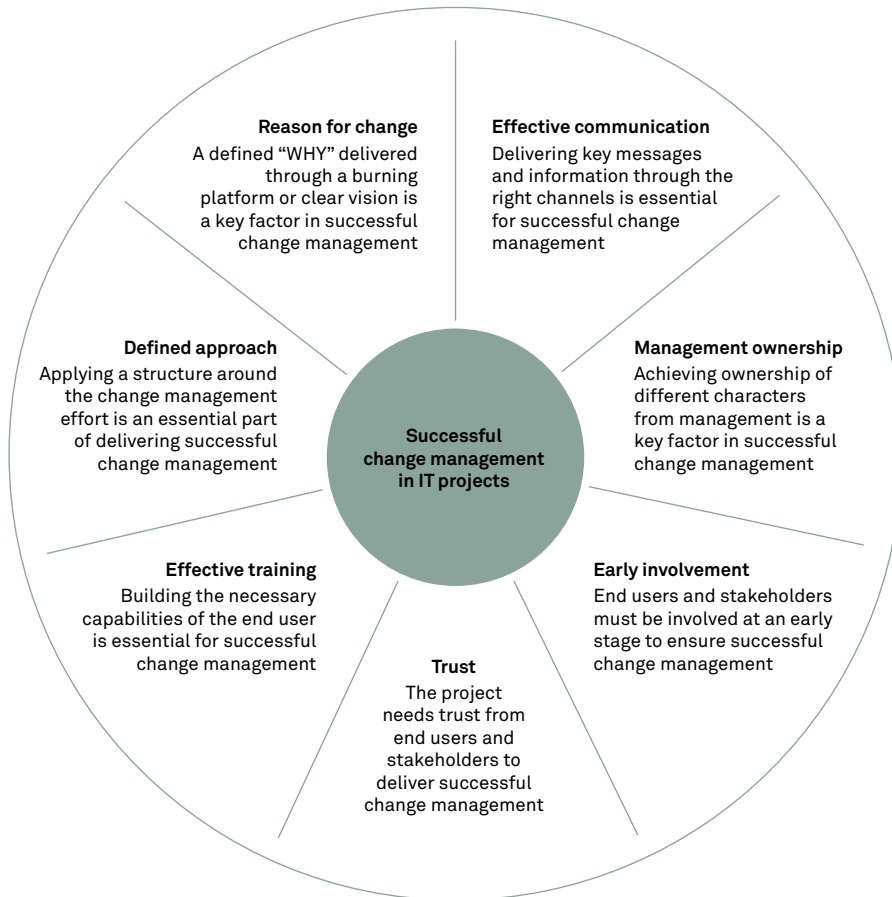
Therefore, we have examined how the various management layers influence the success rate of change.

7. Involving users at an early stage

The idea that employees need to be involved in any change effort is not new. During the 1950s, research showed that problem analysis and shaping of solutions need to include the end users affected by the change. Previous research has shown that user involvement increases the success as well as the commitment to change. IT-led change projects involve users in various ways, and with the proliferation of Agile and Design Thinking approaches, involvement as early as possible has become a broadly accepted lever of success.

Reason for change
A defined "WHY" delivered through a burning platform or clear vision is a key factor in successful change management

Effective communication
Delivering key messages and information through the right channels is essential for successful change management

Defined approach
Applying a structure around the change management effort is an essential part of delivering successful change management

Successful change management in IT projects

Management ownership
Achieving ownership of different characters from management is a key factor in successful change management

Effective training
Building the necessary capabilities of the end user is essential for successful change management

Early involvement
End users and stakeholders must be involved at an early stage to ensure successful change management

Trust
The project needs trust from end users and stakeholders to deliver successful change management

2.3 Data

The report combines both quantitative and qualitative data collected from 155 interviews. 33% of the projects came from the public sector and 67% of the projects from the private sector. On average, the projects took 1.6 years to complete, ranging from 2 months to 5 years.

The projects cover a broad range of organisations such as banks, universities, municipalities, hospitals all included projects met the following three criteria:

1. The project was finished at least three months ago.

2. The project included an IT component, i.e. a new IT system or platform.

3. The project must entail a real change for the end users, i.e. new ways of working.

Researchers from the University of Oxford and Implement Consulting Group carried out the in-depth interviews during the years 2017-2018. In our study, we interviewed project and programme managers, change managers and project owners. We spent nearly 210 hours on interviewing projects.

2.4 Definition of success

In this report, we investigate the success and failure of IT-led change projects. However, success is not an unproblematic measure. Therefore, we took multiple perspectives to capture the many dimensions of success. We looked at the summative judgements of success by sponsors, end users, front-line managers and project managers. We also looked at the level of satisfaction with the project and the satisfaction of end users.

We also looked at the level of satisfaction with the project and the satisfaction of the end users in regards to the how well the inteded impact was achieved and the degree of users' adaption of the new system and processes.

When we analysed the various success measures, we found that they combine into two dimensions: (1) project management success and (2) digital transformation success.

Firstly, meeting the triple constraints set out in the (in)-famous iron triangle provides a measure for project management success. A project has been a project management success if it delivers on budget, time and scope.

Secondly, additional measures characterise digital transformation success. These measures comprise the quality of the solution, which can be measured by the degree of user adoption of the new system and new processes as well as user satisfaction; the satisfaction of the users with the change project; and the level of impact achieved as well as whether the change delivered the planned benefits.

In this report, we focus on digital transformation success, not project management success. Our analysis found that with one exception of having a structured approach, the seven levers do not drive project management success.

2.5 The structure of this report

The next section we first test which of the seven levers are essential levers for the success of digital transformations and IT-led change. Each following chapter introduces one of the levers in more depth and shares the most exciting findings from our research. Each section will be rounded off with recommendations for practitioners on how to apply the conclusions in everyday practice going forward. Finally, the report will end off with an overall conclusion.
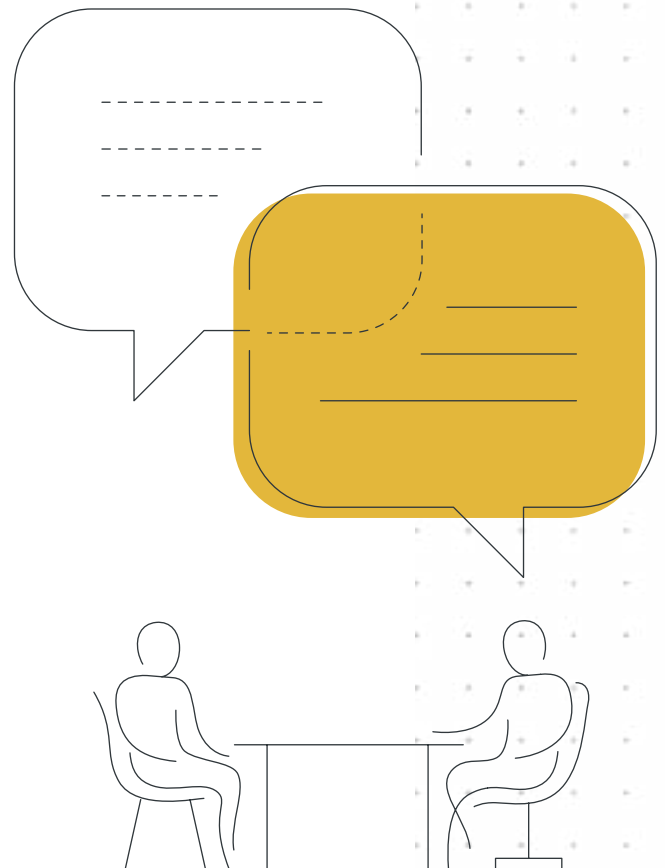
3. Testing the seven levers of change management

3.1 The seven levers for success

Through the literature review and a workshop series with change experts, we have identified the following as the most commonly agreed levers influencing success in IT-led change projects:

1. Having a defined approach to change

2. Having a clear vision for change

3. Establishing trust-based relationships

4. Providing effective training

5. Communicating effectively

6. Transferring ownership of change to management

7. Involving users at an early stage

3.2 Testing the seven levers of success

All seven levers have positive correlations with the success of the digital transformation. However, some associations are stronger than others, and the seven levers are also associated with each other.

For example, effective communication is linked to trust-based relationships, having a clear vision for change and having a structured approach to managing the change. In this case, having trusted relationships increases the effectiveness of communication and vice versa: effective communication increases the level of trust in relationships with users and stakeholders. The question we are interested in is whether effective communication is important above and beyond having trusted relationships. To do so, we created the model shown in figure 3.

Figure 3: The model of the seven levers we analysed

3.3 Findings

We tested the model to explain the success of the digital transformation. To our surprise, only four of the seven levers were important.

The key findings of the model are:

• Levers statistically significantly associated with the success of digital transformations (ordered by importance):

  · Trust-based relationships (p <0.001)

  · Effective communication (p <0.001)

  · Effective training (p = 0.003)

  · Management ownership (p = 0.040)

• Levers not statistically significantly associated with the success of digital transformations:

  · Defined change approach (p = 0.072)

  · Clear vision (p = 0.159)

  · Early user involvement (p = 0.909)

The model results indicate that not all of the seven factors found in the literature are statistically significant.

Firstly, successful digital transformations require management to take active ownership. Secondly, success requires trusted relationships between the project and its stakeholders and end users. Thirdly, nearly all the transformations which we studied trained the users who needed to change their ways of working or interacting with an organisation. However, the effectiveness of training varies widely. The model shows that users indeed need to learn about the changes in the organisation. Fourthly, success requires effective communication.

Surprisingly, three commonly assumed levers are not statistically significant for the success of digital transformations. These levers are (1) having a defined approach to managing change, (2) having a clear reason for the change and (3) early involvement of end users.

Figure 4: Results of testing the model: Only four of the seven levers are statistically significantly associated with the success of digital transformations. These four are trust-based relationships, effective training, effective communication and management ownership. The graph shows the standardised estimate of the effect (the mean estimate is shown as a point. The error bars show the 95% confidence interval of the estimate. The analysis does not find a significant effect for those factors that included 0 (i.e. no effect) in the 95% confidence interval.
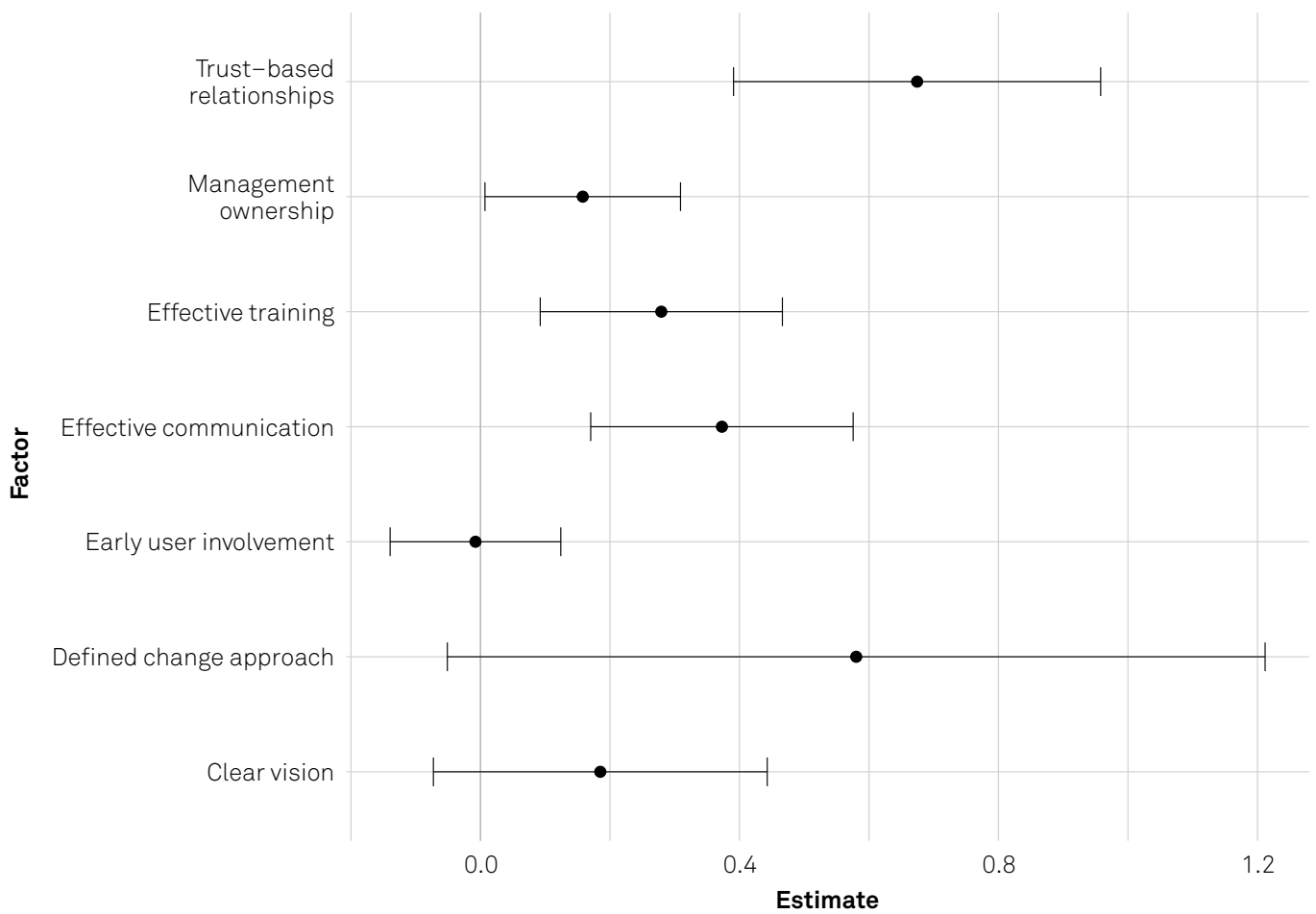
4. A clear vision for change

4.1 Introduction

Most models and frameworks start with the question: "Why change?". The answer defines the purpose and vision of the change initiative.

A common purpose of the change is needed to form a guiding coalition among top management and get the employees impacted by the change to buy into the endeavour.

The commonly accepted wisdom is that the vision for change needs to be underpinned by a reason for change. If the end users understand the reason behind the change, they will commit to the change and lower resistance, which leads to successful change outcomes.

Famously, John Kotter argued that there are two archetypes of reasons for change: the "burning platform" and the "pot of gold," i.e. an appealing vision of the future.

Therefore, we found it essential to ask whether a reason for change is at all critical to project success? Based on this, we asked a series of follow-up questions:

• Is having defined benefits in the project influencing change success?

• What approach is more beneficial, a burning platform or clear vision?

• Is user understanding influential in project success?

4.2 Key findings

In our study, we found no statistical evidence that a clear vision is a lever of success. To unpack the reason why this commonly accepted lever did not contribute to transformation success, we asked further questions:

• Was the vision appealing?

• Was the reason defined as a burning platform?

• Was the initial attitude towards the project positive?

• Was the initial attitude towards the change positive?

• Were benefits defined at the outset?

• Were benefits managed throughout the project?

• Did the end users understand the reason for the change?

Figure 5: Burning platform or clear vision of the future? The data say "both".
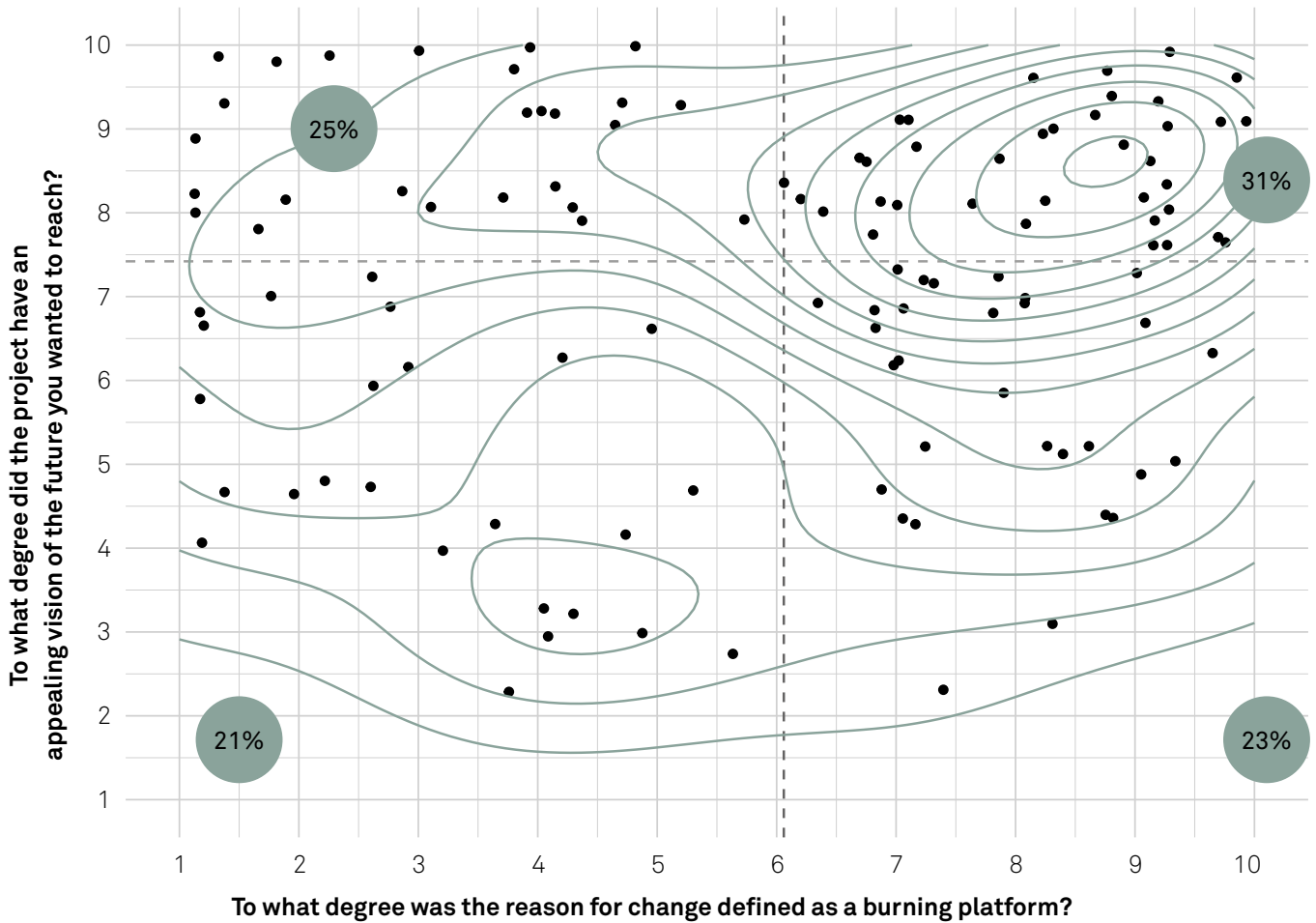
4.2.1 It's not burning platform OR clear vision – it's AND

Many guides on change communication tell us that two fundamental narratives exist that change leaders can tap into: the burning platform or the clear vision. In other words, the cliffhanger or the "pot of gold" story. The cliffhanger is the narrative that unless the organisation changes, the future is in peril. The "pot of gold" story paints a picture of a desirable future that we should all strive towards.
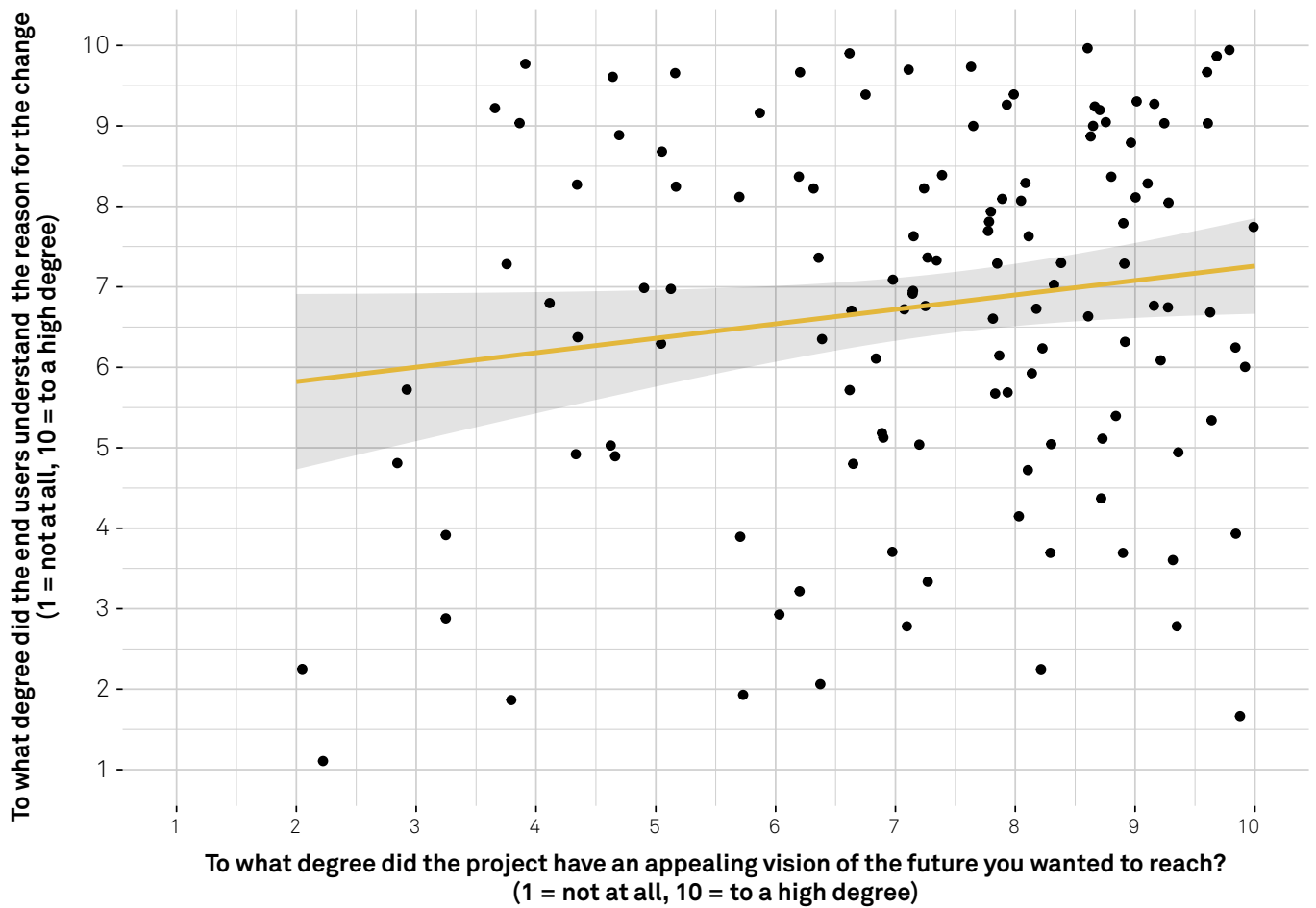
However, our data (see figure 5) show that it is not an either/or distinction. The reason for change tends to be defined as grounded in the burning platform and an appealing vision. Nearly half the projects (45%) described the rationale for change to a high degree as a burning platform and had to a high degree a clear vision; 39% of projects had a clear vision but not a burning platform, and only 9% of projects were to a high degree defined as a burning platform but did not have a clear vision.

4.2.2 Do we need an appealing vision to make end users understand the reason for change? Not really, the data say

The second piece of advice most frameworks tell us is that an appealing vision is necessary to get the end user to understand the reason for the change. This assertion does not hold up to our data (figure 6). Nearly one in three of the projects we studied (28%) did have an appealing vision defined, but end users failed to understand the reason for the change. 14% of projects

were able to get end users to under-
stand the rationale for change even
though they did not have an appealing
vision of the future.

Figure 6: Is an appealing vision needed to understand the reason for change?

**To what degree did the end users understand the reason for the change
(1 = not at all, 10 = to a high degree)**

**To what degree did the project have an appealing vision of the future you wanted to reach?
(1 = not at all, 10 = to a high degree)**

4.2.3 Understanding the influence of the project's reason for change

We further analysed the data and looked for more complex relationships. From the first scan of the data, we had some indication that the degree to which end users understand the reason for the change is associated with:

- Clarity of the vision for the future

- The appeal of the vision for the future

- The degree to which the reason was a burning platform

Understanding the reasons for change is linked to the end users' initial attitude towards the change and towards the project.

The data also indicated that clarity of vision is vital for benefits identification and management.

Finally, recent research has suggested that high-performing change initiatives are operating in a high trust environment, which makes a clear vision obsolete.

Our data support this hypothesis, which also explains why a clear vision is not a lever of transformation success.

The more complex analysis found that in terms of successful transformations, two things are essential:

1. Stakeholder trust: Identifying benefits helps build stakeholder trust. A clear vision of the future helps to identify benefits.

2. End-user trust, which is built by a positive attitude towards the change, which in turn is linked to an appealing vision of the future and end users understanding the reasons for change. Finally, the biggest lever

to make end users understand the reasons for change is the degree to which the "status quo" is described as a burning platform.

4.3 Recommendations

Our findings show that having a clear and appealing vision in its own is not a direct lever of success. What matters for success is what a project does with the vision.

Specifically, projects need to identify the benefits of the change. To do so, more clarity of the vision helps.

Projects also need to create a positive attitude towards the change. An appealing vision of the future and making end users understand the reasons for change create a positive attitude towards the change. In turn, a burning platform is the easiest way to understand the reason for the change.

Figure 6: Clarity of vision's influence on transformation success
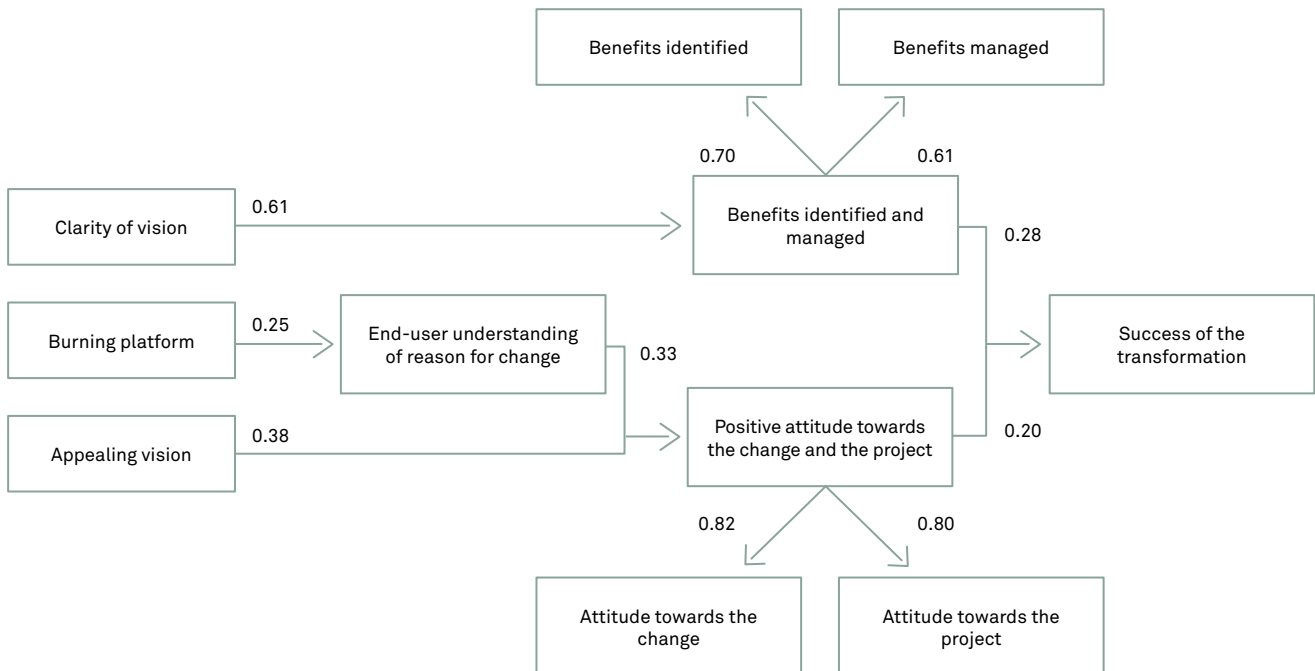
5. Defined approach to change

5.1 Introduction

The most frequent advice on how to manage change is to establish an approach to leading change at the outset of any project. Many different methods to achieve change exist.

The approach details the order and sequence of the change activities, while other methods provide focus and priority. The approach also provides framing to structure other activities such as training, communication, user involvement and engagement with top management.

Therefore, we found it necessary to analyse if a defined approach is vital for project success? We investigated a series of questions:

- What approach is the most effective?

- Is an emergent approach more effective than a planned approach?

- Are budget control and management satisfaction more easily acquired with a defined approach?

In our survey, we asked a variety of questions regarding the funding of the project, dedicated change budgets and dedicated resources for change. We also recorded the timing of the start and finish of change activities in the broader project.

5.2 Key findings

5.2.1 Change management starts at an early stage

Most of the projects we studied started their change effort at an early stage. One in five projects began their change efforts right from the start, one in three projects during the initial phase and nearly two out of three by the end of their planning phase.

However, our data did not show any differences in the degree of transformation success achieved by the projects depending on when they started their change activities. While small differences exist, they are not large enough to be statistically significantly different.

The data show that how well change activities are executed is more important than the timing of the start of the change activities.

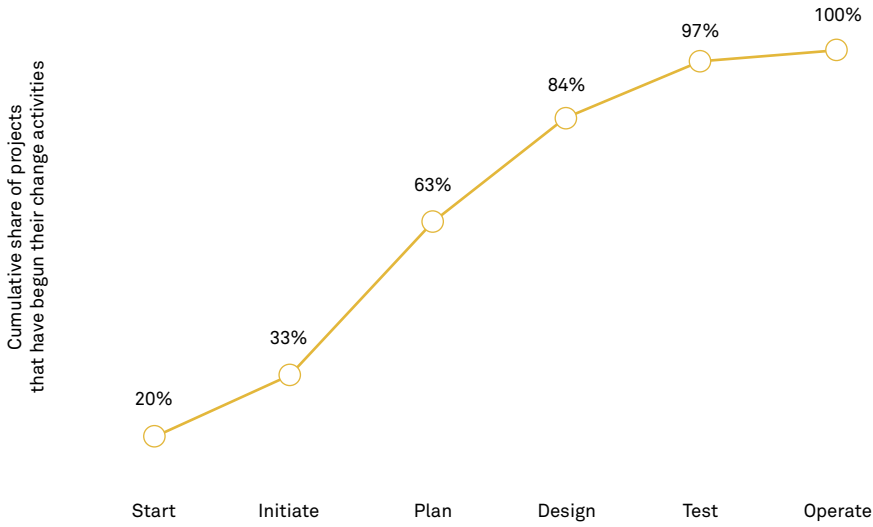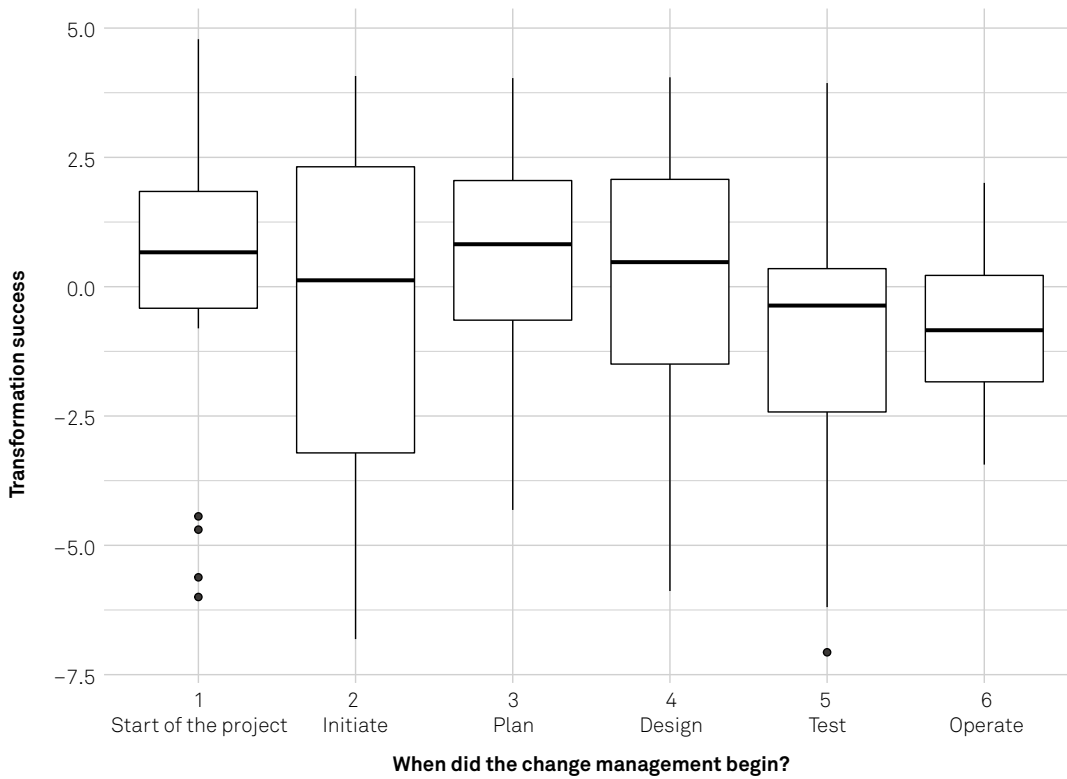Figure 8: When projects start their change management efforts

Cumulative share of projects that have begun their change activities

20% — Start
33% — Initiate
63% — Plan
84% — Design
97% — Test
100% — Operate

Figure 9: When projects start their change management efforts

Transformation success

When did the change management begin?

1 — Start of the project
2 — Initiate
3 — Plan
4 — Design
5 — Test
6 — Operate

5.2.2 Two in three projects had a defined approach to change and dedicated resources for change activities in place

Our data show that having a defined approach is not a statistically significant lever of success.

Firstly, most projects had a defined approach in place. Our data show that two out of three projects had a defined approach to change. Secondly, two out of three projects had dedicated resources to manage change, and one in two projects had a dedicated change budget.

There are no statistically significant direct effects on success of having change resources, a dedicated budget for change or a defined approach to change.

5.2.3 The majority of projects took a top-down type of approach to managing change

When asking about what kind of approach was defined, we received a variety of answers (see figure 10).

Most projects (54%) took a top-down approach to managing change. Typical answers to this question in this category were that projects followed a version of Kotter's eight steps or a conventional waterfall-style project management approach (e.g. PRINCE2).

17% of projects drove change through user involvement and engagement. Projects engaged through user groups and representatives that provided feedback or workshops and surveys with users.

11% of projects took an Agile approach, where the user representative is intimately involved in the sprints during the crafting of user stories and reviews of prototypes.

6% of projects followed a bottom-up approach. Typical approaches taken by these projects were Design Thinking (e.g. 4D), change agent approaches and approaches inspired by models of social work.

A similar share of projects (6%) approached change primarily through communication, and 3% of projects managed change through a focus on benefits realisation.

A small number of projects followed other approaches (e.g. social work approach to changing the behaviour of users, Balanced Scorecard view of managing impacts through the lenses of process change, financial results, capability building and user satisfaction, quality of IT systems approach).

There are no statistically significant differences in the degree of success achieved by any of the approaches. Agile, communication-centric, user-centric and top-down approaches all have similar levels of transformation success.

However, there is one notable exception; top-down approaches are statistically significantly more successful in terms of project management success, i.e. they have fewer overruns and underruns with regard to cost and schedule.

5.3 Defined approach necessary but not sufficient

The data show that transformation success is statistically significantly linked to the degree with which the projects followed their defined path to managing the change.

Working back from this finding, we were able to build a model that has some explanatory value for both the change success and the project management success in the data:

1. Having a defined approach to change in place increases the likelihood of having dedicated change resources in place.

Figure 10: **Which approach to managing change**
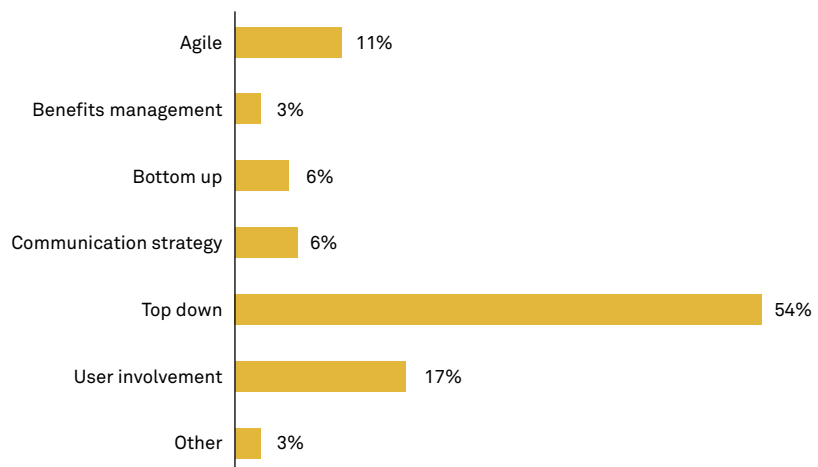
2. Having dedicated change resources in place increases the likelihood of having a dedicated budget for change in the project.

3. Having a dedicated budget for change increases the degree to which the project sticks to the defined approach to change.

4. Sticking to the defined change approach increases the chances of success.

At the same time, our model shows that taking a top-down approach is statistically significantly linked to project management success but not transformation success.

The type of approach taken does not influence any of the other factors in this model either. This means that bottom-up approaches are no more or less likely than top-down approaches to have a dedicated change budget and dedicated change resources, and projects are equally expected to stick to the defined approach.

What is surprising in our data is that it does not seem to matter what type of approach a project takes to manage change, and the specific method does not matter much after allocating budgets and resources. Once the project receives a budget and resources, consistently following the method is essential.

The factors which we studied but which had no effect on transformation success were the start, end and duration of the change activities and source of funding of the change, i.e. there was 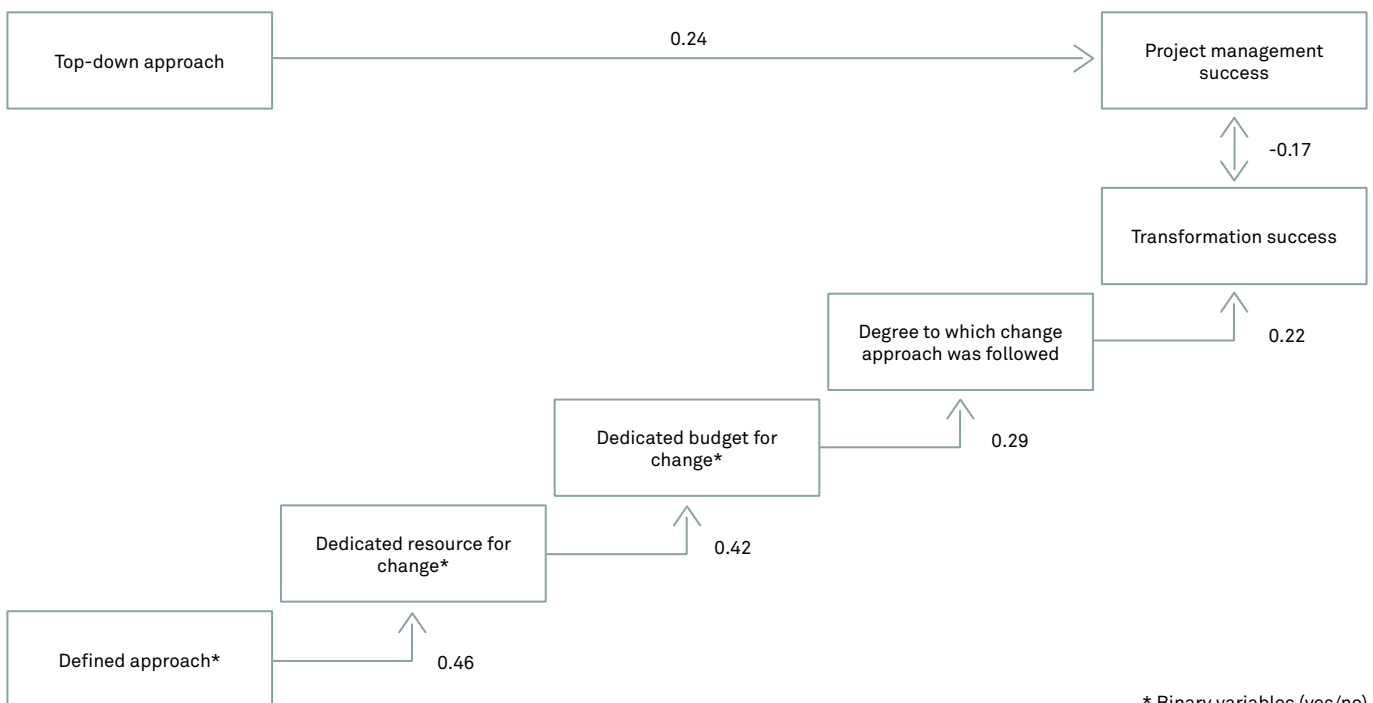no statistically significant difference between dedicated budgets for the change allocated to the project, the IT function or the line of business.

5.4 Recommendations

Our key findings were:

- Having a defined approach to change in place has no direct effect on success.

- Having a defined approach to change in place, however, has an indirect effect:

  · A defined approach helps put dedicated resources in place for change. The way we interpret these findings is that activity and resource planning require a defined approach to managing change.

Figure 11: **Which approach for managing change**

Top-down approach → 0.24 → Project management success

Project management success ↕ -0.17 Transformation success

Degree to which change approach was followed → 0.22 → Transformation success

Dedicated budget for change* → 0.29 → Degree to which change approach was followed

Dedicated resource for change* → 0.42 → Dedicated budget for change*

Defined approach* → 0.46 → Dedicated resource for change*

* Binary variables (yes/no)

· Having dedicated resources for managing change, in turn, increases the likelihood that the project also has a dedicated budget for the change.

· Having a dedicated budget for the change increases the probability that the project sticks to its defined approach to managing change.

· Which finally is statistically significantly increasing the chances of success of the transformation.

Our findings also highlighted that top-down approaches have a higher rate of project management success. They are more likely to deliver on time, budget and benefits.

The findings put a spotlight on a big problem when it comes to managing change: bottom-up approaches are more likely to have cost overruns and schedule delays, i.e. decreased project management success.

Top-down and bottom-up approaches are equally successful with regard to change impact, i.e. transformation success. The fit between the method and the context of the specific project determines the change outcome. Also, the better the method is put into practice and the more the project sticks to the method, the higher the likelihood of change success.

Therefore, our data suggest the following recommendations:

If your project needs to avoid cost overruns and delays, a top-down approach is more likely to succeed and stay in control of budgets and delivery dates.

For the highest chance of success, your project needs to stick to the chosen approach to managing change. Having dedicated budgets and dedicated resources increases the likelihood that a project adheres to its preferred method.

For projects to be able to dedicate resources and budgets to the change, a defined approach to the change is needed.

In short, having a defined approach in place is essential to secure and safeguard dedicated resources and budgets for change. On top of that, consistency is critical. Sticking to the change methodology is nearly always more important than what the change methodology is.

6. Establishing trust-based relationships

6.1 Introduction

Many frameworks, tools and methods described in change management literature highlight trust as a necessary foundation for any change. From the workshops which we have held with change and IT leaders, it was also apparent that creating trusting relationships was a key focus in their change efforts. This is why we in our research have set out to test if projects need trust to be perceived as successful.

However, what is trusting relationships, and how do you achieve these relationships? Even though Maister defines the components of trust between people in his bestselling book from 2000, The Trusted Advisor, it can still be quite an intangible subject. Especially when it is between projects and groups such as stakeholders and end users and not one person to another.

We found it essential to evaluate if trusting relationships with key stakeholders and end users are crucial for projects to be successful. We investigated a series of follow-up questions:

- What influence on success does trust (and lack of trust) have?

- What kind of projects are more trusted?

- What kind of actions generate trust towards a project?

The results from analysing the collected data are the focal point of this section and are wrapped up with recommendations for how practitioners should go about creating trust in their change efforts.

In our research, we test to see if trust truly is an essential lever of the perceived success of projects. We furthermore investigate if the components of trust in Maister's Trust Equation can explain how projects build trust with their key stakeholders and their end users.

The Trust Equation that Maister introduces in The Trusted Advisor is an attempt to synthesise the components of trust that he found present in his research of trust-building between people. The idea behind the Trust Equation is that you need trusting relationships to make people change and that trusting relationship can be put on a formula. The theory behind it stems from social psychology and posits that we trust people who are credible, reliable and with whom we share a feeling of intimacy. We also distrust self-orientated people. Put another way:

Credibility = "I can trust what she says about intellectual property; she's very credible on the subject."

Reliability = "If he says he'll deliver the product tomorrow, I trust him, because he's dependable."

Intimacy = "I can trust her with that information; she's never violated my confidentiality before, and she would never embarrass me."

Self-orientation = "I can't trust him on this deal – I don't think he cares enough about me; he's focused on what he gets out of it."

The quotient illustrates that you create trust through credibility, reliability and intimacy but destroy trust through self-orientation.

Figure 12: **Maister's Trust Equation**

To create trust between two people, you need to know what you are saying, deliver it when you promise to and do it with sincerity

$$\text{Trust Equation} = \frac{\text{Credibility} + \text{Reliability} + \text{Intimacy}}{\text{Self-orientation}}$$
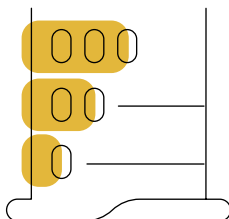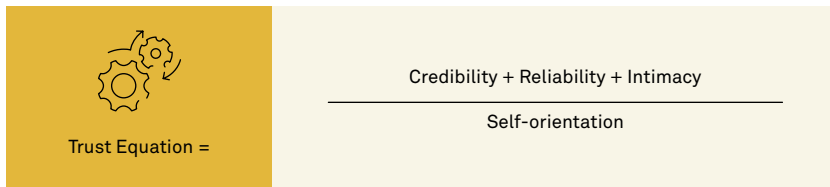
But don't think about what's in it for you!

6.2 Key findings

Based on our findings on trust, we can conclude that:

- Projects need to build trusting relationships with both stakeholders and end users to achieve transformation success.

- The Trust Equation helps understand how to build trust.

- Focus on shared goals (i.e. the opposite of self-orientation) and intimacy to build trust with stakeholders.

- Focus on credibility and intimacy to build trust with end users.

6.2.1 Projects need to build trusting relationships

The first conclusion we can draw is that trust is indeed a lever of transformation success of projects. The blue figure 13 showcases the relationship between transformation success of projects and trust, with transformation success on the y axis and trust on the x axis. The association is strongly positive, meaning that increased levels of trust result in higher perceived project success. The individual dots on the plots are the observed projects.

6.2.2 With whom to build trust?

The second conclusion we can draw is that it is vital for projects to build trust with key stakeholders as well as end users.

The figure to the right illustrates the relationship between the degree of trust with the project's end users (x axis) and the perceived success of the project (y axis). End users are the people impacted by the change.
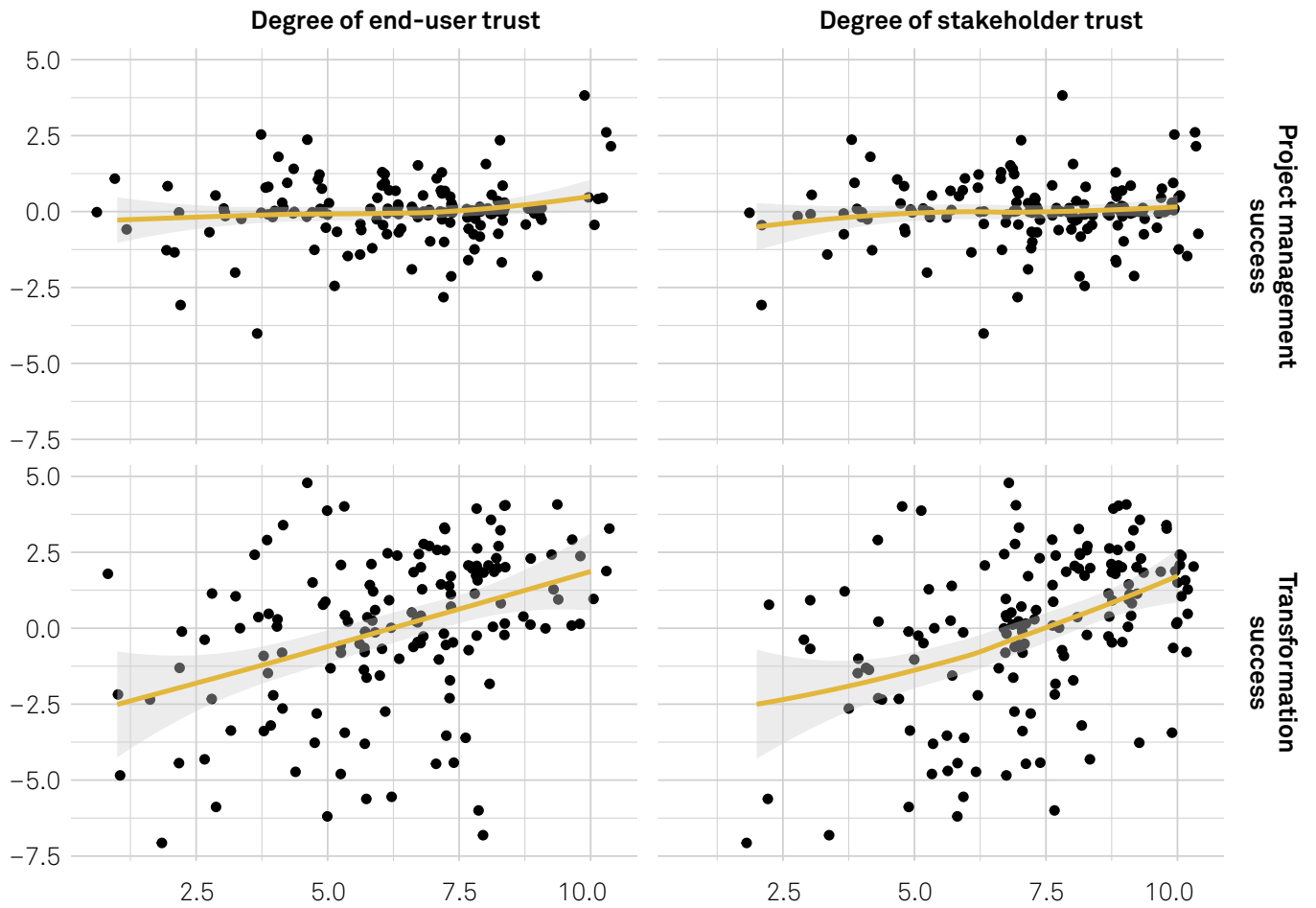
The black dots represent each project. The line shows the regression between the degree of trust with the project's end users and the perceived success of the project. The line is sloping upwards, which shows that the higher degree of trust is associated with increased success.

The graphs to the right lead to a similar conclusion. Here, the figures represent the relationship with the projects' stakeholders. A stakeholder is a person affected or interested in the project, which does not include end users – i.e. most often top management.

In terms of the stakeholders, the correlation between trust and success is also positive. The higher the degree of trust between a project and its stakeholders, the more successful it will be.

Figure 13: Correlation between trust and success

Degree of end-user trust | **Degree of stakeholder trust**

Project management success

Transformation success

Our data also show that more than half (almost 53%) have more trusting relationships with their stakeholders than with their end users. 28% have an equal degree of trust with stakeholders and end users. 19% have a more trusting relationship with their end users.

Figure 14: **End user trust or stakeholder trust?**
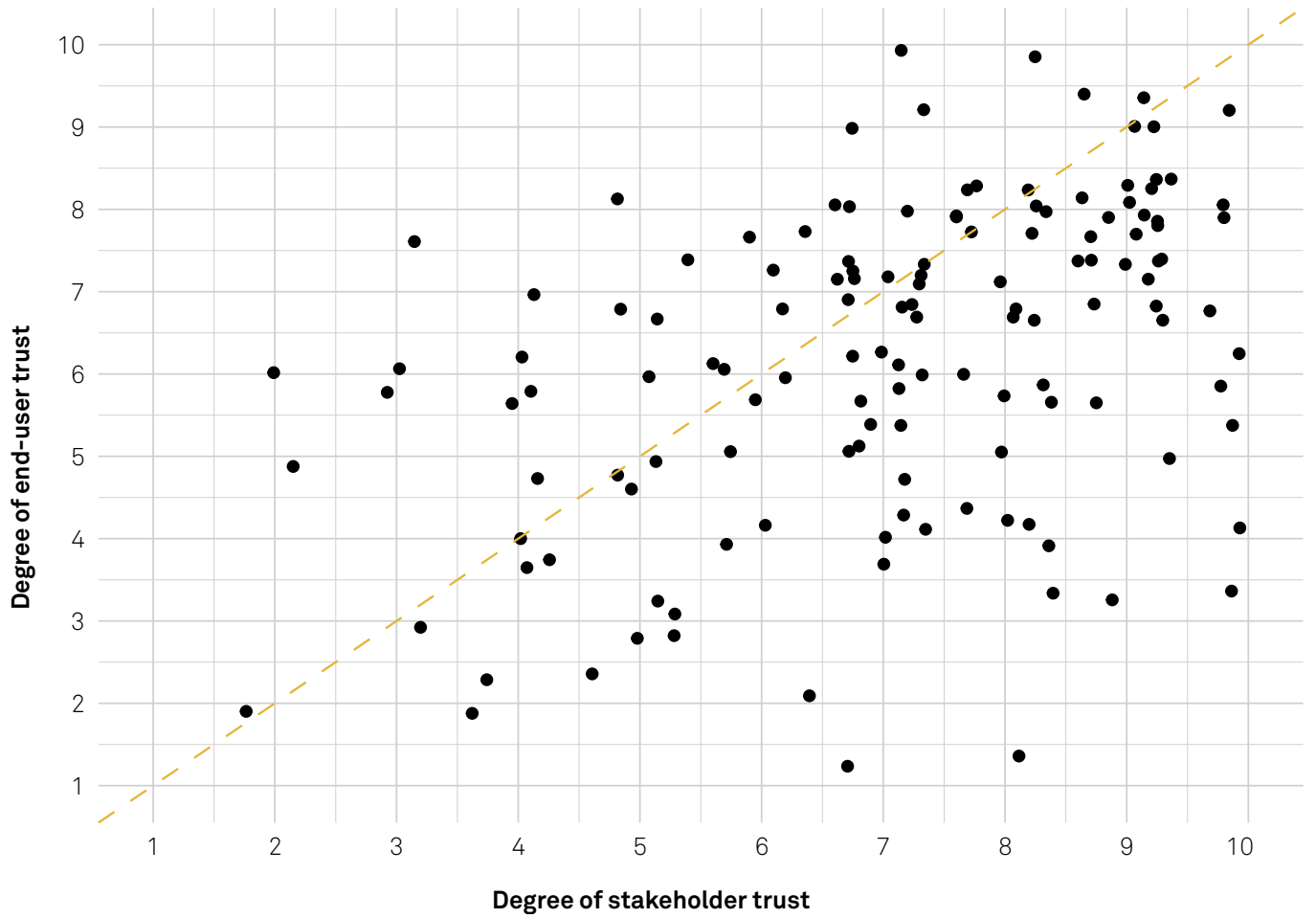
6.2.3 Does reliability, credibility, intimacy and lack of self-orientation create trust towards projects?

The third conclusion we can draw from our data on trust is that only a few of the components of the Trust Equation explain how projects build trusting relationships with their stakeholders and end users.

The below figure 15 can seem a bit overwhelming, but what it illustrates is the correlation between the different components of the Trust Equation and the two groups – end users and stakeholders.

If we start with the stakeholders, the grey box indicates a correlation between stakeholder trust, intimacy and self-orientation. The correlation line for self-orientation is tipping downwards, which tells us that the relationship between stakeholder trust and self-orientation is negative. A more self-oriented project will be less trusted. On the other hand, the correlation line for intimacy is tipping upwards, which indicates that the closer a project is to its stakeholders, the higher the degree of trust.

We do not see any correlation between the other components of the Trust Equation and stakeholder trust.

However, this does not apply to the end users. Here the grey boxes around credibility, intimacy and self-orientation indicate a correlation between these two components of the Trust Equation and end user trust. The associations of credibility and intimacy are positive, which means that if a project becomes more credible or establishes more intimacy with its end users, the project will become more trusted. Moreover, if the

Figure 15: Maister's Trust Equation components
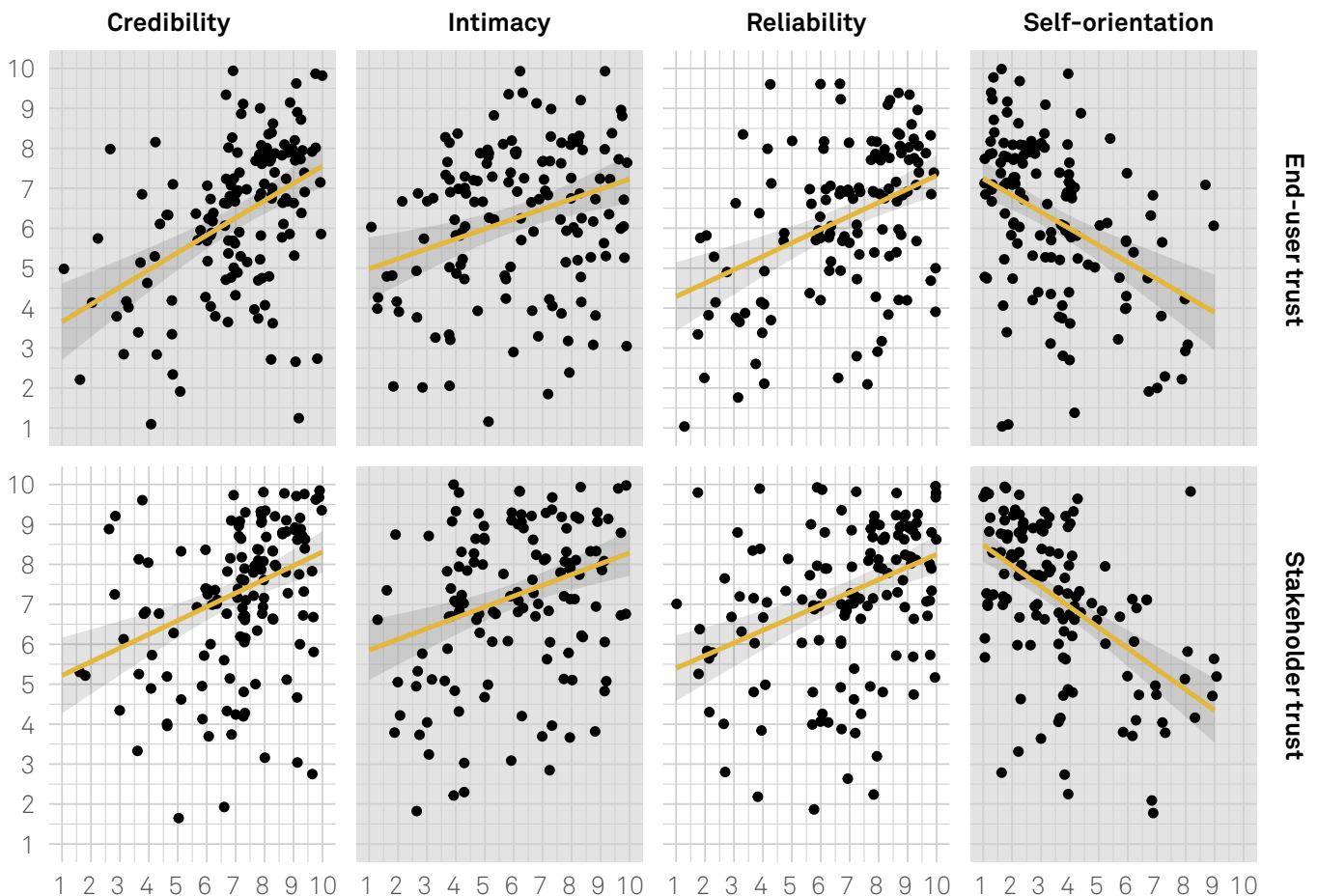
project is perceived as more oriented towards its own goals, the end users will have a lower degree of trust.

What figure 15 also shows is that reliability cannot be used to explain how projects develop a trusting relationship with the end users.

6.3 Recommendations

Based on the critical findings on trust, we have suggestions for what projects should and should not do in their change efforts within IT projects when it comes to building trust.

Above all, projects should focus on building trust but not only with key stakeholders – end user trust is equally important.

A common idea of how to build trust is to follow the human psychology approach in the Trust Equation. Based on our data, we find that:

- Trust relationships with **stakeholders** are **strengthened by intimacy**, i.e. psychological safety of making the unspeakable and the difficulties of work speakable in the project; while trust relationships are **weakened by self-orientation.**

- Trust relationships with **end users are strengthened by credibility**, i.e. having the needed experiences and competencies, **and intimacy**, while trust relationships are **weakened by self-orientation.**

The first thing to conclude from the data on what to consider when driving trust in IT projects concerns how you as the project leader talk about the change project. If your narrative focuses on the reliability of delivering milestones and change as promised, then your description does not help you build trust.

A narrative for your stakeholders that builds and strengthens trusting relationships needs to focus on shared goals and acknowledge the unspeakable in the organisation without revealing your sources' confidence.

In addition, a narrative for your end users should include your credibility and experience from having managed change before.

The second thing to conclude from the data on what to consider when driving trust in IT projects concerns how you communicate. For both your stakeholders and end users, intimacy is a positive force that builds trust, while self-orientation is a negative force that destroys trust. When you communicate with a focus on yourself and your project, you destroy trust. Maister et al. have three simple recommendations for how to communicate in a way that creates intimacy and lowers your self-orientation: (1) do more listening than talking, (2) think out loud and (3) do not think less of yourself – think of yourself less.

Training
– does
it need
to be
effective?

7. Providing effective training

7.1 Introduction

Change management literature widely accepts that end user adoption of an IT system is affected by the effectiveness of the training which the end users receive. When it comes to IT training, there are many different approaches to take on how to conduct the training. A common way to increase the effectiveness of the training is to co-plan, co-design and co-deliver together with end users.

Recently, digital training such as webinars is becoming more popular than classroom training.

In addition, we wanted to know:

- What type of training is the most effective?

- When is the most effective time to train end users?

- Does co-creating the training increase training success?

7.2 Key findings

Based on our findings on training, we can conclude that training effectiveness is an essential lever of perceived transformation success. Furthermore, we found that a structured training approach and the length of the training over time do not influence how successful projects are perceived.

However, it is essential to include the changes in processes as part of the training. While we found little variation in the effectiveness of different training formats, self-training and eLearning are slightly more effective.

7.2.1 Is training effectiveness necessary for the perceived success of projects?

In the figures th the right, we investigate the relationship between the effectiveness of training and the success of the project. Each graph shows a measure of project success on the y axis and the success of training on the x axis. The figures illustrate that effective training is associated with transformation success but not project management success.

The steepness of the curve for transformation success shows a significant improvement the more effective the training was.

Figure 16: Effectiveness of the training and the success of the project
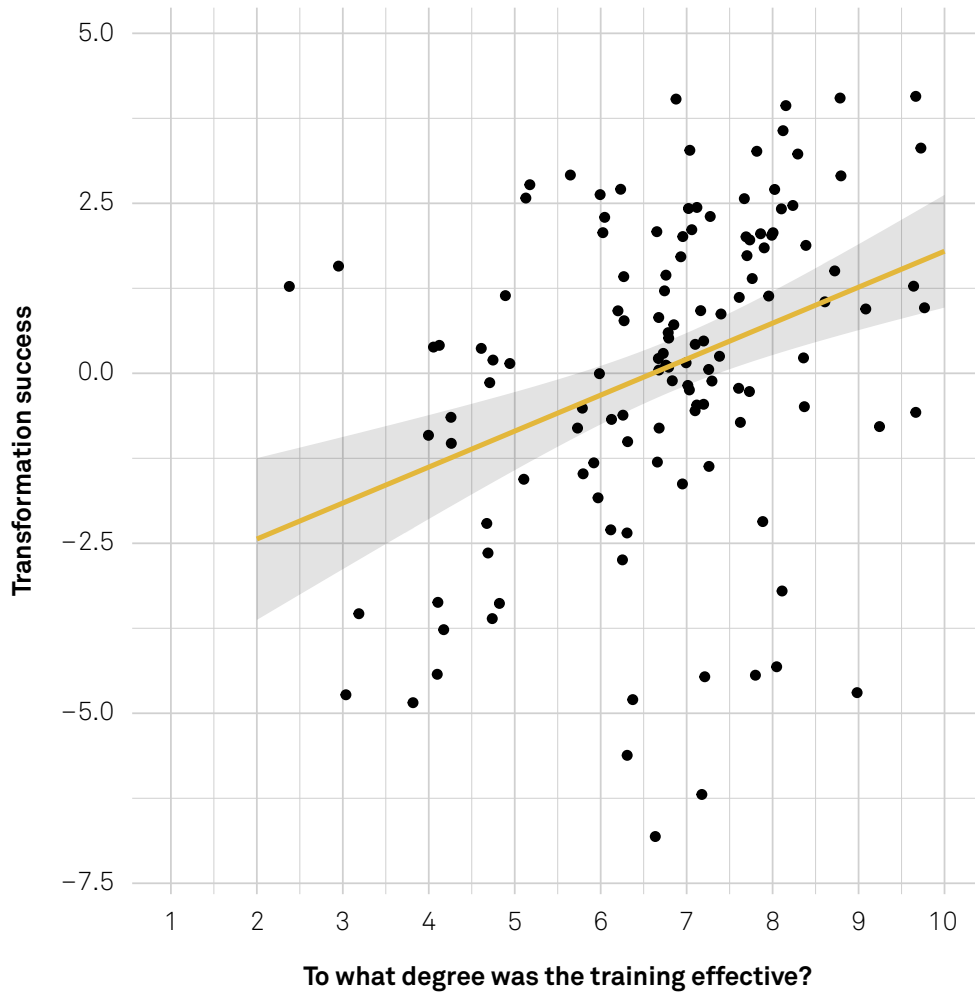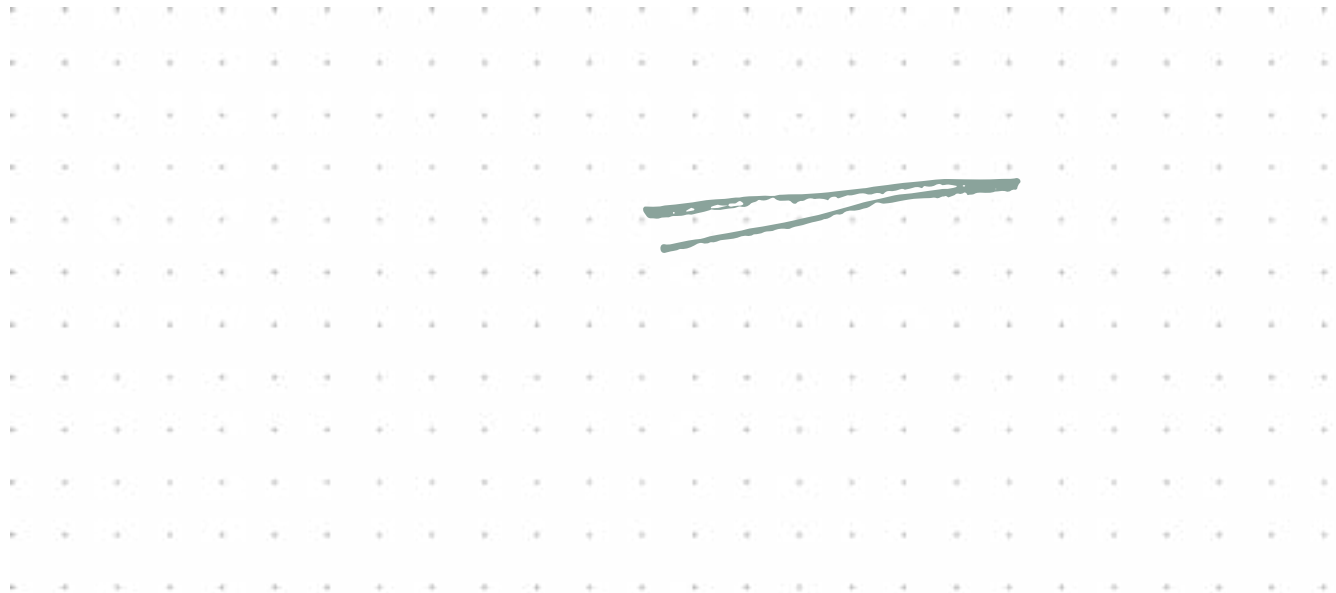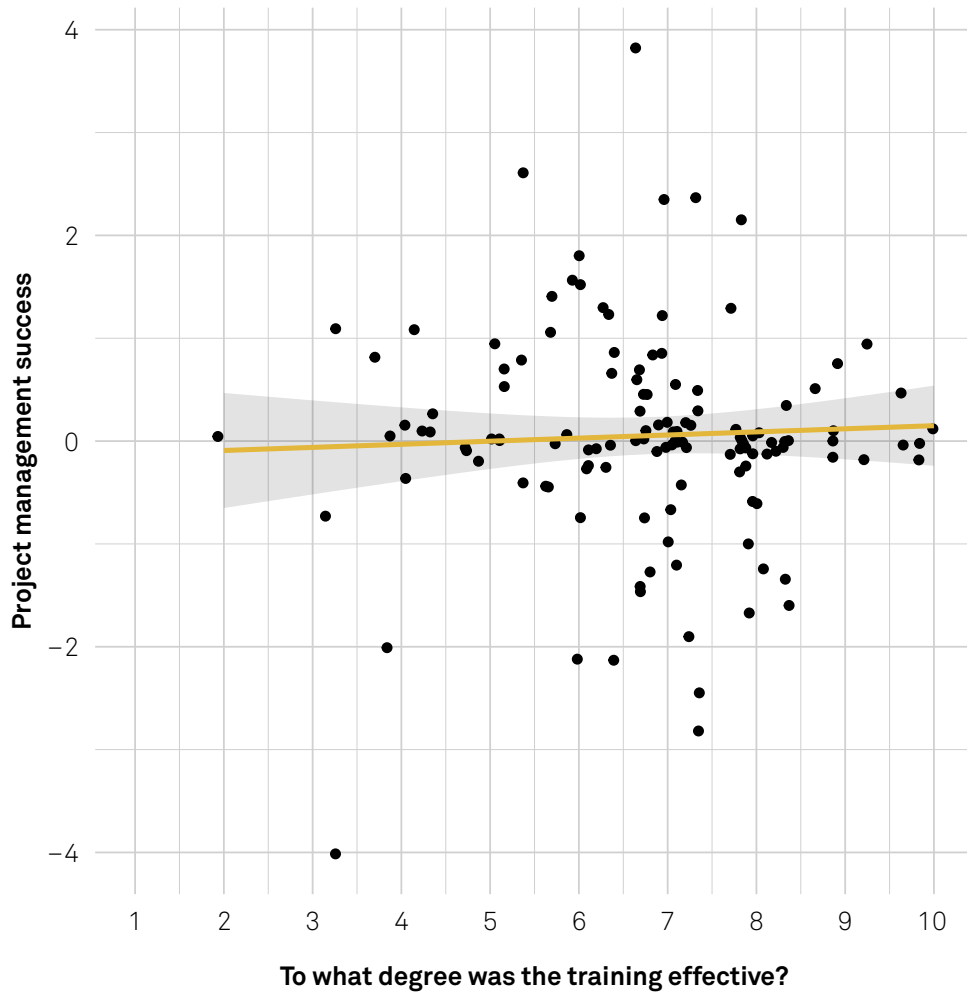
Change Management in IT projects

Figure 16: Effectiveness of the training and the success of the project

7.2.2 Do projects need a structured training approach for the training to be effective?

The second conclusion we can draw from our data is that a structured training approach does not in itself influence the effectiveness of the training. Our data showed that nearly nine out of ten projects had a structured approach to training, which is just as effective as not having a structured approach to the training of end users.

7.2.3 What is the most effective way of delivering training?

In our data, we see that there are some ways of delivering content in a training situation that is better than others in terms of increasing the transformation success in IT projects. In our survey, we asked the respondents how the training was delivered. We asked about the following training delivery models:

- Classroom (72%)

- One-on-one (30%)

- eLearning (36%)

- Quick guides (50%)

- Webinar (18%)

- Self-training in a sandbox (36%)

Figure 17: Structured training approach?

Was a structured approach to training in place?
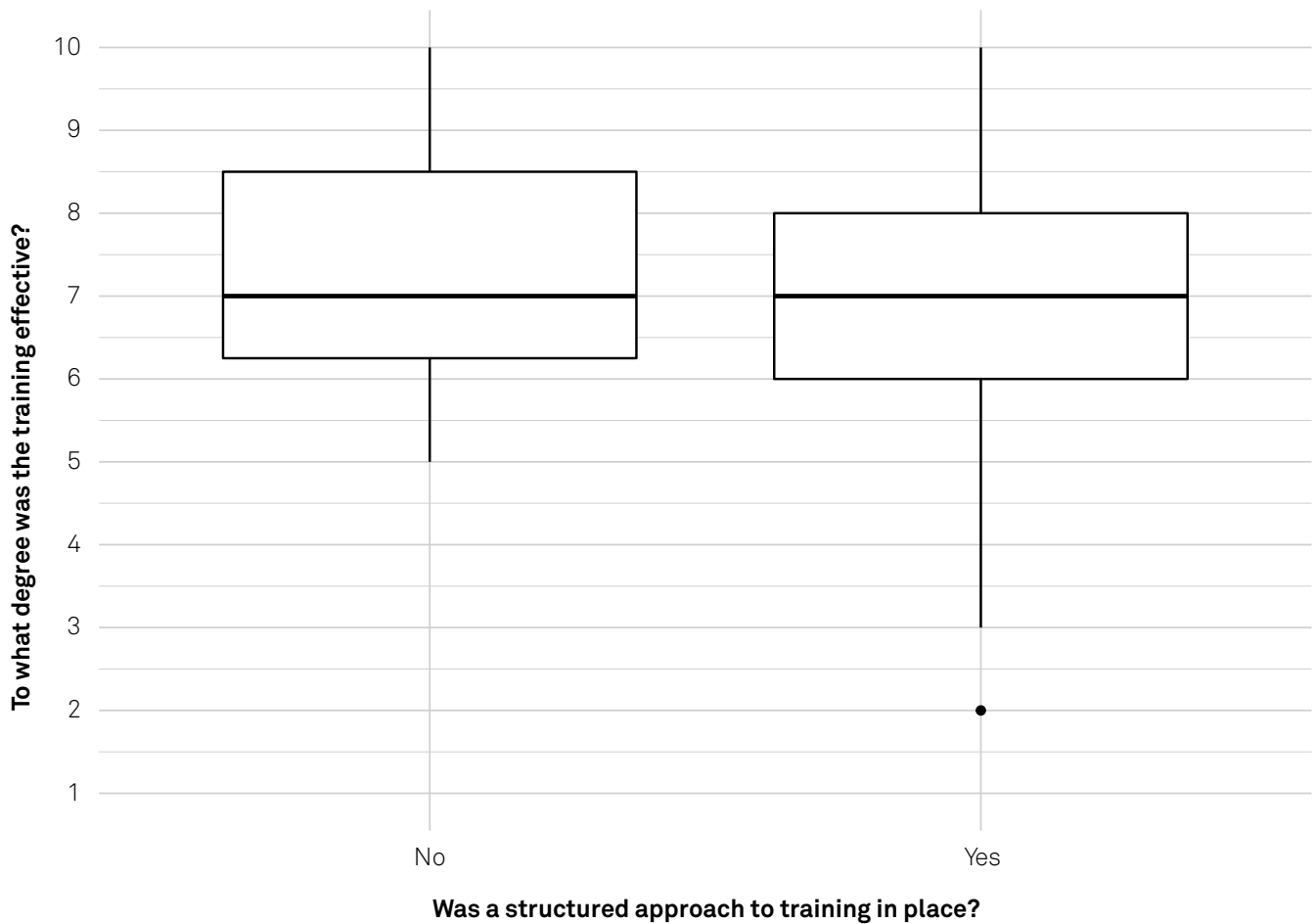
Based on our data, we see that self-training in a sandbox and eLearning are the most effective ways of delivering training.

In comparison, classroom, one-on-one, quick guides and webinars are slightly more influential in transformation success, which gives us an indication of how to deliver training in IT projects.

Often the involved projects included a number of different ways of providing training, but these findings indicate that if you aim for transformation success, it is crucial to add eLearning and self-training.

Moreover, the number of channels used increases the transformation success of the project ($p = 0.004$).
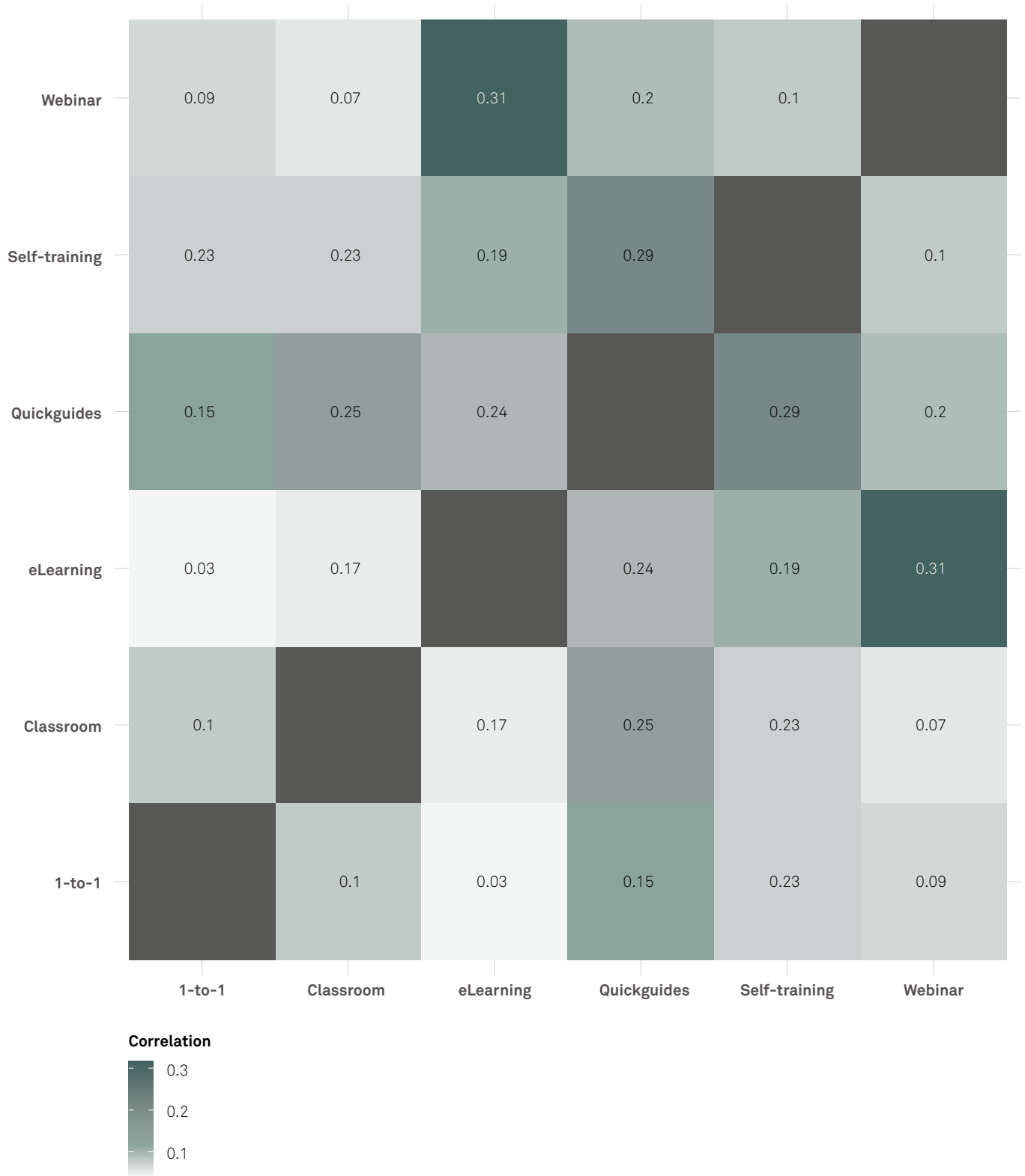
Figure 18: **Training formats**

The data also illustrate patterns of training formats commonly provided together. Classroom training is often combined with quick guides and sandboxes. Webinars and eLearning are most commonly combined, while sandbox training and quick guides constitute another frequent combination.

Figure 20: Multiple training formats and success

7.2.4 When should projects train end users and for how long?

In our research, we also investigated the timing of the training. We found no influence on the effectiveness of the training, whether it was provided early or late in the project. We expected that the earlier the end users received training and were involved in the change, the more time they would have to prepare. However, nothing points to this being the case.

Figure 21: **When to start training**

We can also conclude that the effectiveness of the training is not linked to the duration of the training which the project provided measured in time.

The figure below shows that the correlation is slightly u-shaped, which indicates that training is more effective if it takes place in either short sprints or over a longer period of time.

7.2.5 What should the training include?

The data show that training tends to focus on project deliverables such as the system and new processes. Training covers only to a lesser extent the behavioural changes of what end users should do differently tomorrow.

Our data show the following:

• 83% of projects covered the new IT system in training

• 79% included the process changes

• 48% included changes in roles

• 36% included changes in needed competencies

• 56% addressed mindsets

Figure 22: **Length of the training period**

To what degree was the training effective?

Length of training period
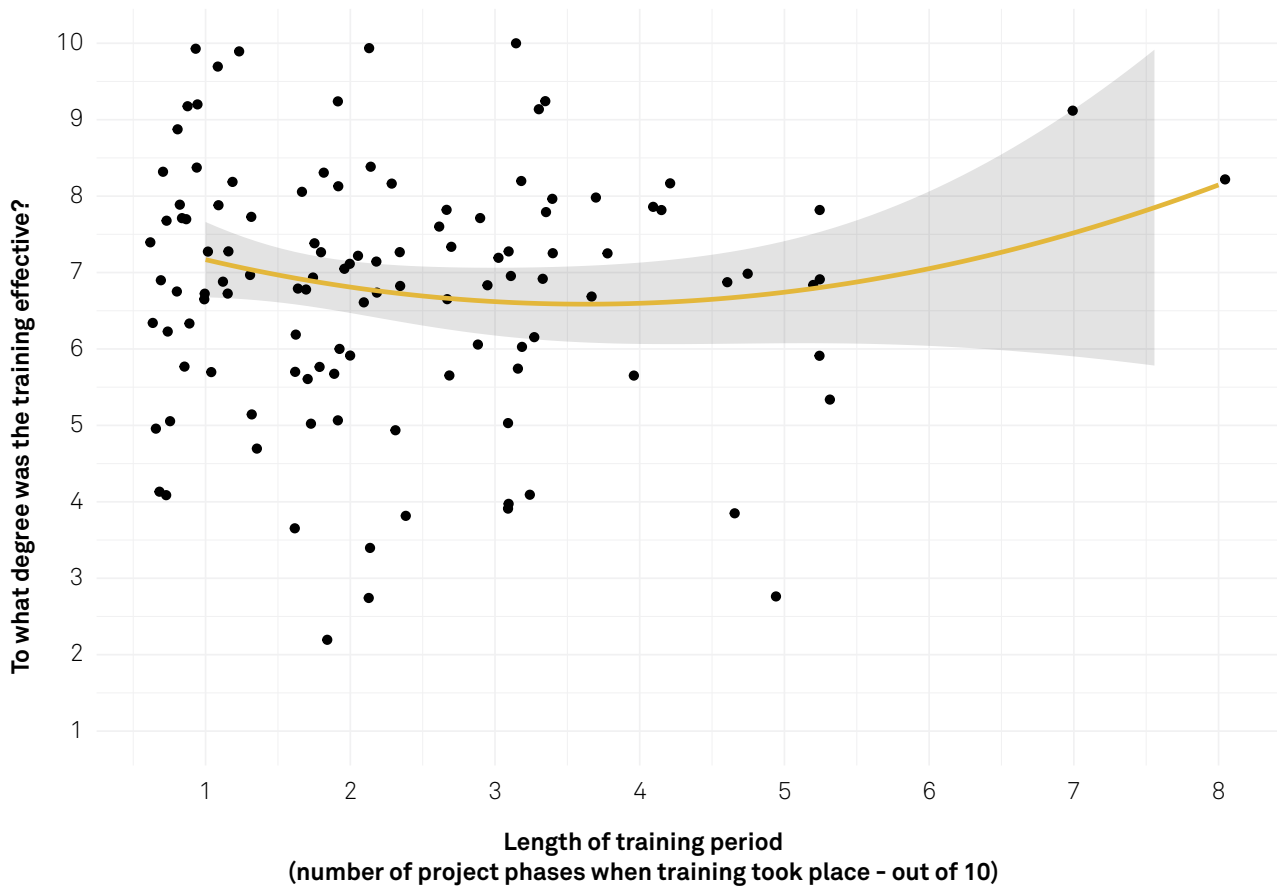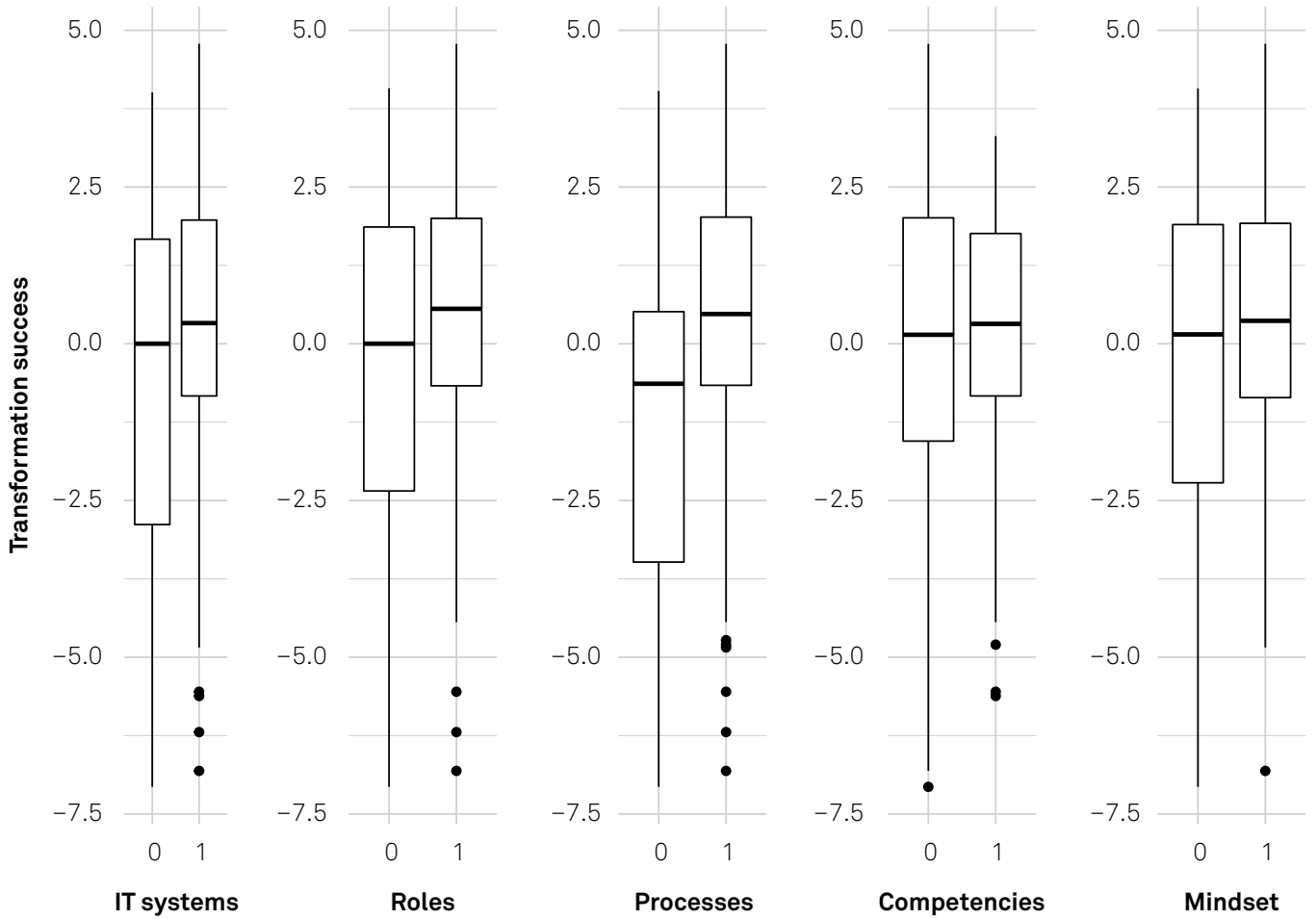**(number of project phases when training took place - out of 10)**

Figure 23: **Training content**

The graph tells us that the training becomes significantly better in terms of increasing the perceived transformation success of projects, if it contains content on change in processes. Training change in processes helps the end user understand what to do differently tomorrow, and how to do it differently. The content of the process training should introduce the end user to what to do in the IT system as well as outside the system.

Most of the IT projects involved in the study included more than one of the subjects above; we looked at patterns in the data to identify topics that are often joined up. The correlation measures how often these topics were part of the same training. When training focuses on change in processes, it also tends to focus on training in the IT systems and covers the change in roles.
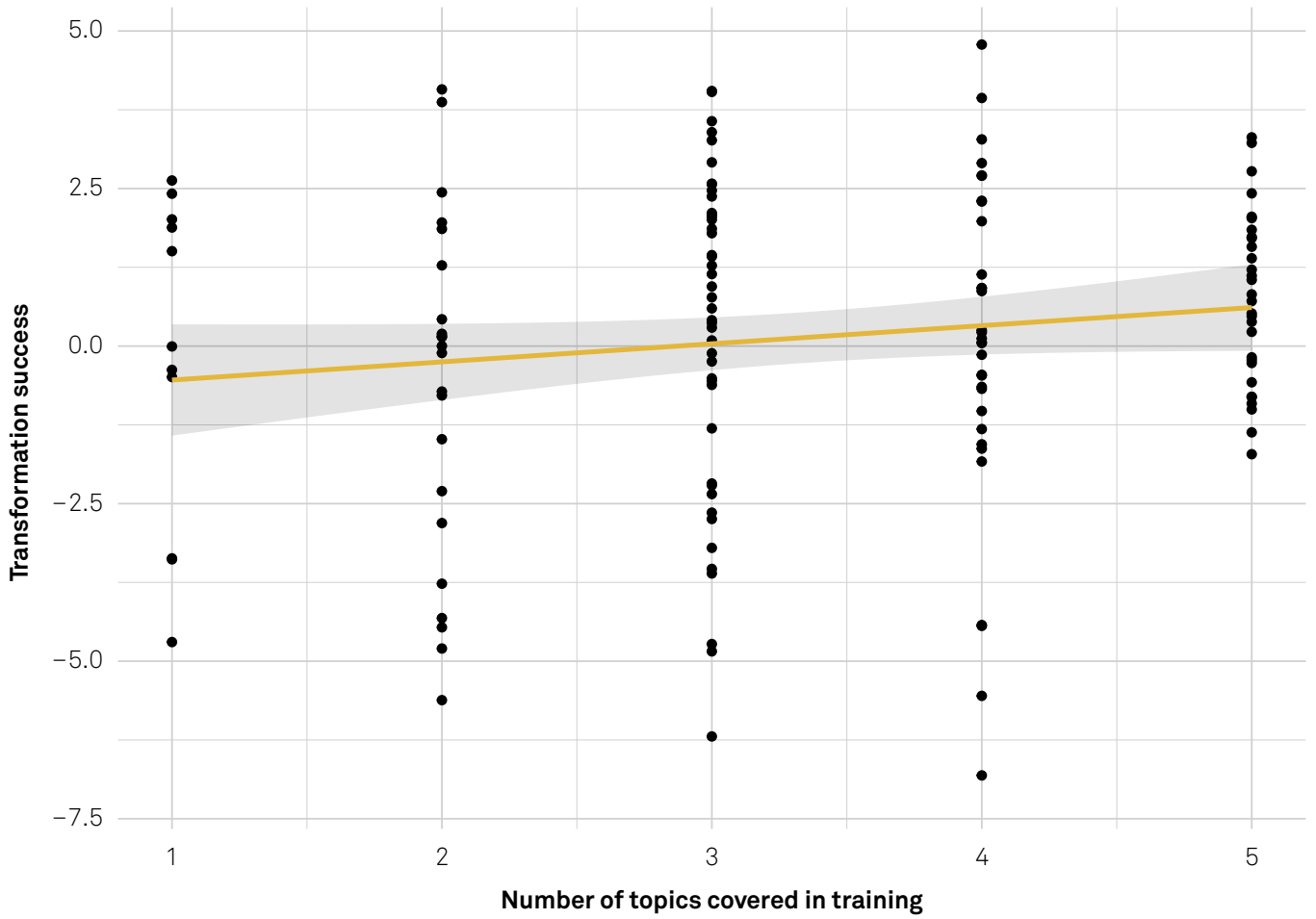
Figure 24: **Training content**
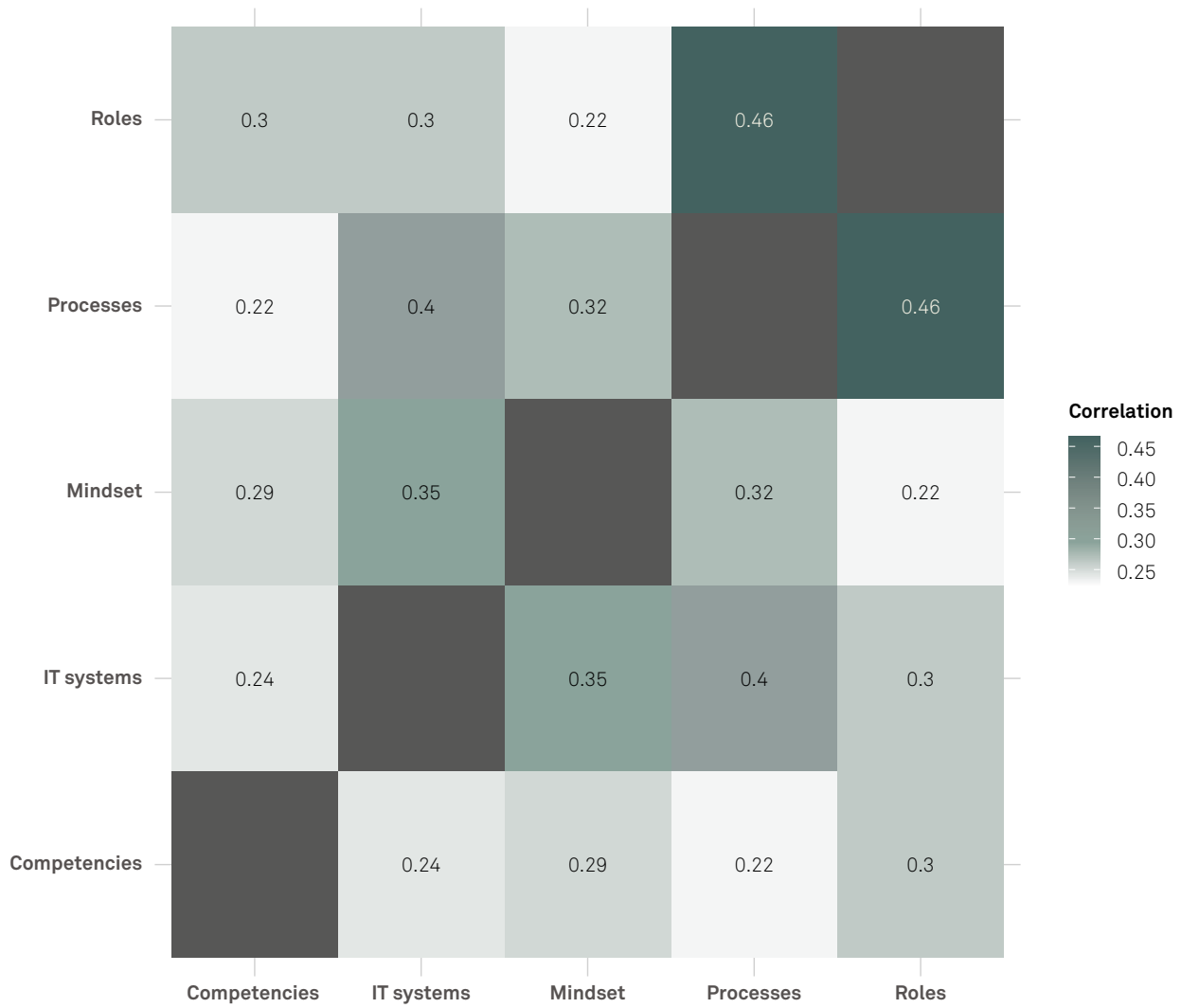
Training that covers several topics is a good idea. The transformation success increases when several subjects are included in the training.

Figure 25: **Number of subjects in the training**

7.2.6 Should end users be involved in the planning, design and execution of the training?

In our study, we explore end user involvement in the following three training activities: planning, designing and conducting the training.

Our data show that IT projects tend to focus a considerable amount of effort on conducting training in collaboration with end users (average score 6.8). In comparison, co-planning (5.3) and co-design (4.7) of training is less common.

Based on our data, we can conclude that involving end users in any of the two activities of co-planning and co-delivery does not influence the effectiveness of the training. We expect end user involvement to be critical to both training effectiveness and project success, which makes this a surprising finding.

However, co-designing training is statistically significantly associated with more effective training.

Figure 26: **Front-line managers and end user preparation**

To what degree ...

Transformation success

... was the training effective?
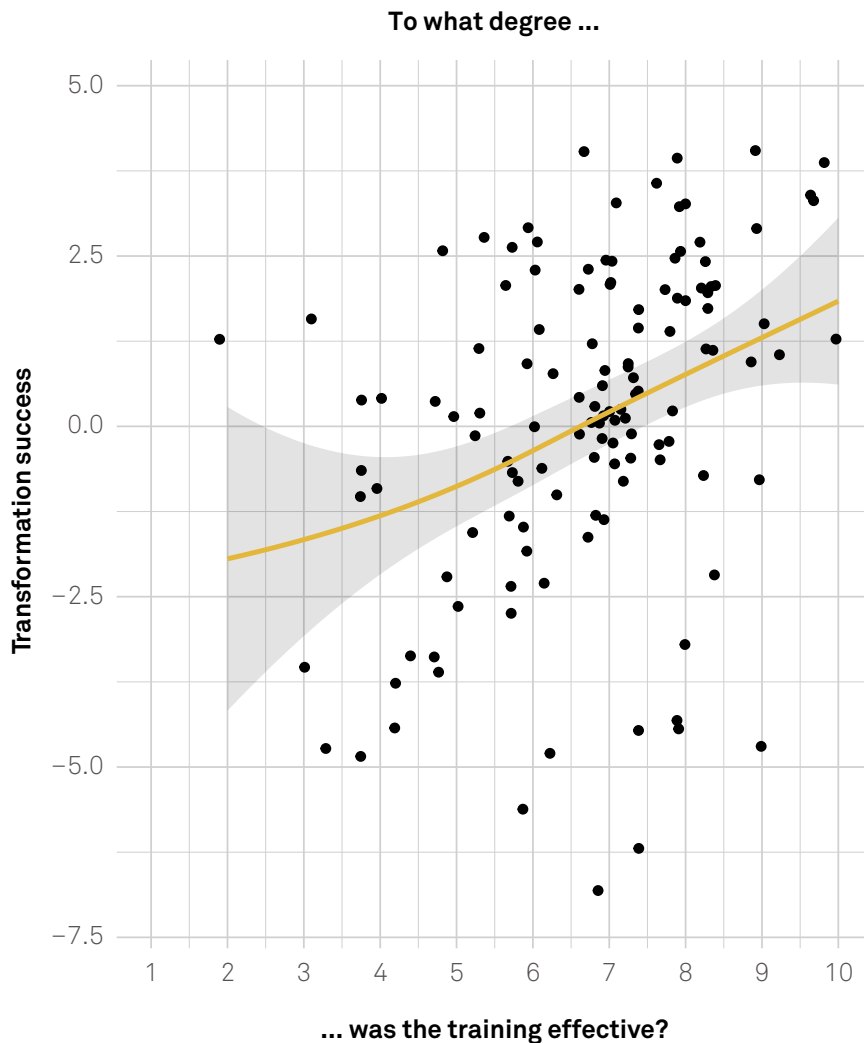
7.2.7 What is the relative importance of training and preparation of end users by front-line management?
With our data, we can compare the effects of training and preparation by first-line management. Both factors are statistically significant. The more effective the training and the more front-line management prepared the end users for the change, the higher the transformation success.

Effective training is more impactful ($r = 0.51$, $p < 0.001$) than a high degree of first-line management preparing the end users ($r = 0.28$, $p < 0.001$).

To what degree ...

Transformation success

... did the first-line management prepare end users?
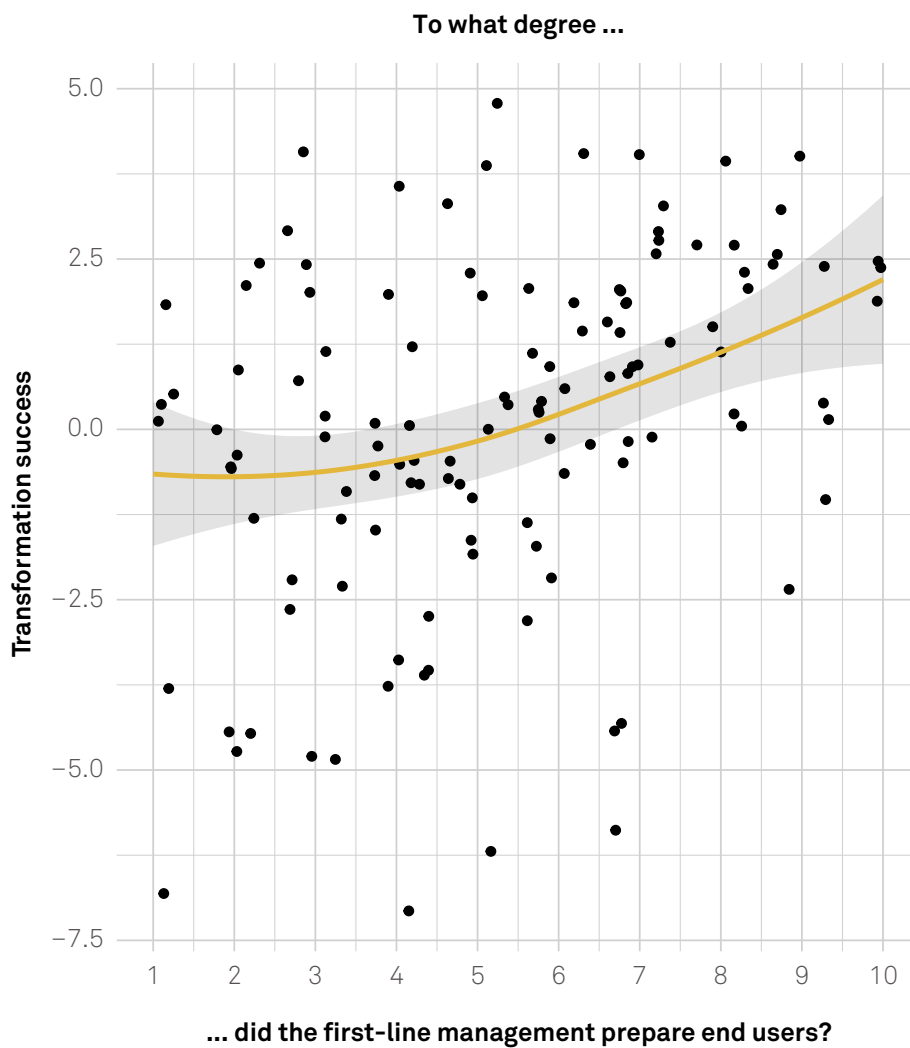
7.3 Putting it all together

Looking at all variables together gives us a simple model of how effective training contributes to transformation success. To achieve success in digital transformations, effective training is essential, and the effectiveness of the training is directly related to the degree to which the training was co-designed with the end users. Also, the degree to which front-line management prepares the end users also increases transformation success.

No other variables (i.e. content, how early the training activities start, formats of training) have an effect above and beyond these three factors.

7.4 Recommendations

The final model shows that three elements are essential:

Based on the critical findings on training, we propose a few suggestions for what projects should and should not do in their change efforts within IT projects when it comes to their training efforts.

Transformation success requires effective training.

Co-designing training with the end users increases the effectiveness of the training.

In addition to formal training, projects should provide informal training. Front-line management needs to prepare the end user for the change. Your project must help front-line management with this critical activity.

Figure 27: **Effective training and success**
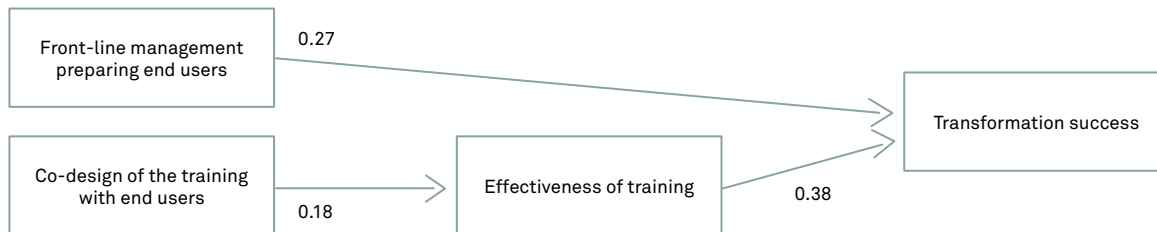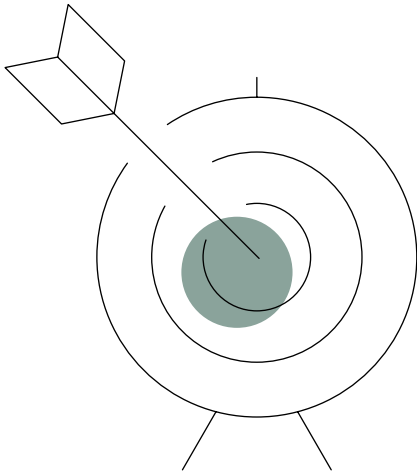
8. Communicate effectively

Communication is essential for project success – also in IT projects. This is not a surprise to anyone who has worked in the field of change management. However, our research has shown some of the essential elements of what constitutes effective communication.

First of all, it is vital to have a communication approach, which includes targeted and dialogue-oriented communication styles. This means supplementing any high-level information about the project with details on how each stakeholder group is affected and what it means to them individually. One way to obtain this kind of understanding is to engage in dialogues and stay in contact often – not just having one-way communication.

Also, if communication is to help build trust between the project and the stakeholders, it is crucial to utilise those close to the stakeholders and end users to communicate. Projects need to support front-line managers in being more effective communicators, i.e. to effectively discuss and relay information to their staff.

8.1 Key findings

Based on the research findings within communication, we see no need to completely change the way we do communication in our IT projects going forward. However – and this is important – there are some notable points on how to communicate effectively and what is essential to consider when being responsible for communication.

8.1.1 How to communicate and what is effective communication?

It should not come as a surprise to any change management professional that our research very clearly shows a correlation between excellent, effective communication and the project's transformation success. These findings corroborate the widespread consensus among both change practitioners, academics and anyone being affected by a change. Communication is crucial to success.

However, this does not tell much about how and what to do when working with communication in change management. In literature and various change management frameworks, there is an abundance of recommendations, opinions, guidelines and best practices available for anyone who seek guidance. As part of our research, we have investigated some of the specific recommendations to see if they make a difference. Our data show that three elements are essential when communication needs to be effective.

Figure 28: **Elements of effective communication**

Targeted

Positive reinforcement
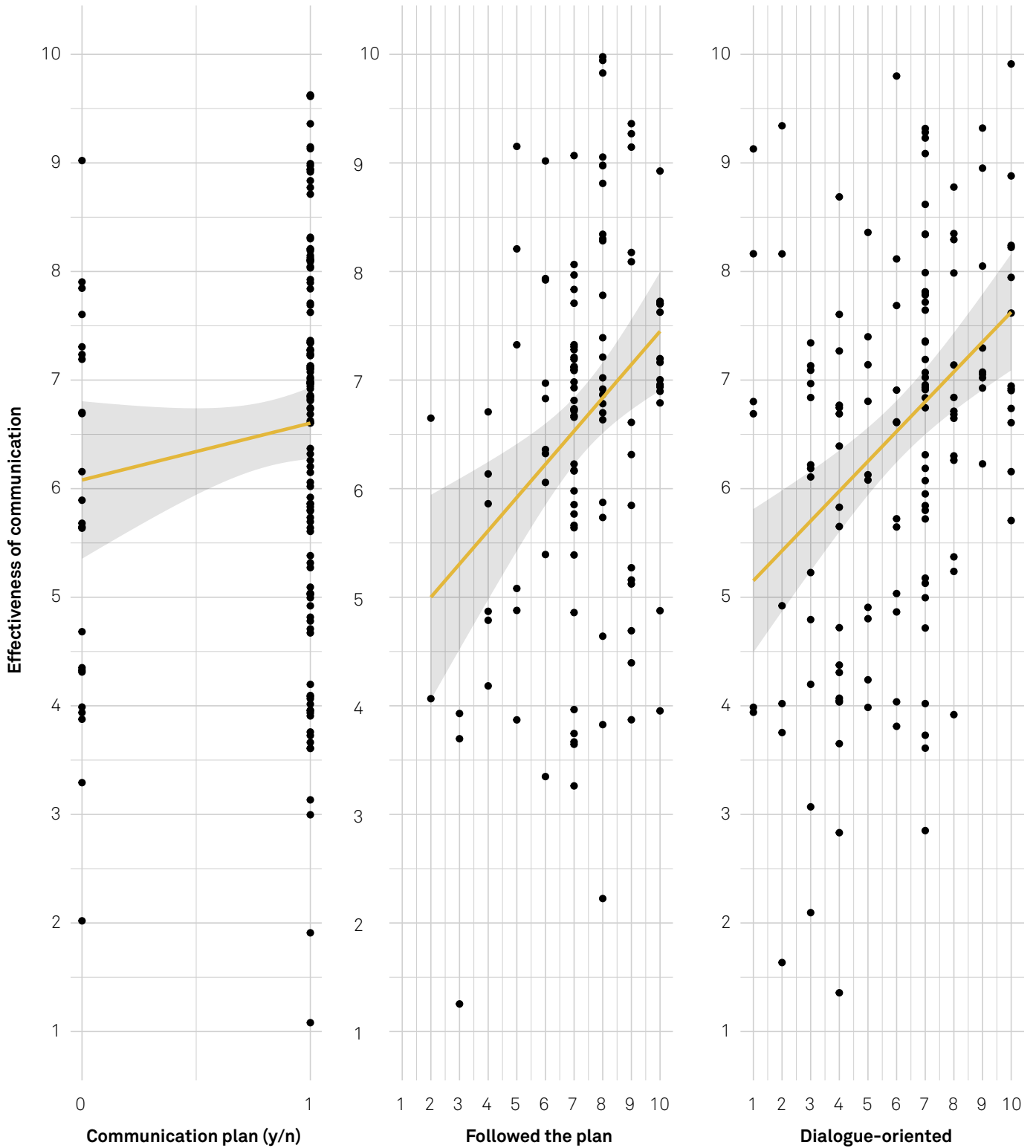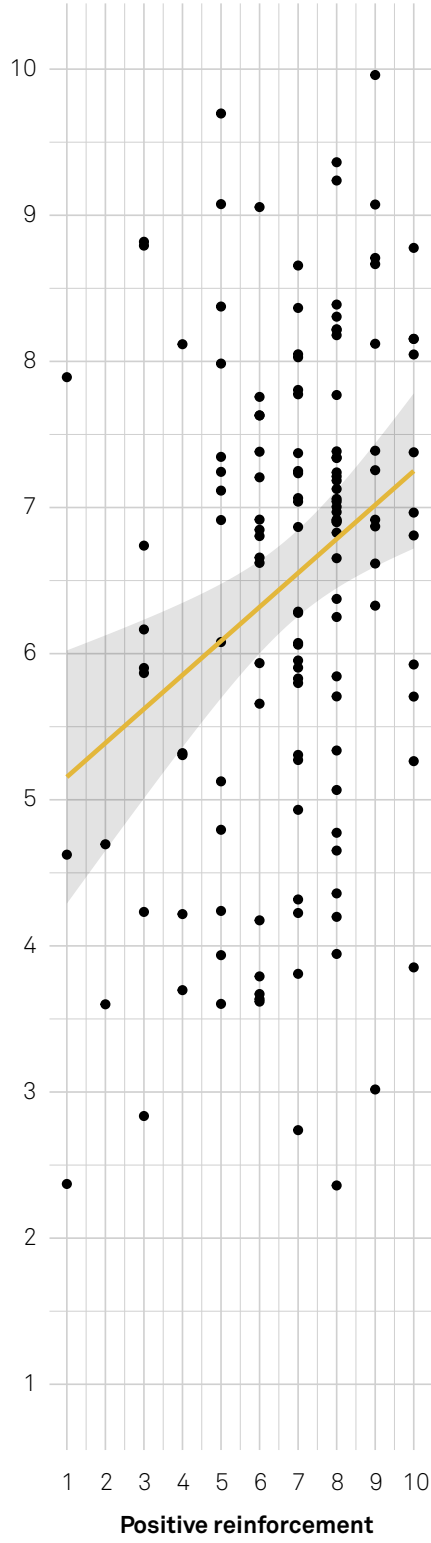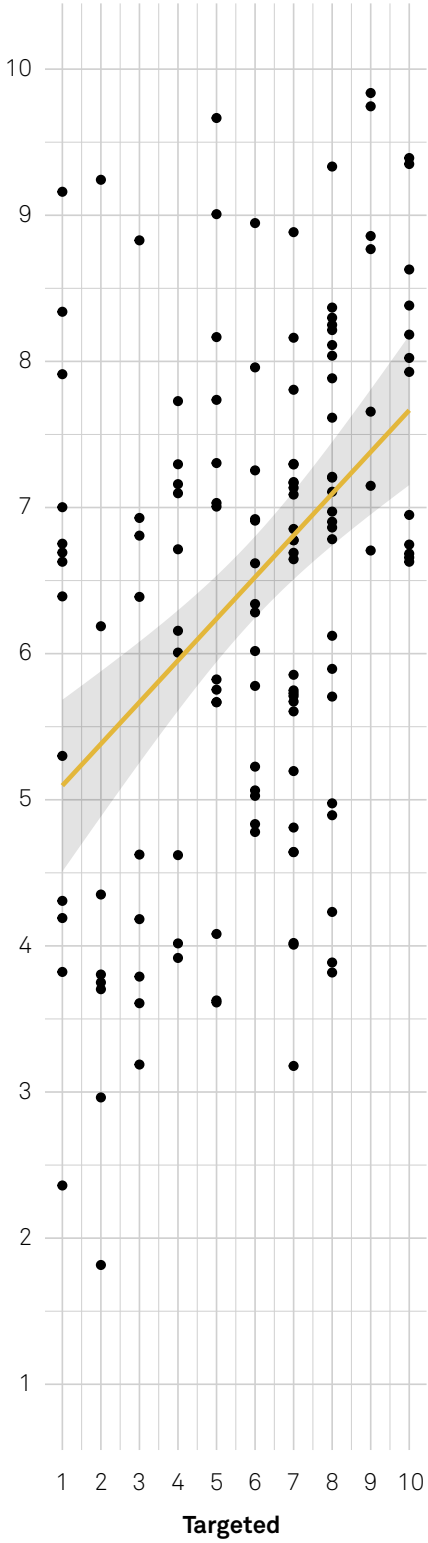
A communication plan is only effective when we follow it

Firstly, our data show no difference between projects that did or did not have a communication plan because most projects had one.

However, our data show a difference between projects that stuck to their communication plan and projects that did not. High-performing projects followed the plan. To our surprise, a communication plan in itself does not add value. These findings are surprising because the plan is a common core deliverable and milestone. One way to interpret this is that the effort, capability and competence of the people designing, planning and executing the communication plan are much more important than merely having a document called a communication plan. Another way to read the data is that the difficult part is not creating the plan but executing it.

Effective communication is dialogue-oriented

Secondly, communication needs to be dialogue-oriented. This means that projects should not merely send their message and hope for understanding. The project should also engage in listening, creating room for discussion and obtaining input from the affected organisation.

Of course, having a dialogue is easier said than done in large-scale global IT projects. However, being difficult is not an excuse for not trying. From a change management perspective, all IT projects could benefit from setting up and running user forums, hosting feedback sessions or finding other effective ways to engage in dialogues with the organisation.

Effective communication is targeted

Thirdly, targeting a message makes communication effective. Most projects achieve a high degree of targeting, which makes communication more effective than communicating in broadcasts.

Furthermore, our research tells us that recipients also need to find the communication relevant and comprehensible in their specific context. For example, a broad vision of the change that a project wants to achieve needs to translate into the daily operations of the various groups affected by the project. Thus, the project needs to know and understand in detail the ways of working and the everyday life of the different stakeholders and end users and how the change impacts their roles and tasks.

No significant difference when applying positive reinforcement

We also asked the projects participating in the study whether the communication effort focused on positive reinforcement. By this we mean that the communication focused on telling positive stories about the project and the good things it would bring. However, this does not seem to make a significant difference in achieving success with communication.

To summarise:

- If you have a communication plan, follow it

- Dialogue is a critical component of effective communication

- Target your communication effort to the different recipients

Those were the key findings on how to communicate effectively to achieve more success. We also looked at who the organisation perceived as the key communicator of the project and how this affected the recipients.

8.1.2 What should we communicate?

We asked the projects in our sample whether the communication included information about changes in roles, process changes, information about the change in general, benefits of the change, new systems and the status of the project.

Three out of four projects communicated changes in processes, new systems, the change itself and project status.

Figure 29: **What to communicate?**

Project status	73%
New systems	75%
Benefits of change	68%
Change itself	74%
Process changes	76%
Role changes	52%
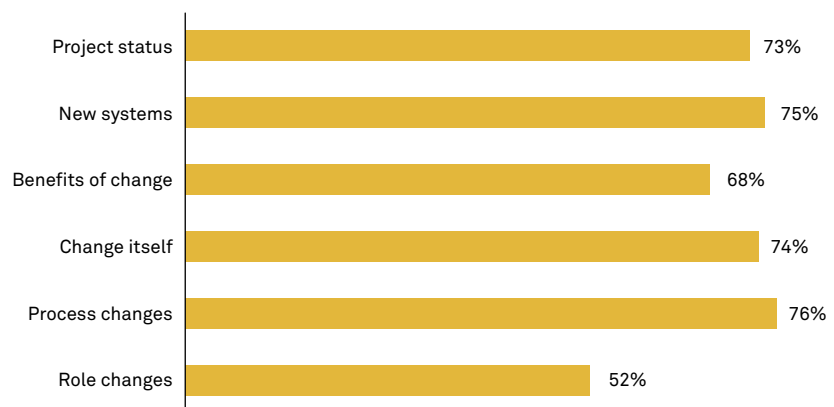
Nearly seven out of ten projects communicated the benefits. Only one in two projects communicated about the new roles.

Our data show that only one topic is associated with more effective communication: the benefits of the change. The projects that communicated about the benefits of the change had statistically significantly more effective communication (p = 0.032).

8.1.3 Who should communicate?
There is no simple answer to this question. In our data, the project manager was the primary communicator of a third of the projects. Top management is the second most frequent communicator. Roughly one in six projects relied on senior managers to communicate.

However, our data show that not all communicators are equally effective. Communication professionals are the most effective communicators, and front-line managers are the least effective.

Front-line managers are the most trusted communicators
However, effectiveness is not the most critical objective when communicating. When we compare the effectiveness of the key communicator with the level of trust which the project builds with end users and stakeholders, we see a very different picture.

The data show that end users see front-line managers as the most trustworthy communicators, although they are less effective than communication professionals.
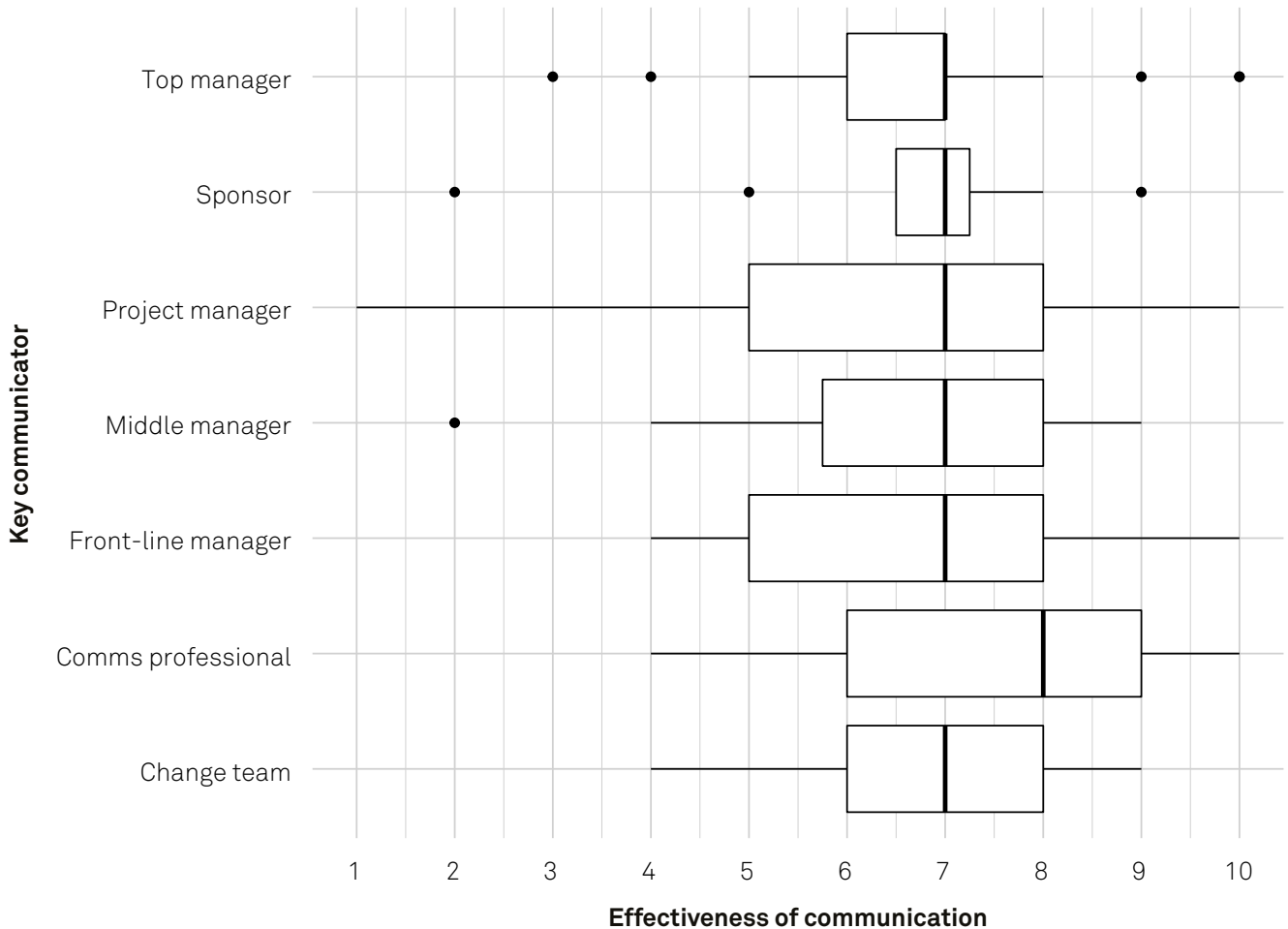
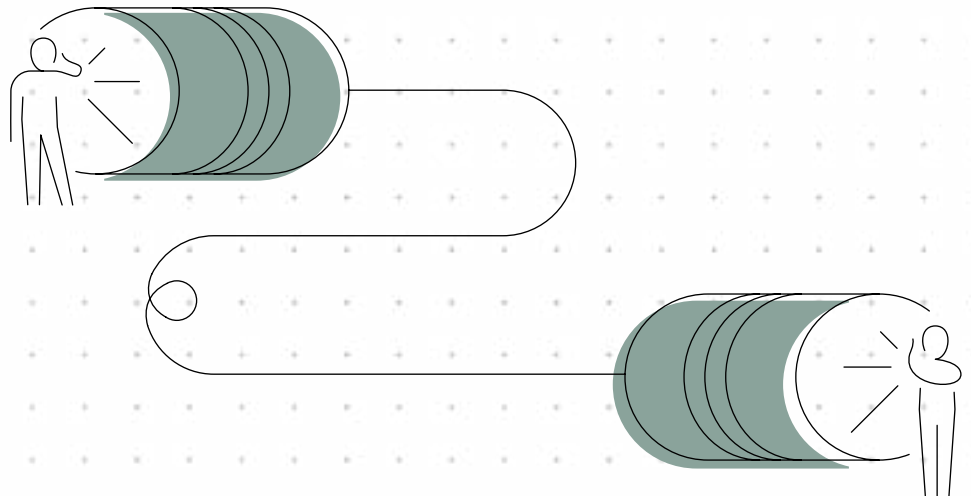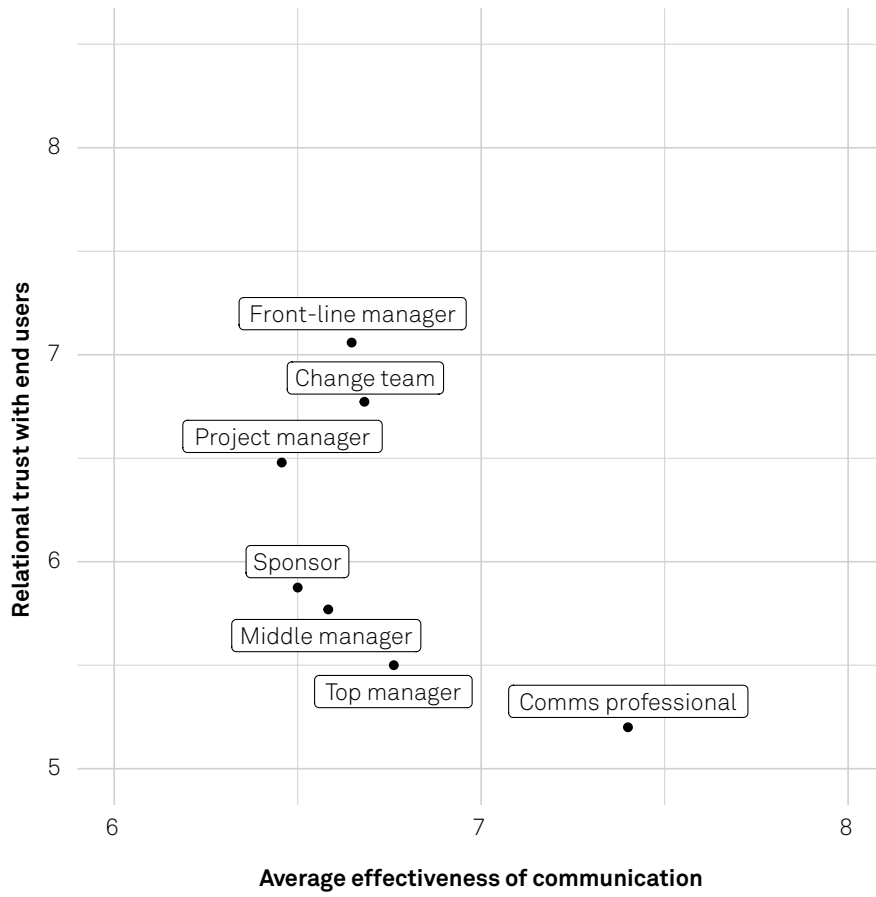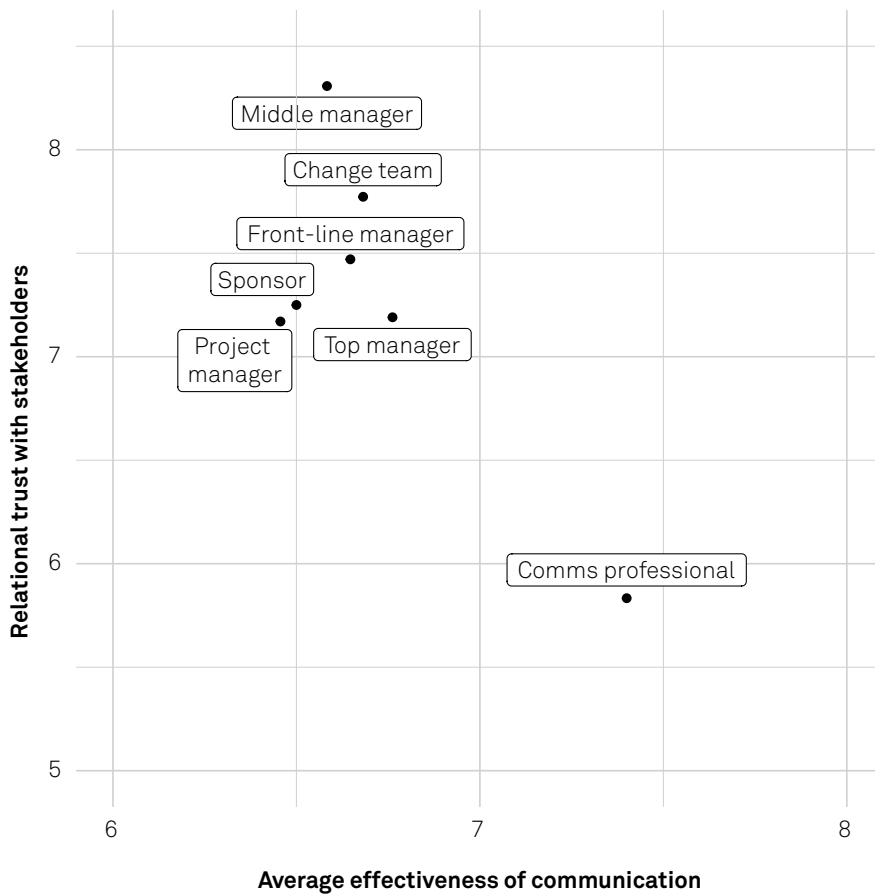Figure 30: **Who should communicate?**

Figure 31: **Key communicator**

Relational trust with end users (y-axis)

- Front-line manager
- Change team
- Project manager
- Sponsor
- Middle manager
- Top manager
- Comms professional

Average effectiveness of communication (x-axis)

Chart axes:
- Y-axis: **Relational trust with stakeholders** (values 5, 6, 7, 8)
- X-axis: **Average effectiveness of communication** (values 6, 7, 8)

Data points labeled: Middle manager, Change team, Front-line manager, Sponsor, Project manager, Top manager, Comms professional

Stakeholders have higher levels of trust if the key communicator of the change is middle management. For stakeholders, the gap to communication professionals is even wider. Thus, we must carefully consider the effects of who communicates on behalf of the project and, depending on the objectives, choose the right communicator. We also need to consider how we can improve the effectiveness of highly trusted communicators, i.e. front-line and middle managers, change teams and project managers.

8.2 Recommendations

Our data show a very coherent picture of what makes communication effective: **Communication should be targeted, dialogue-oriented and done by front-line management.**

Our data analysis points to a few recommendations for what projects can do to communicate more effectively.

Listen more. Effective communication is a dialogue. Thus, listen more, talk less.

Understand the change impact. Targeted communication is effective. Thus, projects need to listen more and understand at a deeper level who the audiences are, i.e. what kind of end users need to hear similar messages.

Make front-line management the key communicator. Our data showed that front-line managers are the most trusted communicators. However, front-line managers are also the worst communicators. Projects need to coach them in how to communicate more effectively, i.e. how to better target their messages and how to listen more.

9. Transfer ownership of the change to management

9.1 Introduction

Almost all literature about change management discusses the importance of having clear and compelling management ownership of projects. In general, management ownership is often perceived as one of the top factors influencing the success of change projects.

During our research, we have analysed more than 1,800 academic articles, books and conference papers published on change management, and a significant part of these discussed the importance of management taking ownership of projects. As such, the significance of management ownership of change projects is the focal point of this section.

In our research, we found it essential to ask *if management ownership is critical to project success?*

Furthermore, in our research, we have defined management ownership of the change to be based on management involvement and engagement on three different levels, i.e. owning, supporting and promoting.

- Owning is when the manager is actively involved and engaged, feels and acts as if it is his or her project. He/she runs the project and takes control.

- Supporting is when the manager provides resources to support the project, i.e. time, funding or other resources.

- Promoting is when the manager promotes the project in the organisation by speaking positively about the project.

In our research, we investigated the influence of management ownership with different management levels and studied the activities of top, middle and front-line management.

Top management is the highest level of leadership, e.g. CXO level. Middle management is the layer of leaders below CXO level, and front-line managers are the employees' direct leaders such as department or team leaders.

9.2 Key findings

We investigated the relationship between management involvement in terms of owning, supporting and promoting projects and the perceived success of projects. We found that the amount of participation affects the level of perceived success. The higher the level of management engagement, the higher the level of perceived success.

The most surprising insight from our data is that successful change requires front-line management to take active ownership, not just top management, which is often the key focus.

The effect on the success of front-line management taking project ownership is four times stronger than the impact of top management taking project ownership.

Our data also show that management ownership is more important than managers merely supporting the change and that managers solely promoting the project without supporting or taking ownership negatively affect the perceived success of the project.

Between the three different management ownership activities (own, support, promote), we found that promotion is the least effective and ownership the most effective in terms of increasing the impact of the project.

9.2.1 Top management is the most active, while front-line management is the least active

Senior management is more likely to be engaged in the project than the other management levels. The below boxplots show that, on average, top management is the most active in the three activities of supporting, promoting and taking ownership of projects. They are more engaged than middle management that, on average, engages more than the front-line managers. Looking at the three types of activities, all three layers of management spend most time supporting projects, a little less time promoting projects and least time owning them.

9.2.2 Management needs to own the project; not just support it

In our data, we investigated how the different activities influenced our success parameters across the various management levels. Supporting, promoting and owning projects are all critical to transformation success. What is more interesting is that the curve for ownership is slightly steeper than the other management activities: support and promote. The analysis shows that management ownership leads to a higher degree of transformation success and, therefore, can be considered more important than support and promotion.

Figure 32: Supporting, promoting or owning?

Top management is more likely to be active in the project than lower management
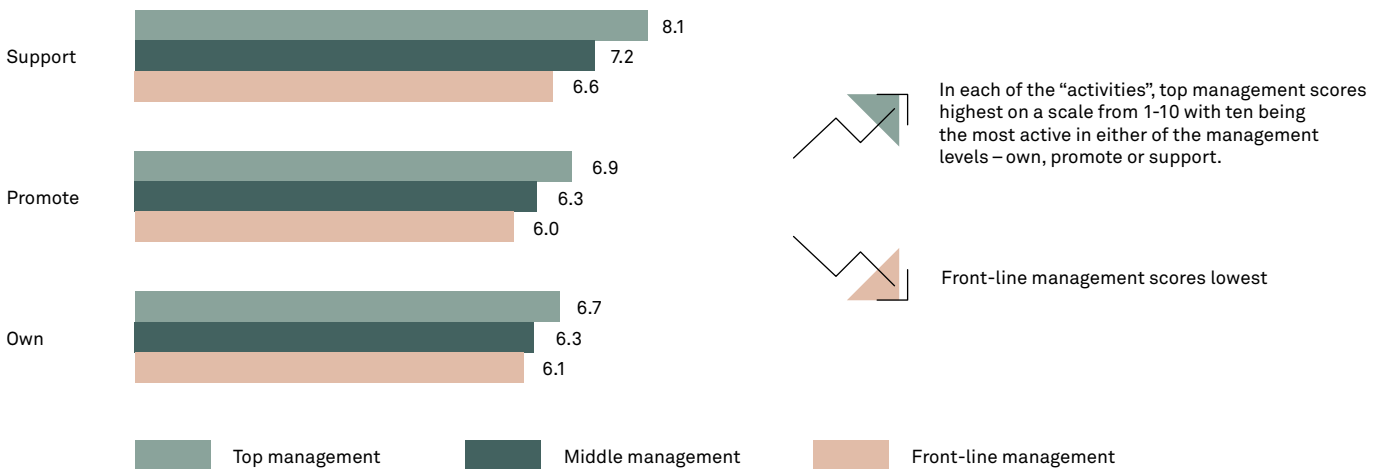

Support — 8.1 / 7.2 / 6.6
Promote — 6.9 / 6.3 / 6.0
Own — 6.7 / 6.3 / 6.1

In each of the "activities", top management scores highest on a scale from 1-10 with ten being the most active in either of the management levels – own, promote or support.

Front-line management scores lowest

Top management   Middle management   Front-line management

Figure 33: **Supporting, promoting or owning and DT success**

Another interesting finding is that none of the activities of engaging managers influences project management success. We expected that supporting, promoting as well as owning the project would increase the likelihood of the project delivering on time and budget. However, the data show that this is not the case.

Figure 34: Supporting, promoting or owning and PM success

Degree to which management ...

Transformation success

... supported the project	... promoted the project	... owned the project
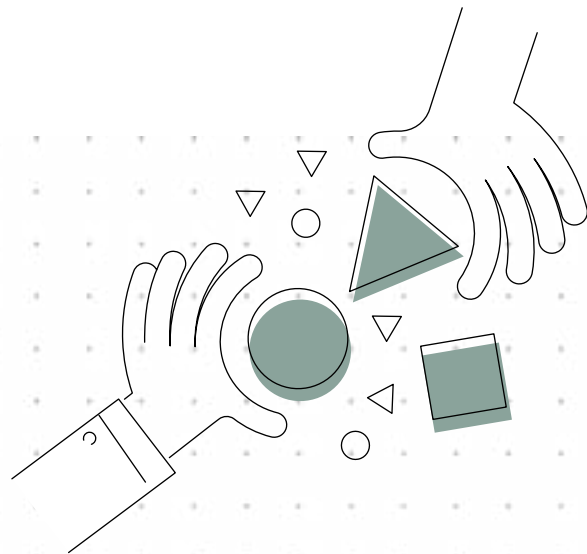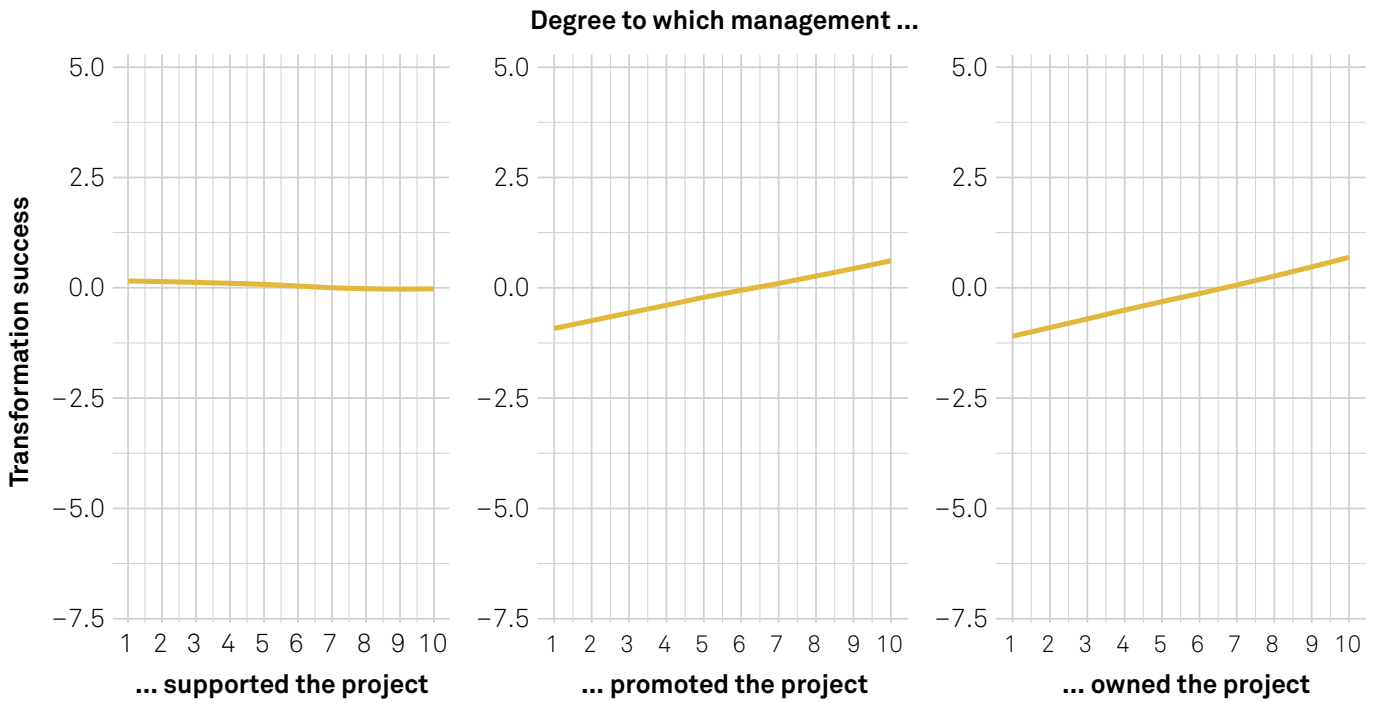
9.2.3 Management support is necessary but not sufficient for success

A regression analysis controls for the "layer" of management carrying out the activities.

In this case, we see again that ownership has a substantial effect, followed by promotion. What is also important to note is that mere support has no additional impact.

Figure 35: **Supporting, promoting or owning**
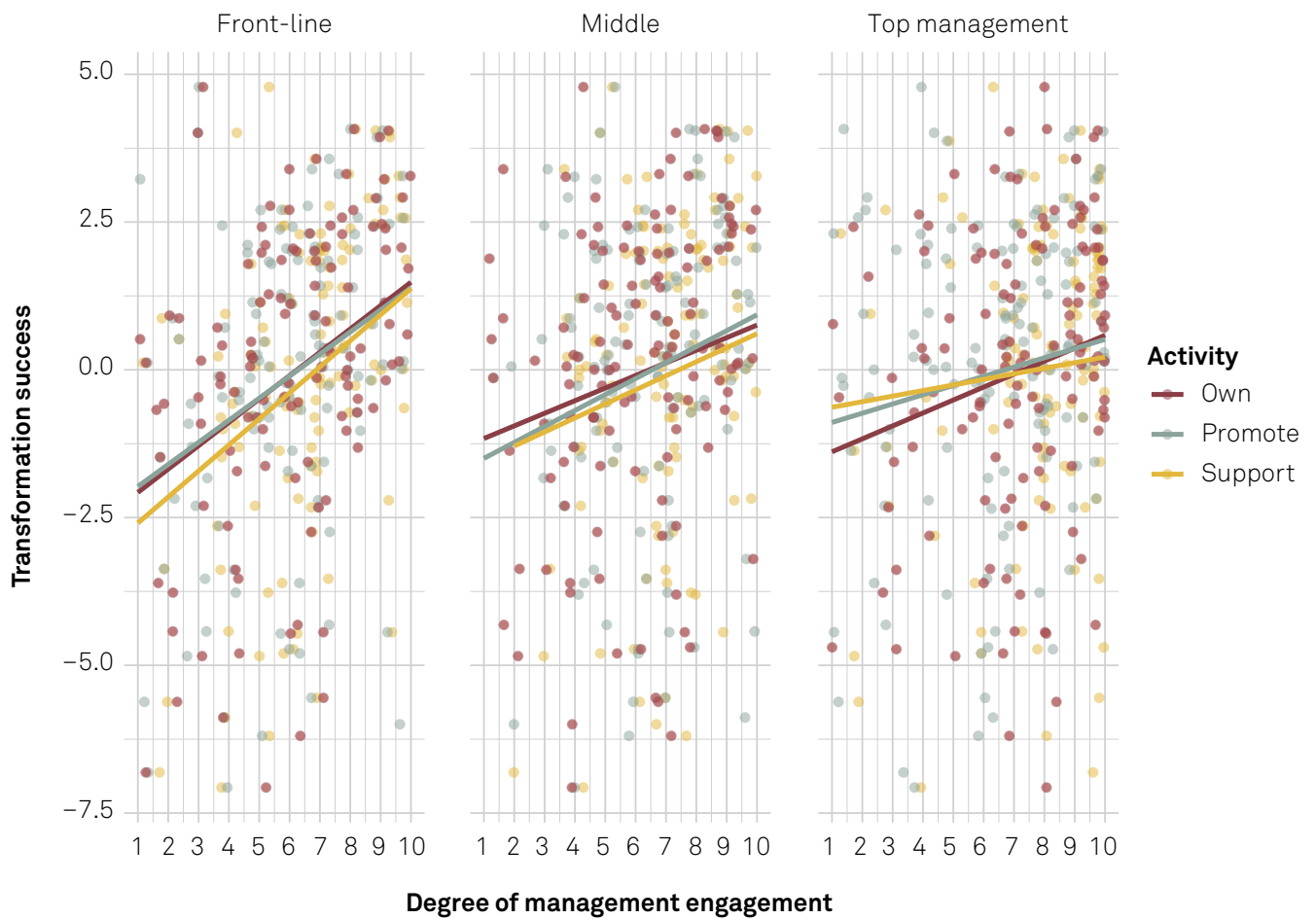
9.2.4 Top management needs to take ownership

Another interesting angle to consider concerns the activity which each of the three different management layers should engage in to increase the likelihood of success. For middle management, there is only little statistical evidence that any of the activities included in our research increases the probability of transformation success, as illustrated in the graph below.

While we can conclude that front-line management engagement is crucial, any further involvement of top or middle management will most likely not result in a similar boost in success.

Interestingly enough, when we look at the engagement of the different management layers in each of the activities, these do not influence project management success. Our data show that we cannot establish a clear

link between the different activities and success.

However, as we can see from the figure above front-line managers are an underused management capacity – at least compared to the other levels of management.

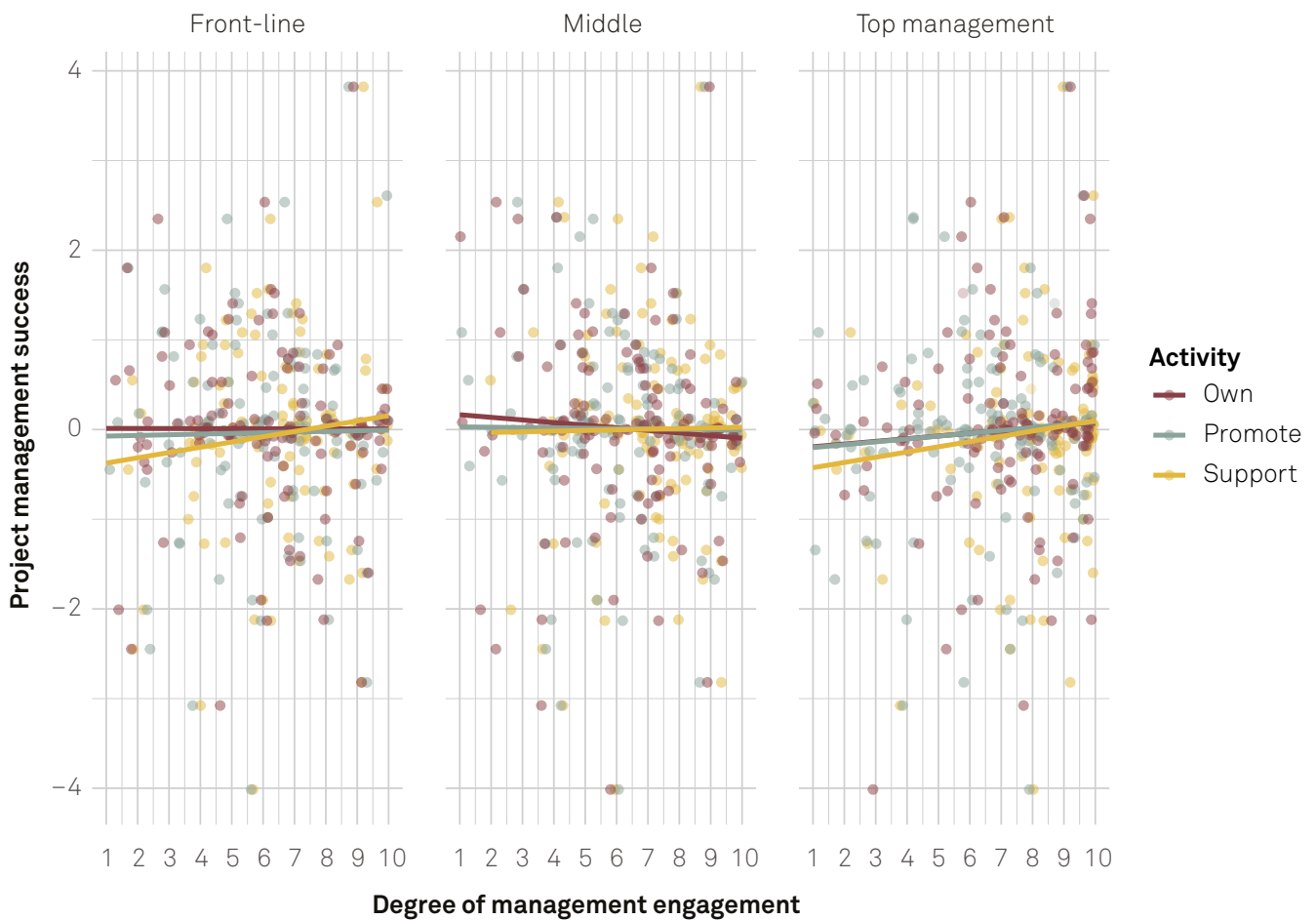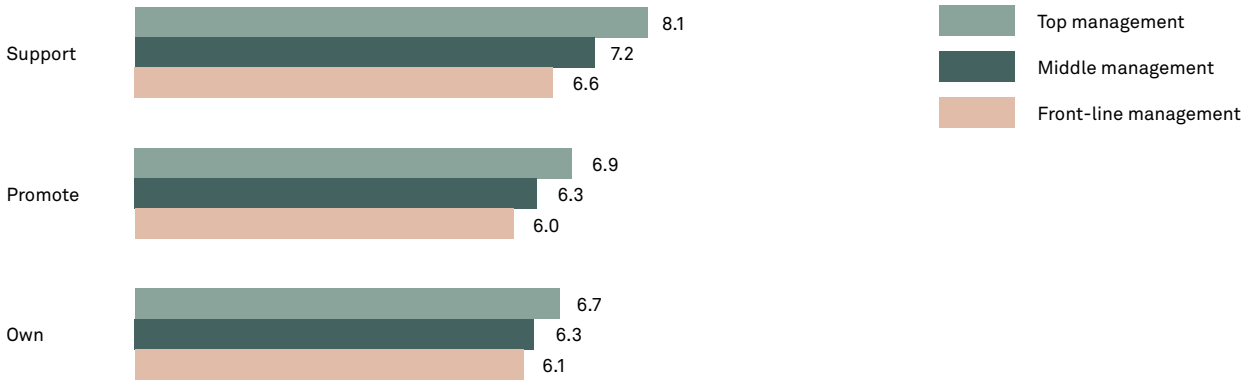Figure 36: **Management layers and PM success**

Support
- Top management: 8.1
- Middle management: 7.2
- Front-line management: 6.6

Promote
- Top management: 6.9
- Middle management: 6.3
- Front-line management: 6.0

Own
- Top management: 6.7
- Middle management: 6.3
- Front-line management: 6.1

Legend:
- Top management
- Middle management
- Front-line management

9.3 Recommendations

Our findings give a clear indication that transformation success requires management engagement. However, different approaches lead to improved management ownership, depending on the layer of management.

The most important contributor to success is to make managers in different layers own the project. In comparison, data show that supporting and promoting are equally influential in project success, while owning is the most effective activity for increasing project success.

In particular, it is essential that top management engages in actual ownership. Senior management has the highest influence on transformation success when senior managers own the change.

The most important recommendations for ownership are:

- Creating real ownership in management is essential for transformation success, especially for top management and front-line management.

- The activities of supporting, promoting and owning are all important across all management levels for transformation success, and ownership is the most effective.

10. Involve users at an early stage

10.1 Introduction

In our research, we investigate the influence of early involvement of end users. Among change practitioners, it is often and commonly agreed that involving end users as early as possible increases the likelihood of project success.

10.2 Key findings

We investigated the following key areas where users could be involved. We tested if these elements have any influence on project impact.

• Design of the system

• Design of processes

• Testing

The data show that across the projects in our sample, the highest degree of user involvement was in testing, then process design and lastly in systems design.

The analysis shows that, individually, these factors influence the success of the transformation. The more users are involved in testing, the higher the transformation success ($p = 0.009$). The more users are involved in designing systems ($p = 0.019$) and designing processes ($p = 0.031$), the higher the success.
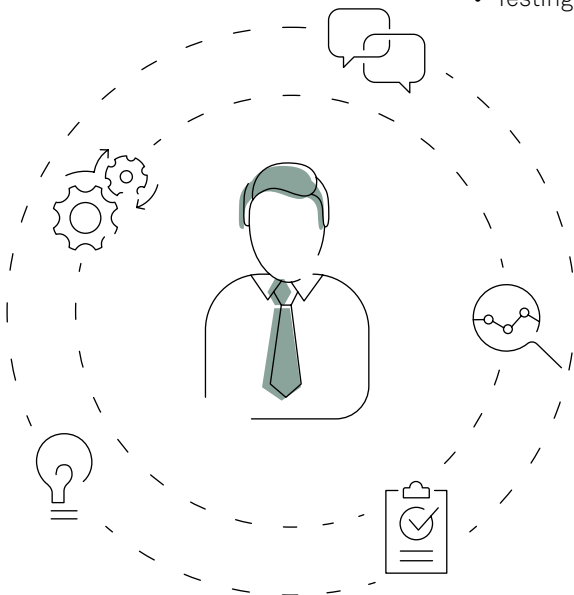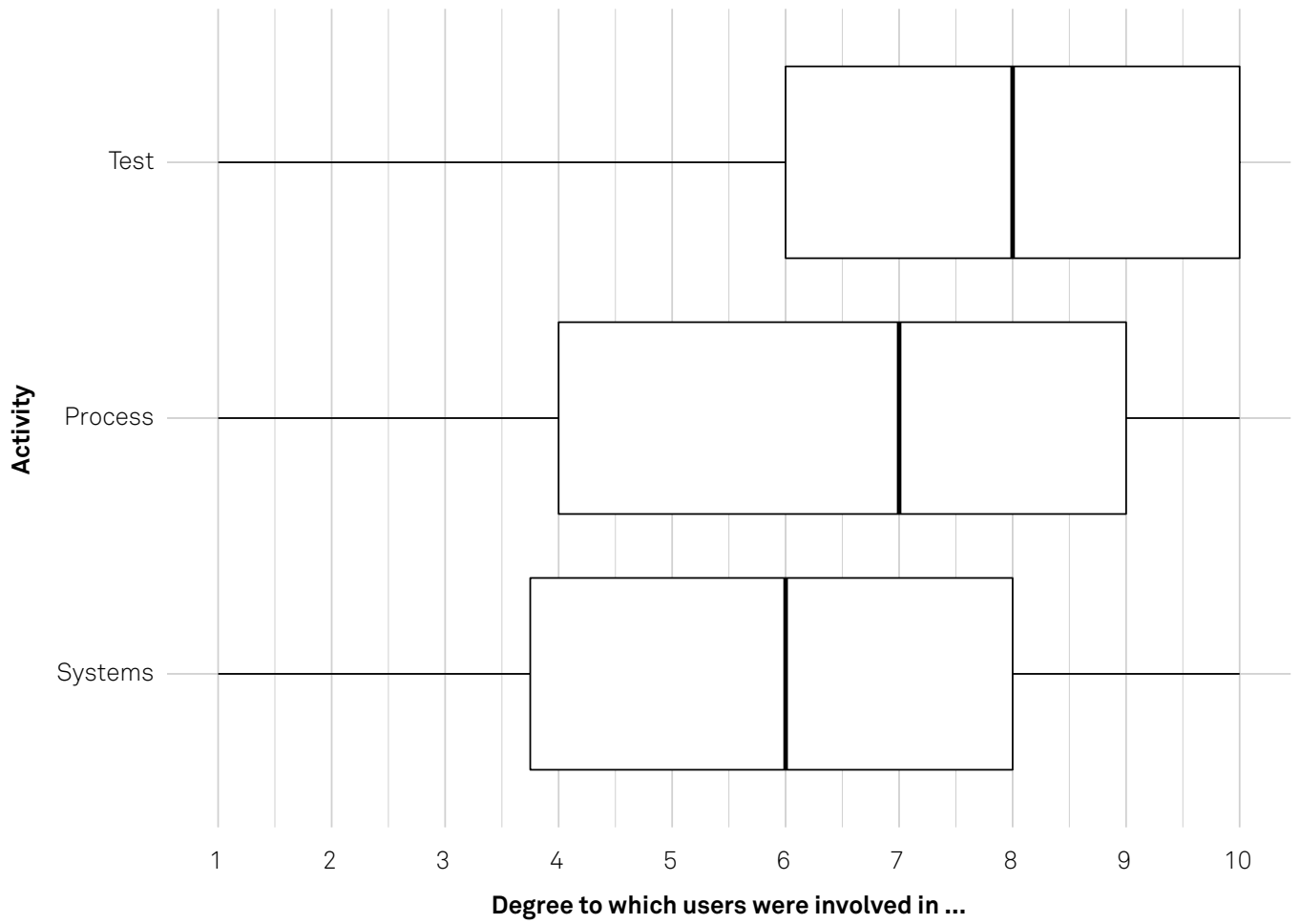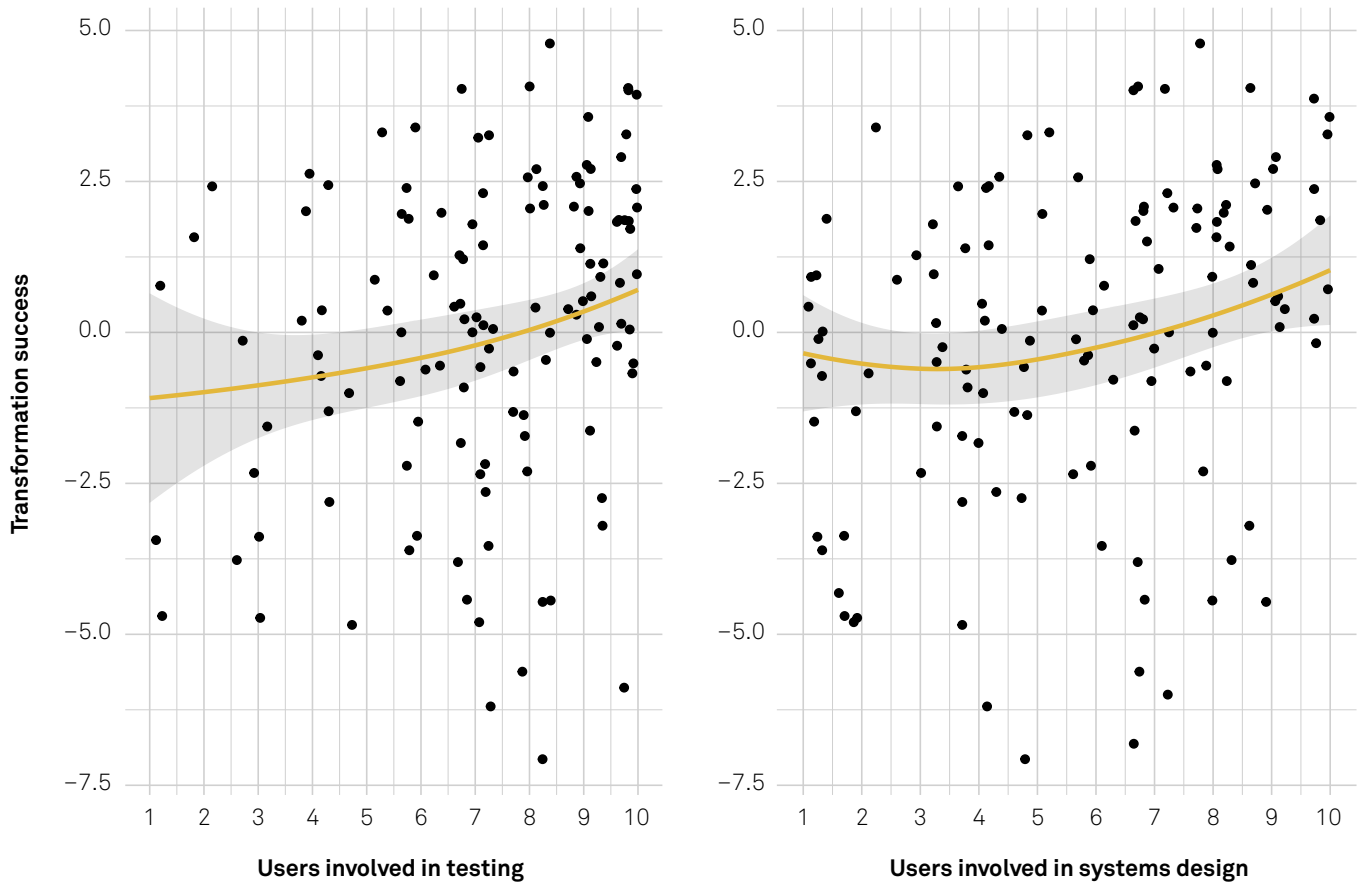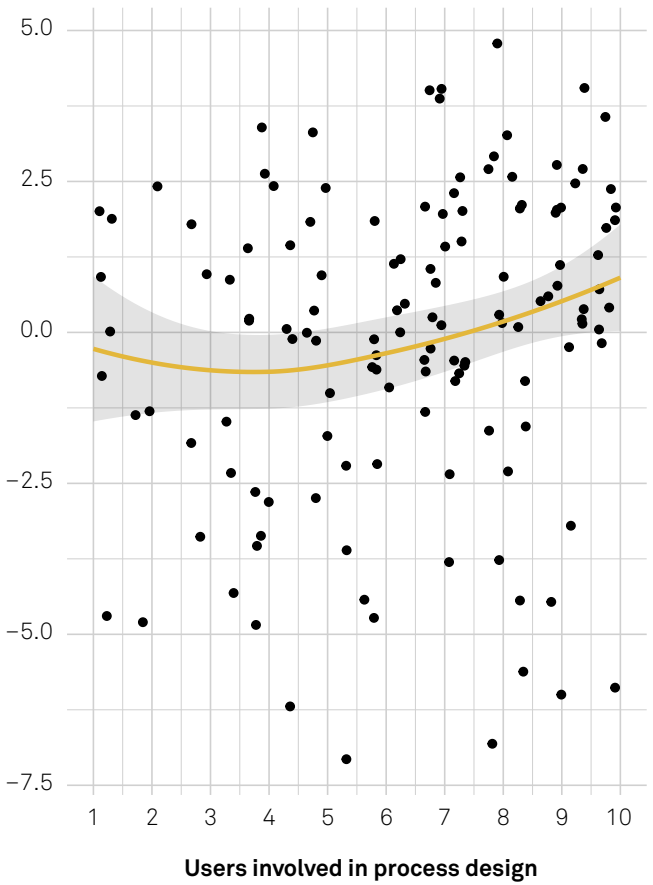
Figure 39: Which activities are end users involved in?

Degree to which users were involved in ...

Figure 40: Involvement and DT success

Users involved in process design

However, collectively, none of the activities increases transformation success above and beyond the other.

The lack of a noticeable effect has to do with the strong correlation between these activities, where user involvement in systems and process design frequently occurs together, they are also often absent together (r = 0.75).
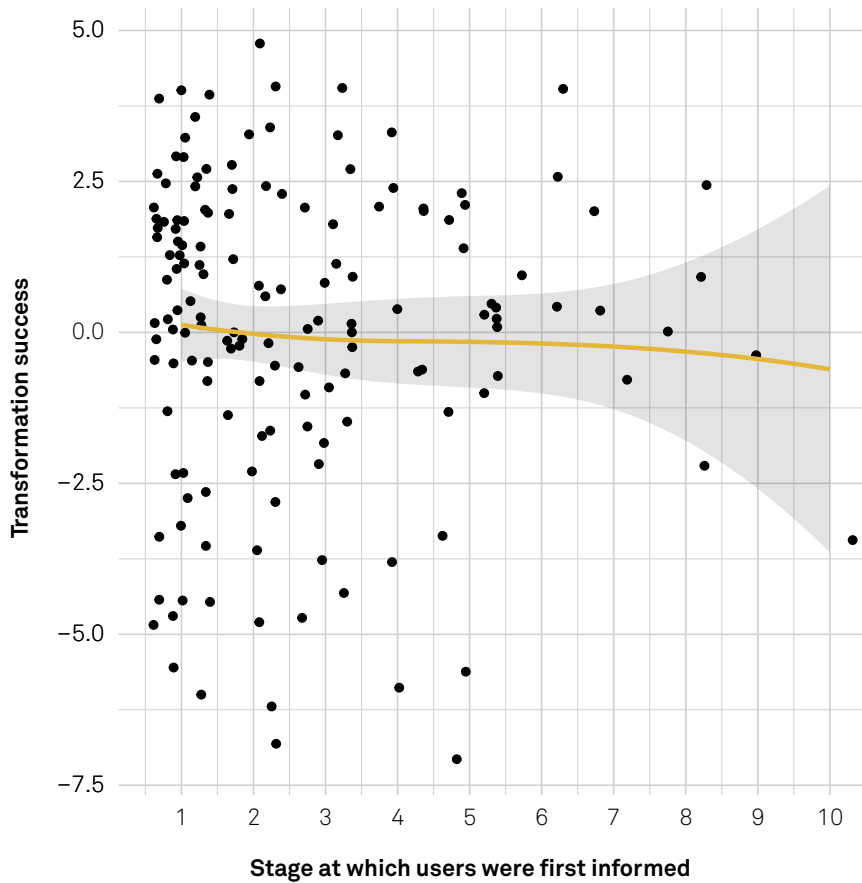
In our research, we also investigated the point in the project where end users are first informed about the project and first involved in the project. Our research has proven that users are usually advised about the project in the very early stages of the project – i.e. right after initiation of the project.

Figure 41: Involvement timing and success
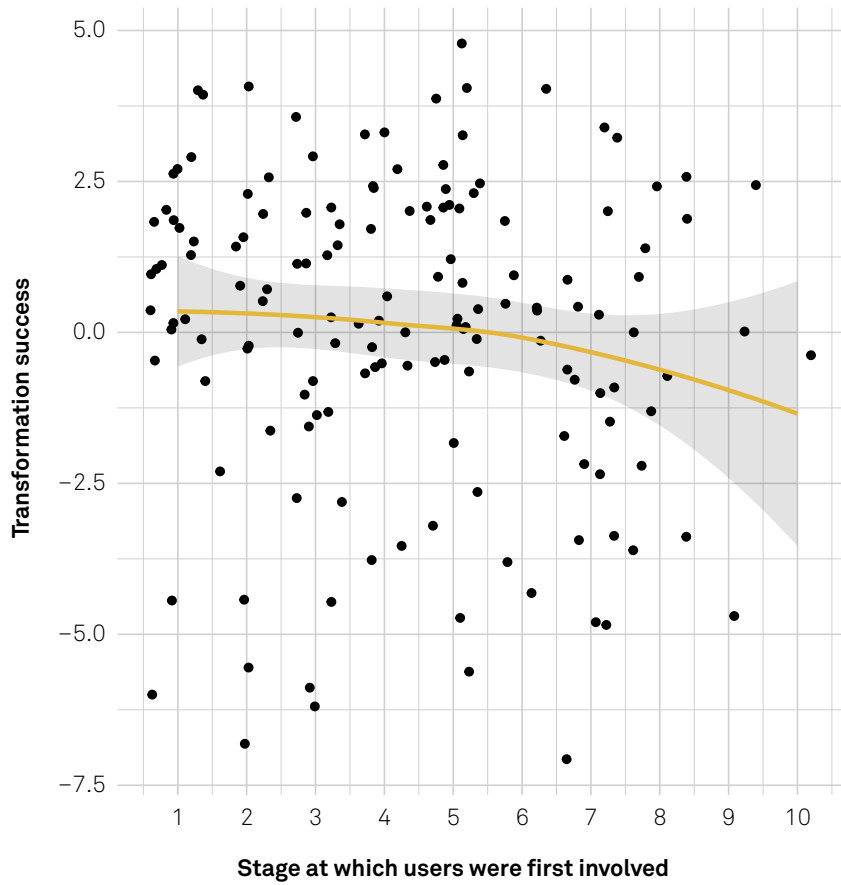
Transformation success (y-axis)

Stage at which users were first informed (x-axis)

However, neither the point at which the project first involved users (p = 0.137) nor the point when users were first informed (p = 0.655) is associated with transformation success.

Nevertheless, what the data show is a clear and statistically significant association between the degree to which users were involved in testing, systems design and process design and the stage of the project when they were first involved (all p <0.001).

Figure 42: **Involvement activities and timing**
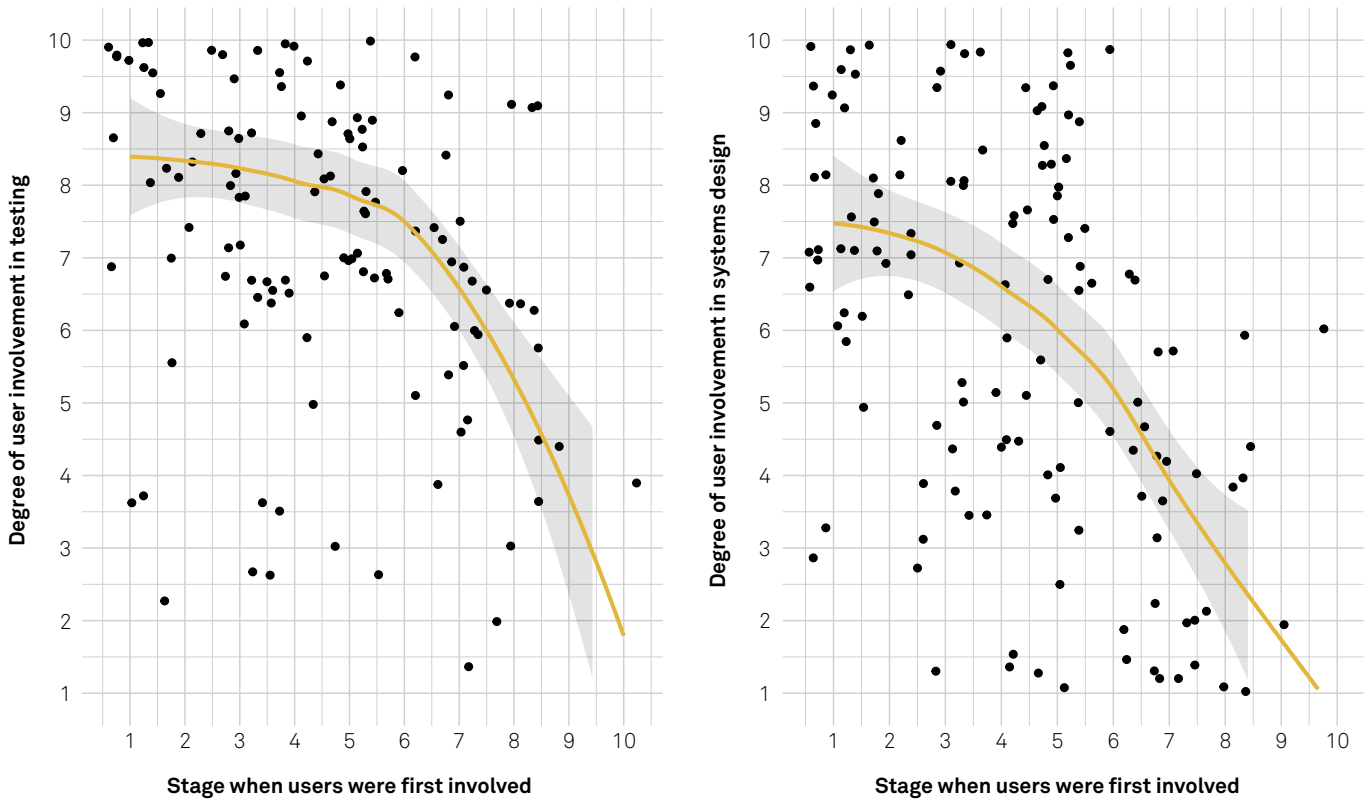
Further analysis of the data revealed a statistically significant chain, where early user involvement has an indirect effect on transformation success. The earlier the users are first involved, the higher the degree to which they are involved in testing. The higher degree of user involvement in testing increases transformation success. We interpret this chain of effects as a simple outcome of early testing.

Figure 43: **Involvement and timing**

Degree of user involvement in process design (y-axis)

Stage when users were first involved (x-axis)
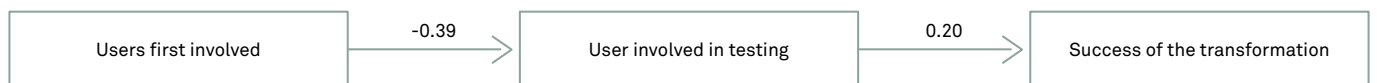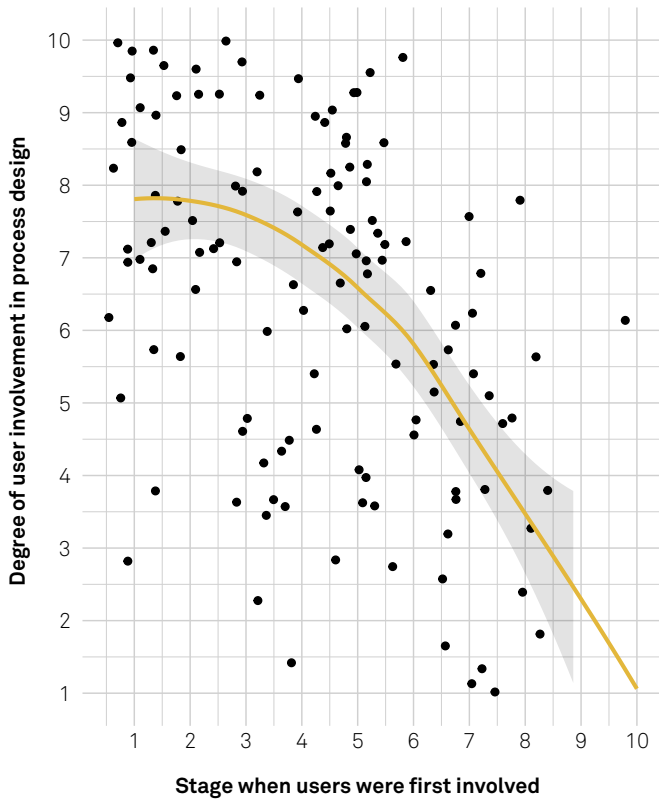
10.3 Recommendations

Our data showed no direct link between early user involvement and transformation success. In our interviews, the critical barriers to success were that users are difficult to get access to, lack of highly qualified users and issues with keeping users involved over a long period of time.

Early user involvement might be a good idea, but most projects we studied struggle to make it work.

Nevertheless, what our data show is an indirect effect. The success of the transformation depends on the involvement of users in testing. The earlier a project conducts tests, the better.

Our data also showed that when users are involved in systems design, they are also very likely to be involved in process design and testing. Thus, overall, more user involvement is associated with better outcomes. However, the crucial significant lever is testing.

Our findings point to two simple recommendations: **Never test without user involvement. Test as early as possible.**

11. Conclusion

Our study started with a systematic review of nearly 2,000 academic articles and conference papers. We have also studied more than 100 frameworks for change management, which we found in books and other publications such as consulting reports.

We condensed this significant body of knowledge into the critical levers for managing organisational change in IT projects. We then held workshops with change practitioners to validate these levers before we went out to study 155 projects in depth.

The seven levers we investigated were:

1. Have a clear vision for change

2. Have a defined approach to change

3. Establish trust-based relationships

4. Provide effective training

5. Communicate effectively

6. Transfer ownership of change to management

7. Involve users at an early stage

Our analysis found that of the seven levers, only four are statistically significantly associated with transformation success:

- Trust-based relationships (p <0.001)

- Effective communication (p <0.001)

- Effective training (p = 0.003)

- Management ownership (p = 0.040)

Levers not statistically significantly associated with the success of digital transformations:

- Defined change approach (p = 0.072)

- Clear vision (p = 0.159)

- Early user involvement (p = 0.909)

11.1 Have a clear vision of the future

Our findings show that having a clear and appealing vision in itself is not a direct lever of success. What matters for success is what a project does with the vision. What counts is that stakeholders and end users trust the project. The project's vision can help establish this trust, whereas projects without a clear vision need a high-trust environment to compensate.

Stakeholder trust is related to the benefits of the project. Projects need to identify the benefits of the change and then manage these. A clear vision of the future helps identify the benefits.

Projects also need to create a positive attitude towards the change with end users. An appealing vision of the future

and making end users understand the reasons for the change build a positive attitude, but what our data also show is that it is easy to understand the rationale of a burning platform.

11.2 Have a defined approach to change

Our findings also highlighted that top-down approaches have a higher rate of project management success. They are more likely to deliver on time, budget and benefits.

The question of top-down versus bottom-up puts a spotlight on a big problem when it comes to managing change: bottom-up approaches are more likely to have cost overruns and schedule delays, i.e. decreasing project management success.

Top-down and bottom-up approaches are equally successful with regard to change impact, i.e. transformation success. Success is determined by which method fits the context of the specific project and how well the project executes and adheres to the strategy.

Therefore, our data suggest the following recommendations:

If your project needs to avoid cost overruns and delays, a top-down approach is more likely to succeed and stay in control of budgets and delivery dates.

Our analysis shows that having a defined approach to change in place has no direct effect on success. However, having a defined approach to change in place has an indirect impact.

Your project needs to stick to the chosen approach to managing change

to deliver a successful transformation. Having dedicated budgets and resources increases the likelihood that a project adheres to its preferred method.

For projects to be able to dedicate resources and budgets to the change, a defined approach to the change is needed.

In short, having a defined approach in place is essential to secure and safeguard dedicated resources and budgets for change. On top of that, consistency is critical. Sticking to the change methodology is nearly always more important than what the change methodology is.

11.3 Establish trust-based relationships

Our data show that, above all, projects need to focus on building trust with stakeholders as well as with end users.

We tested whether the commonly used Trust Equation[2] holds valid for building relational trust.

Relational trust with **stakeholders** is strengthened by **intimacy**, i.e. psychological safety of making the unspeakable and the difficulties of work speakable in the project, while trust relationships are weakened by **self-orientation**.

Relational trust with **end users** is strengthened by **credibility**, i.e. having the needed experiences and competencies, and **intimacy**, while trust relationships are weakened by **self-orientation**.

The first thing to conclude from the data on what to consider when driving

IT projects concerns how you as project manager talk about the change project. If your narrative focuses on the project's reliability of delivering as promised, then your story does not help build trust.

A narrative for your stakeholders that builds and strengthens trusting relationships needs to focus on shared goals and acknowledge the unspeakable in the organisation without revealing your sources' confidence.

In addition, a narrative for your end users should include your credibility and experience from having managed change before.

The analysis of the project vision above showed that the best way to demonstrate shared goals differs between stakeholders and end users. For stakeholders, this is best communicated through the identified benefits of the change; for end users through an appealing vision and helping them understand the reason for the transformation.

The second thing to conclude from the data on what to consider when driving trust in IT projects concerns how you communicate. For both your stakeholders and end users, intimacy is a positive force that builds trust, while self-orientation is a negative force that destroys trust. When you communicate with a focus on yourself and your project, you destroy trust. Maister et al. have three simple recommendations for how to communicate in a way that creates intimacy and lowers your self-orientation: (1) do more listening than talking, (2) think out loud and (3) do not think less of yourself – think of yourself less.

---

[2] Trust = (Credibility + Reliability + Intimacy) / Self-orientation

11.4 Provide effective training

Our data show that effective training contributes to transformation success.

Our data only found weak evidence that transformation success increases when training focuses on changes in processes. The more successful projects also trained via eLearning and self-training in sandboxes. Generally, the data showed that more content and more formats increase transformation success. The data also indicated that starting training as early as possible increases success.

The conclusion we drew from the data is that content, best formats and best timing depend on the context of the project and the change.

However, three principles emerged that work across the different contexts of the projects we studied:

1. Think about learning, not training.

2. Provide formal learning through co-designed training. The co-design increases the effectiveness of the training and should include the topics, formats, timings.

3. Provide informal learning via front-line managers: engage with front-line management to help them prepare the end users for the changes to come.

11.5 Communicate effectively

Our data show a very coherent picture of what makes communication effective: **Communication should be targeted, dialogue-oriented and done by front-line management.**

Our data analysis points to a few recommendations for what projects can do to communicate more effectively.

Stick to your plan. Nearly all projects devise a communication plan, but only a few have the discipline to stick to the plan.

Listen more. Effective communication is a dialogue. Thus, listen more, talk less.

Understand the change impact. Effective communication is targeted. Thus, projects need to listen more and understand at a deeper level who the audiences are, i.e. what kind of end users need to hear similar messages.

Communicate about the benefits of the change, i.e. "What's in it for me?". While the content of the communication depends very much on the specific project and change, the projects that communicated about the benefits of the transformation were more effective in their communication.

Make front-line management the key communicator. Our data showed that front-line managers are the most trusted communicators. However, front-line managers are also the worst communicators. It would be best if your project coached front-line management on how to communicate more effectively, i.e. how to better target their messages and how to listen more.

11.6 Transfer ownership of change to management

How management engages is a mix of three types of activities: supporting the project, e.g. making funds, resources and experts available; promoting the project, e.g. going out and talking about the project and the change; taking active ownership of the project, e.g. actively managing stakeholders, benefits realisation and even getting involved in change and project tasks and activities.

Across the different activities and "layers" of management (top, middle, front-line), we found that more engagement is associated with increased transformation success.

We analysed where projects should focus their efforts. We identified two areas: transferring ownership of the change to the management and engagement of front-line management. Any progress in these two areas has high returns in terms of increased transformation success.

The most important contributor to success is to get managers to actively own the project. The data show that supporting and promoting are also influential in project success, but active ownership has the most substantial increase in transformation success. However, from our interviews we found that, most often, management does not know what projects specifically ask of them.

Similarly, the most significant boost in transformation success comes from increased engagement by front-line management. Support, promotion and ownership of the change by front-line management increase transformation success.

The most important recommendations for ownership are:

• Create active ownership of the change by management

• Engage in front-line management

• Front-line management taking active ownership of the change achieves the best outcomes

Make a detailed plan of how the project is going to engage management and for what specific activities at which point in time you need managers.

11.7 Involve users at an early stage

Our data showed no direct link between early user involvement and transformation success. In our interviews, the critical barriers to success were that users are difficult to get access to, lack of highly qualified users and issues with keeping users involved over a long period of time.

Early user involvement might be a good idea, but most projects we studied struggle to make it work.

Nevertheless, what our data show is an indirect effect. The success of the transformation depends on the involvement of users in testing. The earlier a project conducts tests, the better.

Our data also showed that when users are involved in systems design, they are also very likely to be involved in process design and testing. Thus, overall, more user involvement is associated with better outcomes. However, the significant lever is testing.

Our findings point to two simple recommendations: **Never test without user involvement. Test as early as possible.**
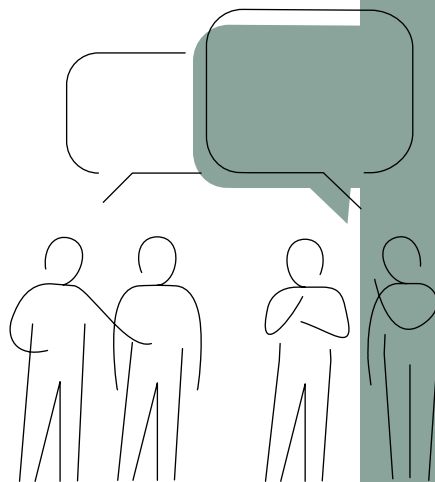
What to do differently in your project on Monday

Figure 44: **How to apply the findings**

Lever of change (in order of importance)	Ask your project	Then do

Trusting relationship with stakeholders and end users	Do your stakeholders trust you?
	
	Do your end users trust you?
		• Generally, projects do not build trust by being reliable. Avoid talking about how reliably the project delivers.
		
		• For stakeholders: Firstly, build trust by creating intimacy with your stakeholders. Create a psychologically safe environment where they can vent what makes their jobs difficult.
		
		  Secondly, demonstrate that your project aligns with the goals of the organisation. Identify and talk about the benefits of the change to create alignment.
		
		• For *end users*: Firstly, build trust by creating a psychologically safe environment. End users need to be able to share with you in confidence what might be otherwise unspeakable, e.g. things that do not work, without getting blamed for it.
		
		  Secondly, build trust by referring to the credibility of the project, i.e. your capacity and experience in bringing about positive change.
		
		• Thirdly, demonstrate that your project aligns with the goals of the organisation. End users also need to understand the rationale behind the change and see an appealing vision of the future.

Lever of change (in order of importance)	Ask your project	Then do
Effective communication	Does your transformation listen more than tell? Is it targeted? Who is your key communicator?	• Listen more – dialogue makes communication effective. Get your project to talk less and listen more. • Create channels that bring the conversation about naturally: user forums, feedback sessions, test sessions, collaborative working – avoid one-way communication, including surveys, newsletters and status reports as your only means of communication. • Show it, don't tell it. Make the change tangible, e.g. through the use of prototypes. • Demonstrate what's in it for them – target all communication to your audience. • Support and coach front-line management to become key communicators of the change – they are the most trusted communicators.
Effective training	How do your users learn about the change?	• Design the need for training away: Work on a solution design that is self-explanatory and intuitive. • Involve your users in design and prototyping; this way, they will learn about the changes while the transformation takes place. • Plan and provide formal training, which needs to be co-designed with users. • Support and coach front-line managers to provide informal training that will prepare end users for the change. • Focus on learning, not training; learning about change is broad, reinforcing and takes time. Learning is an iterative and staged activity; it is not a one-off classroom session.

Lever of change (in order of importance)	Ask your project	Then do
Active management ownership	Does front-line management take active ownership of the change?	• Empower, support and coach front-line management to take ownership; make it clear what you expect of them and what you want them to do. • Provide resources, capabilities and support for front-line managers to drive the transformation. • Be coach and facilitator for front-line managers to create proximity, trust, understanding and ownership. • Avoid having management only as promoters or supporters of the project; get them to engage more deeply and make their engagement visible. • Make sure that your project spends at least as much time working with front-line management as it does working with top management.
Defined approach to managing the change	What type of transformation are you?	• Be consistent – pick an approach to managing change, and then stick to it. • A structured approach is essential for your sponsors. Make it clear to your sponsors that the transformation might be too undefined to have a top-down and waterfall-like approach to change. • Create control of product demonstrations and user feedback. • Avoid detailed long-term plans – ensure that you have the capability to update plans regularly as they emerge. • Tap into the weak and early signs that are better indicators of arising issues than conventional milestone-based progress checks.

Lever of change (in order of importance)	Ask your project	Then do
A clear vision of the future	Have your end users been involved in creating the vision? Do your stakeholders know about the benefits that your project brings?	• A clear vision helps identify the benefits of your project. Link the vision to your benefits and then manage those benefits. • Engage with end users to define the problem which the transformation addresses; use their voice and words to craft the story of the transformation; focus on creating an appealing vision of the future. • Create a shared understanding through a dialogue on the reasons for change; most likely, this will bring burning platform issues of things that do not work today to the surface.
Early user involvement	Do we involve end users in testing? Do you involve end users only when they are indispensable?	• Identify key subject matter experts, plan and agree on their commitment to the transformation; be clear on the key timeslots when you engage users and key stakeholders. • Involve end users in testing and start testing as early as possible. • Never trust non-functional test reports without seeing for yourself how the users react.

Authors

Thomas Gottschalck

Partner at Implement Consulting Group
Expert in IT projects and change
management

Astrid Lanng

Consultant at Implement Consulting
Group
Change management expert
specialised in trust and training

Mads Lomholt

Director at Implement Consulting Group
Change management expert specialised in ownership and involvement

Frederik Jakob Madsen

Consultant at Implement Consulting Group
Change management expert specialised in defined change approach and reason for change

Andreas Bang Leed

Head of Data Science at Oxford Global Projects
Data expert

Alexander Budzier

Fellow in Management Practice at University of Oxford
Expert in change management

Kim Bjørn Thuesen

Director at Implement Consulting Group
Change management expert specialised in communication

IM_

UNIVERSITY OF OXFORD

Saïd Business School