



The Future of Leave-taking

*Research and design for leave-taking experience
in an aviation context*

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Preface

The project was assigned by HR Shared Services and HR Digital Studio of KLM Royal Dutch Airlines, aiming to explore leave-taking experiences in aviation context. This graduation thesis communicates the result of six-month research and design project 'The future of leave-taking', designing a design toolkit and a dashboard for supervising leave-taking.

Executive Summary

This research project focuses on understanding and improving the leave-taking experience in KLM Royal Dutch Airlines. The main focus was to explore how KLM HR can provide a better leave-taking experience for employees and managers.

The research began with a literature review, where the definition of employee absenteeism in literature and in regulations were discussed. This is followed by an analysis of the influence of employee absenteeism, and the decomposition of its causes. One may also find the roles and functions in absenteeism management of KLM in this chapter.

With the general understanding of absenteeism in legal and model level, the author attempts to answer these questions via context analysis, i.e., to analyse how leave-taking is managed and developed by stakeholders in KLM. Through 26 stakeholder interviews, a stakeholder map was illustrated, their responsibilities and interests in leave-taking were explained, the process of leave-taking and its related systems were introduced. There are five main responsibilities regarding leave-taking management: System & Flows, Culture & Organisation, Services, Agreements and Information. The development and trends among them were also analysed.

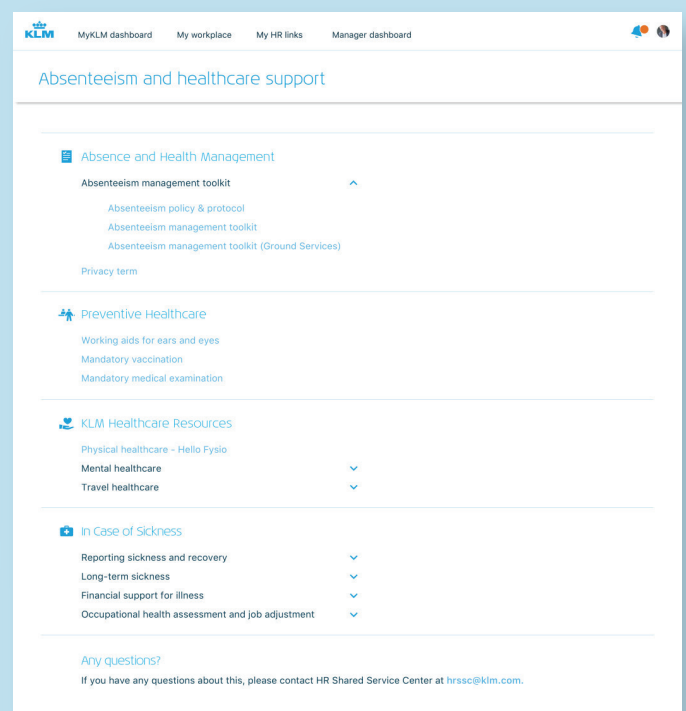
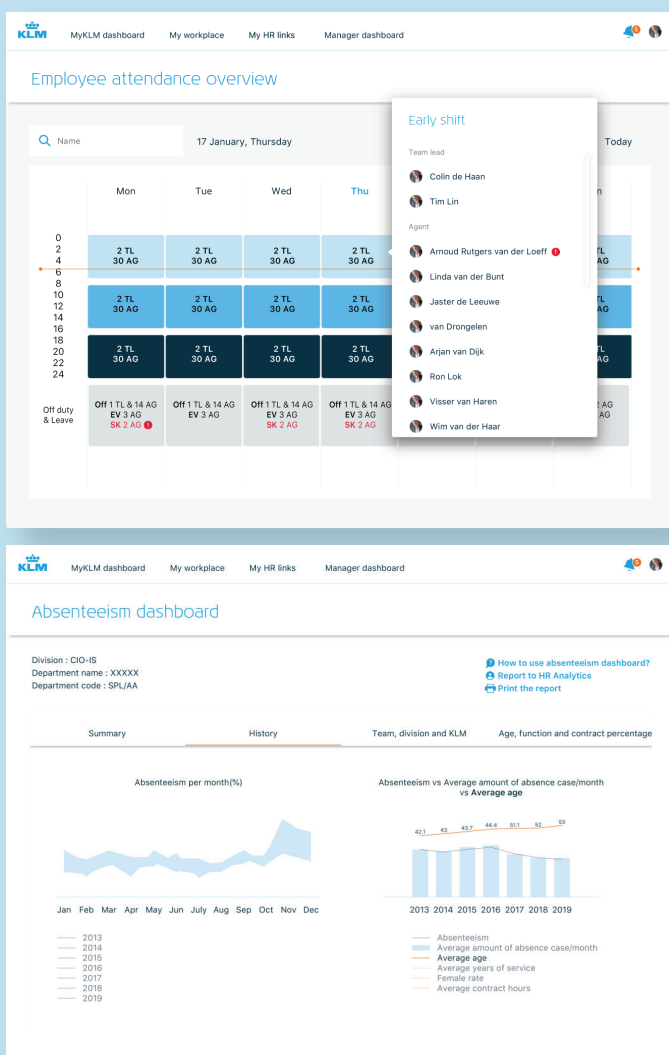
To comprehend the problems and wishes of employees and managers in leave-taking, a user research was done with the approach of context-mapping. Through the participation of 10 managers and employees from different departments in KLM, the problems and pains from the users had become clear. Target groups are clustered into four quadrants according to

their working schedules and size of the team. Behaviours, difficulties and wishes regarding leave-taking of all the four groups were analysed. Two important additions are the needs behind the problems and the values of KLM that can be brought out.

All the findings from above were organised into a toolkit based on the method of 5W1H. This toolkit depicts the overview of context analysis and provides hints and tips when designing for different target groups in KLM. This design toolkit serves two purposes: 1. An organised and interactive information carrier for the stakeholders to have the full picture of the findings and 2. A design facilitator that guides the developers and designers when generating new ideas to solve these problems. This design tool performs well in both jobs but particularly excels in the second mission.

Three main problems are identified as within the responsibility of the clients, HR Shared Services and HR Digital. With the use of the toolkit, three concepts were proposed in corresponding to the three problems. Through the impact/effort matrix, one of the concepts 'Manager dashboard' was selected and further developed into three products "Employee Attendance Overview", "Absenteeism and Healthcare Support" and "Absenteeism Dashboard" (Fig 0.1). The products can be used on desktop/laptop platforms and the main input media will be keyboard and mouse. They are mainly designed for the managers who have big team of staff work in shifts, as they have the most pain in supervising leave-taking, sickness and absenteeism.

The three products were evaluated by user tests with five managers who belong to the target group. All the participants have given their positive feedback in all of the aspects of usability, cognitive ergonomics and values. With the roadmap provided, it is expected that two of the products can be launched in 2020 Q1, and the other can be launched in 2021 Q4. The budget of the product can not be calculated due to the limited information, but a rough estimation leads to a safe of € 26.557.500 if the absenteeism rate in KLM can drop by merely 1%.



a b
c

Fig. 0.1 The three products of 'Manager dashboard': (a) 'Employee Attendance Overview', (b) 'Absenteeism and Healthcare Support' and (c) 'Absenteeism Dashboard'

Table of Contents

Acknowledgement	4
Preface	5
Executive Summary	6
CHAPTER 1 INTRODUCTION TO THE PROJECT	11
1.1 About the project	12
1.2 Ambition	16
1.3 Approach	17
CHAPTER 2 LITERATURE STUDY	21
2.1 Scope	22
2.2 Absenteeism	23
CHAPTER 3 Context Analysis	29
3.1 Approach	30
3.2 Stakeholders	31
3.3 System and process	34
3.4 The Trends Among Stakeholders	38
3.5 Conclusion	45
CHAPTER 4 User Research	47
4.1 Approach	48
4.2 Target groups	52
4.3 Existing Problems	56
4.4 Needs and values	60
4.5 Conclusion	63

CHAPTER 5 Synthesis	65
5.1 Approach	66
5.2 Design toolkit	68
5.3 Evaluation	72
5.4 Conclusion	75
CHAPTER 6 Creation	77
6.1 Scope and problem definition	78
6.2 Initial Concepts	80
6.3 Prioritisation	86
6.4 The final concept: Manager dashboard	88
6.5 Conclusion	103
CHAPTER 7 Evaluation	105
7.1 Approach	106
7.2 Result and Discussion	108
7.3 Conclusion	121
CHAPTER 8 Conclusion and Recommendation	123
8.1 Conclusion	124
8.2 Recommendation	125
8.3. Reflection	130
Reference	132
Glossary	136



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BTC

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A photograph of a KLM Boeing 747-400 aircraft on a tarmac. The aircraft is blue and white, with "AIRFRANCE KLM" and "City of Johannesburg" visible on the fuselage. The aircraft is parked next to a large green ground support vehicle with its cargo door open. In the foreground, there is a blue KLM ground support vehicle (GSE) with the license plate "KL500007" and a white van with the license plate "KS 814371". The background shows a cloudy sky and other airport buildings.

CHAPTER 1

INTRODUCTION TO THE PROJECT

In the introduction, it starts with the background of the assignment, including the context, the client and problem definition. Following the opening, readers can expect to have an overview of research approaches and the structure of this project.

1.1 About the project

This research project focuses on understanding and improving the leave-taking experience in KLM (Koninklijke Luchtvaart Maatschappij), widely known as the Royal Dutch Airlines (Fig. 1.1). Being a design project, the client is the HR department of KLM and employees are naturally the users. The context of this project is therefore specifically about the airline company KLM.



Fig. 1.1 KLM logo since 2011 ("KLM", 2019)

Company

Founded 7 Oct, 1919 in Amstelveen, the Netherlands, KLM is the oldest existing airline of its original name in the entire aviation industry. It is now part of the Air France–KLM group and a member of the SkyTeam airline alliance (“KLM Corporate”, n.d.). Its current logo which reflects the membership of SkyTeam can be dated back to 1961 (“Bestand: KLM_logo.svg”, n.d.). By 2018, their airline has 214 aircraft and 35,410 employees spreading in 145 airports around the globe (“Full Year 2018 Results”, 2019).

Just like other airline companies, the major business of KLM is aviation transportation, ground operation and aircraft maintenance (“Company profile”, n.d.). As airlines operate round-the-clock, a large amount of staff in related departments are required to work in shifts. Besides, the working schedule could be significantly subjected by the status of flights, conditions of passengers and the weather fluctuation. Emergency and disruptions are an inevitable nature in airlines.

With a long history and much heritage shared among more than 35 thousand staff, many aspects in KLM, including systems, workflows, cultures and regulations, have strong inertia against adaptation. Furthermore, the broad functional range of aviation transportation business adds another level of complication to a united leave-taking experience.

Client

The client of this project is part of KLM Human Resource. Two specific parts involved majorly: HR Shared Services and HR Digital Studios. HR Shared Services is responsible for providing personnel services, including contracts, salaries and time and attendance related issues, to all employees in KLM; HR Digital Studios is responsible for centralising and digitising the HR Services.

Human resource management is commonly recognised to be responsible for staffing, employee compensation and benefits, and for defining or designing work. Essentially, the purpose of human resource management is to maximise the productivity of an organisation by optimising the effectiveness of its employees (Caver, Davenport, & Nyce, 2015). Human resource management is concerned with the development both of individuals and the organization in which they operate. It is engaged not only in securing and developing the talents of individual workers, but also in implementing programs that enhance the communication and cooperation between individual workers in order to nurture the development of the organization (“Human Resource Management”, n.d.).

The HR department at KLM has a strong vision on how to reorganise the company to become a high performance organisation (HPO). Ultimately, their goal is to encourage their staff to become self-steering. Since 2016, it has been working on digitalising its services, in an aim to enable its staff to execute more tasks independently. They also have been empowering their staff to gain more autonomy with respect to their jobs and their personal situations (“Briefing Contextmapping Skills 2018-2019”, 2018).

Problem Definition

The vision of employee empowerment and self-steering capacity applies not only to an employee's daily, but also to the occasional situations, among which leave-taking is the main scope of this project. The problems that the clients have observed, which inspired them to initiate the project, were illustrated by them in the kick-off meeting on 18th March, 2019, at Schiphol (Appendix A). In short, the pain point behind the project was that a lot of situations do not fit in the current leave-taking regulations and processes.

According to the Global Payroll of the Netherlands ("Understanding Absence in the Netherlands", n.d.), there are three types of leave-taking: pay leave, unpaid leave and sickness. Paid leave includes vacation, reduced working hours and maternity leave; unpaid leave includes strikes and special leave; sickness includes disability and accident. While the categories are clear in the Dutch regulations; not all the cases can be easily classified and processed in real situations. Occasionally, the situations are complicated, and it could be difficult for employees, their managers and the employer to decide what to do and how to proceed the procedure with procedures with no ambiguity.

What causes the problem even more difficult to tackle is the emotions and the sensitivities of leave-taking employees. When an employee takes leave for an emotionally negative reason, he or she can be fragile and sensitive. This would consequently leads to poor working performance even when they go back to work. Such situations can be hardly improved with any rational management, but can only be approached with genuine empathy and support.

The main challenge was to determine what roles KLM HR can play and how they can provide a better leave-taking experience for employees and managers.

FOCUS

In literature study, the scope of literature study was focused on the absenteeism regulations of Ministry of Social Affairs and Employment of the Netherlands (Rijksoverheid). Such a focus was stemmed from the fact that the majority of the operation and employees are within the Netherlands. Given the distinctive nature of aviation business, the spot light for revealing the roles in absenteeism management was aim on the one and only major scheduled airline in the Netherlands, which is also the main context of this research, KLM.

In context analysis, the focus was on leave-taking management in KLM. There are different perspectives of management, including people management, systems, workflows, regulations and cultures. This stakeholder analysis brings out a comprehensive overview of how leave-taking is managed in the current situation and where the opportunity is for improvement.

In user research, this stage aims to disclose the types of users, the pain and the needs of them, and the value that they are expected carried out by KLM. Through interviews with employees and managers, several insights of the leave-taking problems are revealed and can be exploited as indispensable inputs in the later stages.

In design and evaluation, it is important to generate solutions within the resources of the clients. The clients of this project are the head of HR Shared Services and the head of HR Digital Studio of KLM. Their responsibilities are providing HR services to managers and employees. HR services are mainly about staffing, employee compensation and everything related to salaries and contracts. From the existing problems analysed in Section 4.3 and explored in the creative session, the problems that are more related to the responsibility of HR are shortlisted. These problems can be clustered into four main categories: untitled leave, redundant leave-taking process, inconvenient leave-taking supervision and unfit contracts.

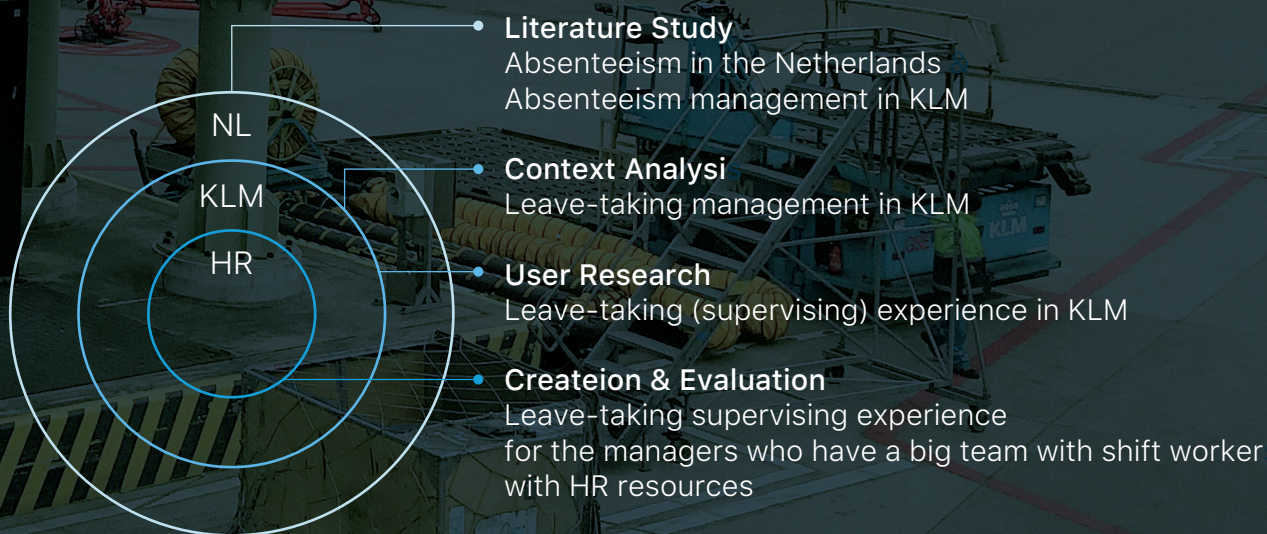


Fig. 1.2 The focus of the project in Literature Study, Context Analysis, User Research, Creation and Evaluation

1.2 Ambition

This study has an ambition to show people how design can bring great value to an organisation of great size. Having observed that many organisations and companies still see design merely as a skill for creating products or visuals, the author decided to use this graduation project as an opportunity to demonstrate that design can actually solve or improve an organisation through exploring with design thinking and methodologies. KLM is a great fit for such a purpose for its size and long history. Stepping into the new era, she is also at the phase of transforming as many people have been much more open and curious to the capabilities of design.

In this project, co-create is the desired tool in both research and design phases. It is valuable when bringing in knowledge and experience from people; meanwhile, it is one of the most effective ways to involve people in the process and result. Only with such involvement, they can see that design is magical but also feasible. The author believes that the more people understand what design is about, the higher chances that design and designers can be valued in an organisation.

Leave-taking
Design Toolkit

Researched & Designed
by Ginny Yang

1.3 Approach

The major approach of this design project follows the 'Generative Design Research' proposed by Jan Stappers. Generative Design Research is an approach that brings the relevant people, including clients, stakeholders and users, into the design process so that their needs and dreams could be met in the future. This approach gives people a language to imagine and express their ideas and wishes for future experiences. With such an approach, both the producers and the consumers of design could be inspired during the design process (Sanders, Stappers, 2018).

'All people are creative' is the belief of Generative Design Research and the main principle of this project. The belief endows potential users the role of being 'expert of their experiences' while the researcher is more like a 'facilitator' and the stakeholders and clients become 'participants' (Sanders, Stappers, 2018).

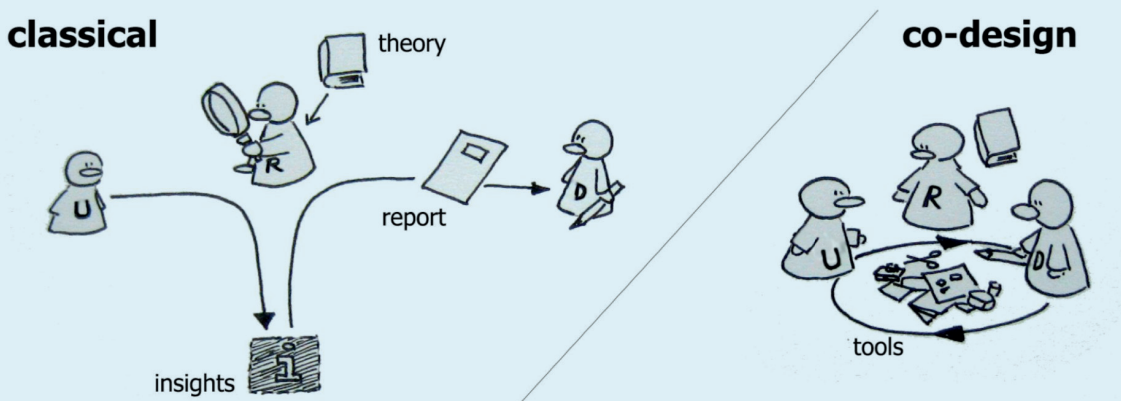


Fig. 1.3 The roles of users, researchers, and designers in the design process (on the left) and in the co-designing process (on the right) (Sanders & Stappers, 2016)

Chapter 2 Literature Study

In chapter two, several literature studies were conducted to gain a holistic understanding of absenteeism. First, the definition of employee absenteeism in literature and in regulations were discussed. This is followed by an analysis of the influence of employee absenteeism, and the decomposition of its causes. In the end, how employee absenteeism is managed in KLM under Dutch regulations was clarified.

Chapter 3 Context Analysis

In chapter three, 26 interview sessions were conducted to understand how leave-taking was managed in KLM. Firstly, a stakeholder map was illustrated, and their responsibilities and interests in leave-taking were explained. Secondly, the process of leave-taking and its related systems were introduced. Thirdly, the development and trends among the stakeholders were analysed.

Chapter 4 User Research

In chapter four, a qualitative user research illustrates the problems and wishes of employees and managers in leave-taking. The user research was conducted with 10 managers and employees via the approach of context-mapping (Delft University of Technology, 2013). Through the research, four types of target groups with their behaviours, difficulties and wishes regarding leave-taking were analysed. The problems in leave-taking addressed by the managers and employees were also analysed and listed. Presenting at the end of this chapter are the needs behind the problems and the KLM values that could be brought out.

Chapter 5 Insight Synthesis

In chapter five, the findings in chapter three and four were organised into a toolkit based on the

method of 5W1H (Delft University of Technology, 2013). This toolkit depicts the overview of context analysis and provides hints and tips when designing for different target groups in KLM. A participatory session (Sanders, Stappers, 2018) was held to evaluate this design toolkits with the key stakeholders being participants.

Chapter 6 Creation

In chapter six, the scope shrunk to ensure the final concept could be implemented within the resources of the clients. Three problems within the scope were selected from the list of problems presented in chapter 4, each of them was developed into a concept with the use of the toolkit described in the previous chapter. With impact/effort matrix ("Editable Impact Effort Matrix Templates", n.d.), three concepts were prioritised and one was chosen and designed into a prototype of user interfaces.

Chapter 7 Evaluation

In chapter seven, five managers participants belong to the target group evaluated the final concept with user tests. The user test consists of thinking-aloud, a quantitative evaluation form and a feedback session. The results of the user test reveal the usability, cognitive ergonomics, aesthetics and feasibility of the final concept.

Chapter 8 Reflection

The last chapter concludes the entire project with recommendation and reflection. In recommendation section, it presents a roadmap for further development and implementation, followed by a side idea generated along the research phase for a related problem. Attached at the end is the author's self-evaluation and reflection regarding the process of the entire project.



Chapter 2

Literature Study on Absenteeism in NL and on Absenteeism Management in KLM



Chapter 3

Context Analysis through Stakeholder Interviews



Chapter 4

Context-mapping Research with Managers and Employees



Chapter 5

Synthesis toolkit and Participatory Session with Stakeholders and Clients



Chapter 6

Scope and Problem Definition, Concept Creation and Prioritisation



Chapter 7

Evaluation with User Test



Chapter 8

Conclusion, Recommendation, and Reflection

Fig. 1.4 The approach of each chapter of the project



CHAPTER 2 LITERATURE STUDY

This chapter presents a general understanding of absenteeism. It clarifies the definition of absenteeism in literature and in Dutch regulations, discusses the influence of absenteeism, and generated a model to decompose the causes for absenteeism. The roles and responsibilities of absenteeism management in KLM under Dutch regulations were illustrated in the end.

2.1 Scope

To address the most relevant information to this research, the scope of literature study is focused on the absenteeism regulations of Ministry of Social Affairs and Employment of the Netherlands (Rijksoverheid). Such a focus is stemmed from the fact that the majority of the operation and employees are within the Netherlands where the KLM's headquarter located. The personeels who are subjected to the Work and Care Act of 2001 (Wet Arbeid en Zorg, WAZ) (2019) account for 91% of the entire KLM staff ("KLM in brief", 2018). They are also the main target group of this design study. Given the distinctive nature of aviation business, the spot light for revealing the roles in absenteeism management will aim on the one and only major scheduled airline in the Netherlands, which is also the main context of this research, KLM.

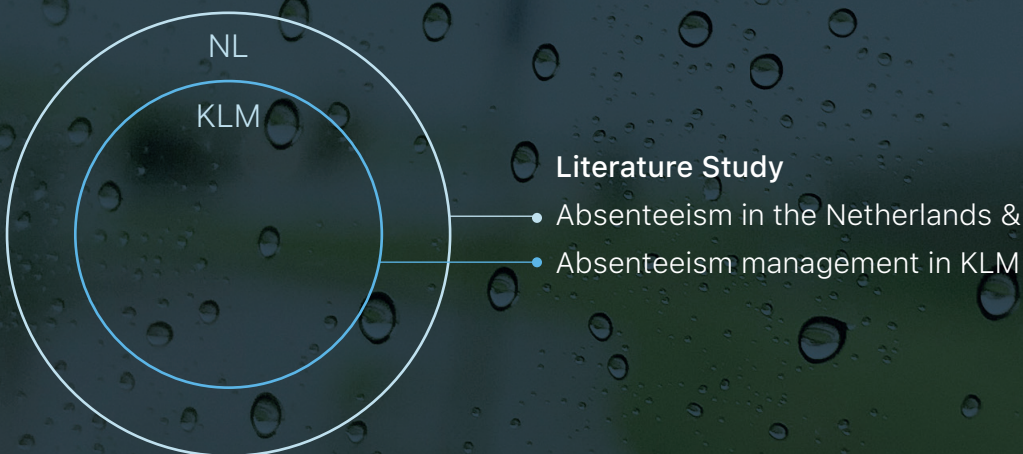


Fig. 2.1 The Scope of Literature Study

Research Question

- > What is the definition of employee absenteeism in literature and in regulations?
- > What are the causes and influences of employee absenteeism?
- > How is employee absenteeism managed in KLM under Dutch regulations?

2.2 Absenteeism

In general definition, leave taking refers to the action before absence happens and it is not commonly discussed in literature specifically. To most people it is merely the action between absence and its causes. It does not induce absence while it may depend on the causes of absence. As a matter of fact, there is little data and research discussing about leave taking. However, to learn more about leave taking, one should have a more comprehensive view of leave. The term absenteeism is therefore introduced to discuss the whole picture of being absent.

Definition of workplace absenteeism

Absenteeism, by Cambridge dictionary's definition, is "a situation in which people are not at school or work when they should be" ("Absenteeism: Meaning in the Cambridge English Dictionary", n.d.). In practice, most companies, including KLM, collect all the non-regular leave into the statistics of absenteeism database. When looking up workplace absenteeism, nevertheless, one will find out that there is no universal definition in what precisely absenteeism is. This is why it is always difficult to interpret in literature ("Workplace Attendance and Absenteeism", 1999).

According to Global Payroll, absence means any event for which an employee fails to comply with the scheduled work time ("Understanding Absences in the Netherlands.", n.d.). There are two kinds of absence elements: absence entitlement and absence taking.

- **Absence entitlement** means the amount of paid time off that an employee is entitled to take for each type of absence
- **Absence taking** is defined as the amount of time off that an employee takes.

For the various types of absence, there are three categories delivered by Global Payroll for the Netherlands ("Ziektewet", n.d.):

- **Paid leave** (including vacation, reduced working hours, and maternity leave).
- **Unpaid leave** (including strikes and special leave).
- **Sickness** (including disability and accidents).

In short, all the leave-taking events are incorporated in the word 'absence' and together they create the pattern known as absenteeism. In the following discussion, the author adopts the absenteeism definition as a 'pattern of absence'.

Influence of absenteeism

The status quo of absenteeism rate in KLM is remarkably higher than the average in the Netherlands, 6.93% vs. 4.7% in the year of 2017 ("KLM Annual Report 2018", n.d. & 'Netherlands: Sickness absence rate 2007-2017', n.d.). Absenteeism can cost a company significant amount of money, in which the four main expenses are as follows ("The Cause and Cost of Absenteeism", 2017):

A. Employee replacement

The most obvious cost is corresponded to employee replacement. According to Sickness Benefit Act of 1913 (Ziektewet) ("Wet verbetering poortwachter", n.d.), sick employees are entitled to be paid by their employers for a period of 104 weeks for at least 70% of the wage. This means that the employers are required to pay both the sick employees and the replaced employees in such circumstances.

B. The Administrative cost of absence management

Another cost is the administrative cost of absence management. In the case of longer leave-taking, employers in the Netherlands have the responsibility to ensure that employees can resume work as soon as possible (The Eligibility for Permanent Incapacity Benefit (Restrictions) Act of 2001; Wet Verbetering Poortwachter, WVP) ("Wet verbetering poortwachter", n.d.). They are required to supervise the reintegration of employees and provide professional occupational health services for them; otherwise, the 104 weeks of continued wage payment may be extended to three years.

C. Overtime and overwork of employees

The less visible cost is the overtime and

overwork of employees. Before companies find a replacement employee, other co-workers often need to compensate for the absent employee. This may in the long run lead to overloaded, dissatisfied or even unengaged employees.

D. Poorer service provided to customers

What could be worse is if the management cannot efficiently and effectively solve the problems stemmed from absence, this may result in poorer service provided to customers. In return, it may lead to late deliveries or dissatisfied customers; consequently, these actions deteriorate the reputation and credibility of a company as a whole.

E. Absenteeism insurance

To avoid or at least reduce the above mentioned costs, some companies are starting to take absenteeism insurance (Van Eijk, 2019). But in any case, it is apparent that absenteeism could severely influence a company.

Cause for absenteeism

In the existing studies, most researchers focused on a sole type of absence or on certain factors, making it less complicated to compare and identify the correlation between absenteeism and its causes. In the following discussion, the author would like to provide, or at least try to, a more comprehensive view of the connections between absenteeism and its causes.

A. From the perspective of 'Social ecological framework'

These causes lie in a wide range of various instances; it could be a personal health issue, a private relationship pressure, a community obligation or a more societal expectation. Comprising these four levels of causes, the Social Ecological Framework (Fig. 2.2) was introduced by sociologists associated with the Chicago School in 1970s (Garbarino, 1980).

The Social Ecological Framework was developed for the understanding of dynamic interrelations among various personal and environmental factors (Marzec, Scibelli, & Edington, 2013).

A more precise definition of the four levels are listed:

- **Individual:** such as knowledge, attitudes, skills and behaviour.
- **Relationship:** such as family, friends and colleagues networks.
- **Community:** such as leadership style, workplace environment and regulations
- **Social:** such as culture and laws.

All these factors influence a person's absence behaviour. For an example in the relationship level, some cabin crew are inclined to use sick leave as a mechanism to be able to attend their children's graduation (Roskam & Greiner, 2010). As for the individual level, personality has an evident correlation with one's absenteeism; who is more responsible takes less leave and vice versa. (Vlasveld, et al., 2012).

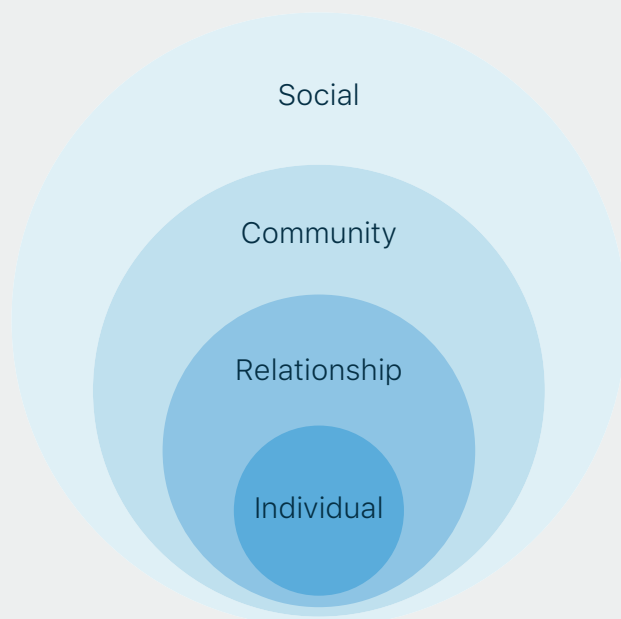


Fig. 2.2 Social Ecological Framework (Garbarino, 1980)

From the perspective of 'Work factors and non-work factors'

Not all the causes of absenteeism are of private or intrinsic manner. In fact, a great deal of absenteeism is triggered by work-related factors extrinsically. Such extrinsic causes are apparently more of interest to this project. To distinguish the intrinsic and extrinsic causes, one may apply the model introduced by Nielsen, Kristensen and Smith-Hansen (Fig. 2.3). The model differentiates work and non-work factors. Each of which is linked to two arrows, one of which links to 'health and well-being' and one does not, indicating that absence may or may not be related to health. The events belonging to the top arrow are connected with special leave, care leave and emergency leave. The second and third ones are matters as physical and mental illness. The fourth arrow is linked to with low employee morale and disengagement.

From the perspective of 'Innocent and culpable absence'

What is also largely studied is the classification of innocent and culpable absence. Innocent absence means that one is absent from work due to genuine causes or reasons; culpable absence means otherwise.

In the study conducted by Harris Poll and CareerBuilder, 28% of those who call in sick 'just do not feel like going into work', and 24% said they needed to 'just relax'. (DailyPay, 2017) This study shows that the reasons for leave provided by employees are not necessarily genuine, it is difficult for employers to know the real situations of their staff. Nonetheless, there is still a clear correlation between the extent of employee engagement and the absenteeism rate. It is important for employers to look into what happens behind the data.

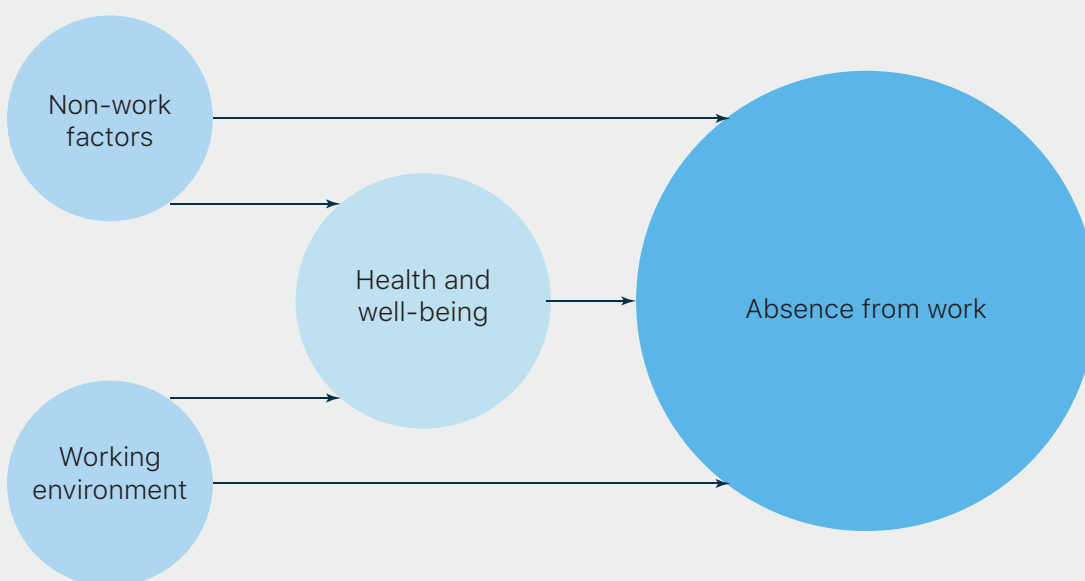


Fig. 2.3 The basic model of absence from work of the IPAW study (Nielsen, Kristensen, & Smith-Hansen, 2002)

Summary

Taking all the causes and classifications into account, the author summarizes the overall picture of absenteeism in Figure 2.4. A cause to an absence can be stemmed from any of the social ecological level or a combination of two or more; such cause can be induced by work or non-work factors and the mind-set behind the absence can be culpable or innocent. Each classification has its own perspective in describing an absence and none of them should be left in discussion when tackling absenteeism.

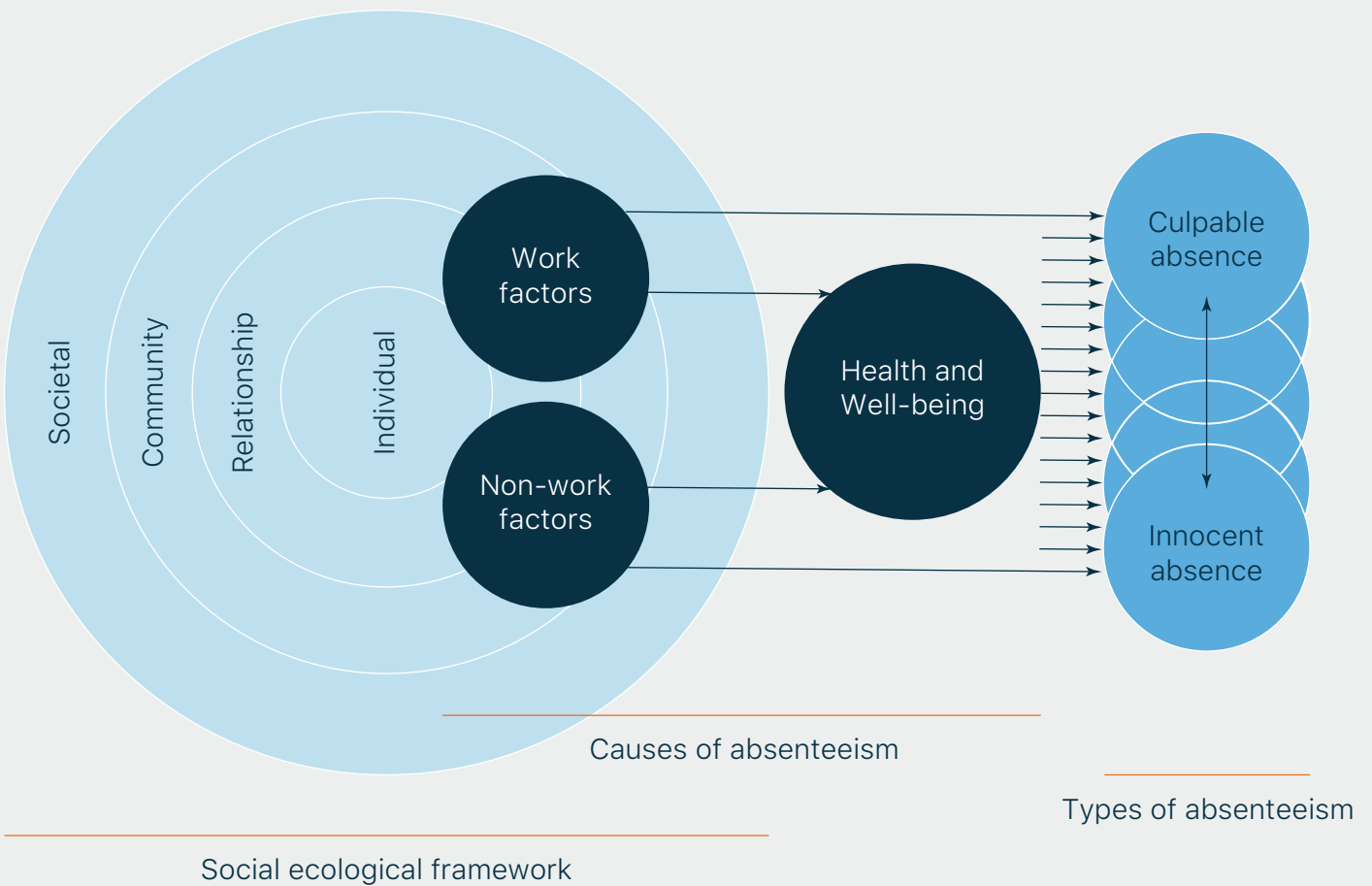


Fig. 2.4 The model of Absenteeism decompose the causes and the types of absence



Schiphol
Amsterdam



CHAPTER 3

Context Analysis

In this chapter, 26 stakeholders were interviewed to understand leave-taking in KLM from different perspectives, including people management, systems, workflows, regulations and cultures. This stakeholder analysis brings out a comprehensive overview of how leave-taking is managed in the current situation and where the opportunity for improvement.

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m Airport

Research Question

- > Who are the stakeholders of leave-taking management?
- > What are the systems and processes of leave-taking?
- > What are the trends of leave-taking management?

3.1 Approach

The need of leave taking happens everywhere and to everyone. Since KLM is a company with a massive amount of employees, hundreds of units, dozens of complex systems and a long list of regulations, the best way to gather the most relevant information is to interview the stakeholders that are familiar with or currently working on the relevant topic. In total, there were 26 interview sessions, 22 of them were interviewed 1 vs. 1 and the rest was done 1 vs. 2 where the latter refers to the number of interviewees. Each interview took between 50 and 60 minutes, during which five main questions were addressed:

- What is your main responsibility as working position?
- How do you relate to leave-taking?
- What is your vision in leave-taking?
- What are you working on currently what's the upcoming agenda?
- How do you see this research may contribute to your work?

Given the diverse function and position of the interviewees, there were no unified list of questions. All the conversations were recorded and documented yet stay in a non-disclosed status.

KLM

Context Analysis
Leave-taking Management in KLM

Fig. 3.1 The Scope of Context Analysis

3.2 Stakeholders

The first task is to identify the stakeholders in KLM regarding leave-taking system, workflow and management. The HR team and the digital system managers are the obvious ones. However, some other equally important stakeholders are rather non-obvious and only popped-up later in the interview process. For example, Labour Time Management (Arbeidstijd management, ATM) manager and the Culture Leads are proven to play significant roles in leave-taking management. The following summary of the stakeholder analysis are based on 4 employees of different departments, 6 team leads, and in total of 13 other interviewees covering the roles in the list below:

- Unit manager
- HR Analytics - absenteeism data team
- HR Digital Base
- Future rostering team
- Maintenance and Planning of Shifts (MPS) Team
- Culture lead
- ATM manager

A. Employee

In KLM, employees are responsible for themselves and are expected to be autonomous with respect to both their jobs and their personal situations. They need to prevent themselves from getting sick, and to ensure recovery and reintegration when they are sick. They are interested in tools and systems that can help them have more work-life balance and a convenient leave-taking process.

B. Team lead

Team leads are responsible for the individual employees and their team as a whole. They need

to be accessible to their staff, be clear about their situations and ensure no problems arise. In leave-taking events, they have to supervise the entire process and to manage absenteeism situations. They are interested in the tools and information that will help them increase the efficiency of people management and reduce the uncertainty of their judgement.

C. Unit manager

Unit managers are responsible for the performance and development of the unit. Their job is to manage people and process, improve the process and to ensure the operation performance. They help their team leads with problem shooting and people management. They are interested in the tools that will help them increase employee morale and improve the performance and development of the unit.

D. HR Analytics - absenteeism data team

One of the responsibilities of HR Analytics is to analyse absenteeism data. They send absenteeism reports to managers for letting them know the absenteeism situation of their responsible team, and compare with other teams and the average in KLM. If the managers find any suspicious pattern, they will inform HR Analytics. Based on the hypothesis, the HR Analytics will try to find the proof of the relations between the factors.

In the past 15 years, HR Analytics in KLM used to send absenteeism analysis reports to managers and HR, daily, monthly and yearly, with excel file. But there are some problems: First, they cannot guarantee to whom the files will deliver. Second, managers cannot check absenteeism data whenever they want, they have to send requests first, and then they could receive the report a few days later. Third, the presentation of the data

is not insightful enough for managers. Hence, HR Analytics bought SAP analytics cloud and planned to build a dashboard on it for replacing absenteeism analysis report. They are currently investigating what information should be provided and in what way should it be presented to managers in KLM.

E. HR Digital Base

HR Digital Base is responsible for transforming HR services from manual-service to self-service, to enable employees and managers to change their personal data, such as their address, marital status and emergency contact, by themselves. The purpose is to increase the information transparency and to reduce the labour costs of support office.

One of the commercial tools they are currently adopting is SAP SuccessFactors, a cloud-based HR management tool developed by a US company. At this moment there is no leave taking function in SAP SuccessFactors in KLM due to the fact that SAP has not tailored its functions for labour regulations in the Netherlands. For example, one can be ill and on holiday at the same time, this is rather unique in Dutch labour laws compared with other countries. Not having leave-taking functions in SAP yet, HR still rely on back office to manually change the payrolls based on the leave requests they receive. While SAP has plan to introduce such a function by the end of 2019, there are debates from other stakeholders about whether the function should be added in SAP. Thereupon, they want to gain insights from this project to know whether SuccessFactors should place the functions of leave-taking, and in what ways should different pages and systems connect with each other.

F. Future rostering team

The future rostering team is responsible for developing new rostering systems in KLM. They design and implement digital tools, such as machine-learning based forecast on workload and workforce, to achieve the vision they have in rostering. Their vision is to make rostering systems more transparent, optimised, predictable, automatic, seamless, and fast. They are interested in the user research of employees and managers in leave-taking.

G. MPS team

MPS is the system for leave registration and shifts. The MPS team is responsible for the system. The current leave registration system was developed more than 25 years ago and has shortages such as it requires unnecessary operations and is not compatible with some new systems. MPS team plans to replace the system within this year, therefore, it is now investigating the needs and requirements for the new system.

One of the biggest challenges of the new system is that it has to be as automatic as possible. However, owing to the fact that the CLA agreement (collectieve arbeidsovereenkomst) in KLM is complicated and the ways of working in different units are extensively diverse, the barriers on the way of changing the manual MPS into an (almost) fully automatic one are countless. Another challenge is that KLM has been and will keep improving rostering and CLA agreement. This means the new MPS has to be future proof, i.e. being adaptable to the possible changes. MPS team is therefore interested in knowing the requirements and wishes of the new system.

H. Culture Lead

Culture leads only exist in Engineering & Maintenance. The responsibility of Culture lead

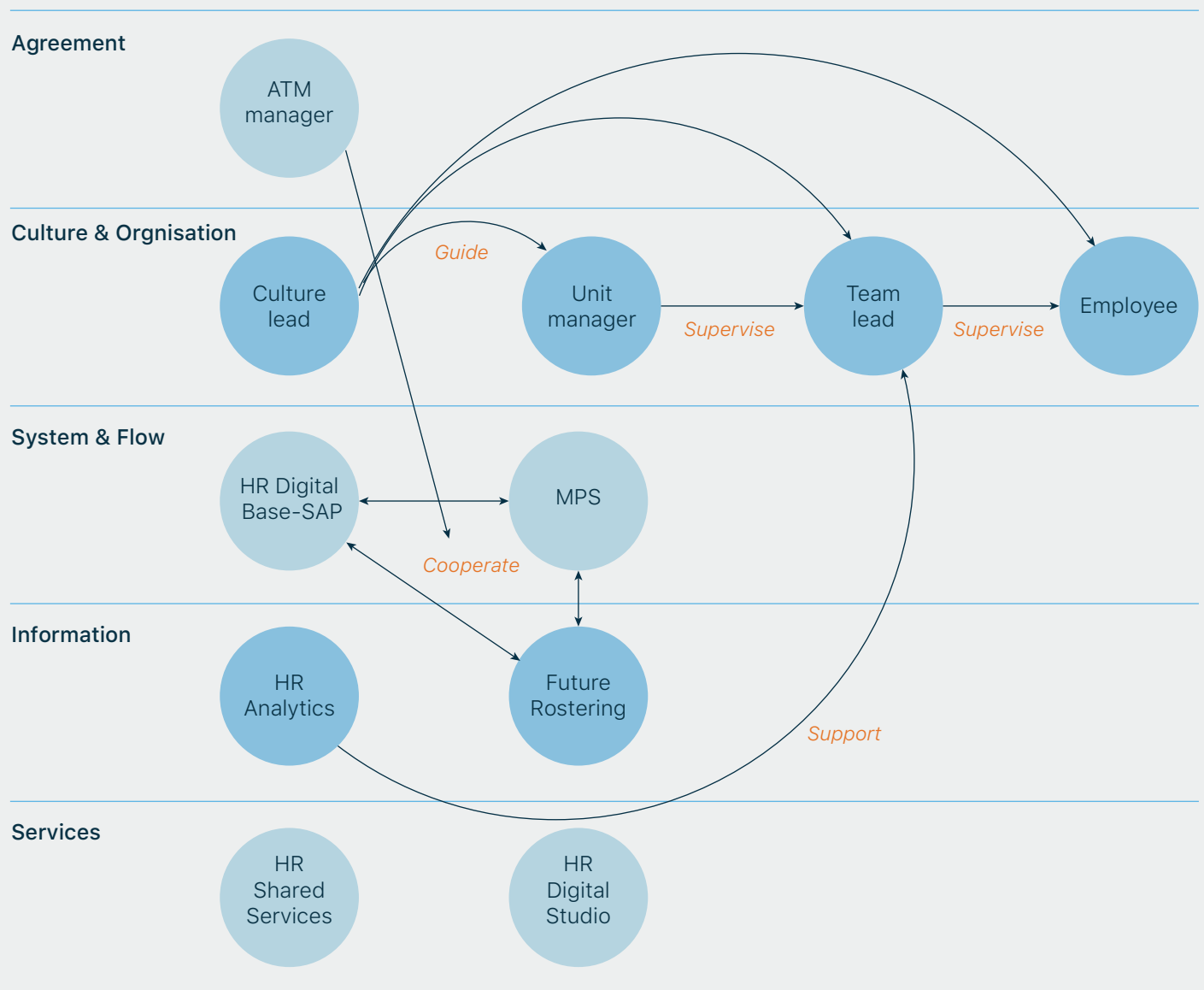
is to help the responsible department to change the culture and the way of working in accordance with the goal of HR. To be more specific, after the concept of teaming has been introduced to E&M, the job of the culture leads is to ensure teaming is implemented in their responsible hangar.

Regarding leave-taking, they want to have an integrated system that can provide them a nice overview of the CLA regulations, employees with their skills and rosters, so that they can arrange leave-taking and shift-swapping for their staff easier. They also want the agreement to be more flexible to enable them to make more decisions within the team.

I. ATM manager

Arbeids Tijd Management (ATM) means labour time management in English. ATM managers are responsible for labour time related issues, such as CLA (collectieve arbeidsovereenkomst) agreement, the regulations in the Netherlands, and the ways of rostering and leave-taking. They improve rostering and leave-taking by keep testing new ways and new services. Their goal is to improve employee’s experience, increase efficiency and performance.

Fig. 3.2 The Stakeholder Map illustrates the areas the stakeholders are responsible for and their relations



3.3 System and process

Leave-taking system

In KLM, different departments use different systems and tools, even for the same purpose. Some of them use paper forms, some use emails, some use excel files and some use digital applications. Some digital applications are for the same purpose, different departments use their own app only because of some context-specific settings. Here in the following introduction, for the sake of generalisation, only the frequently mentioned systems are introduced, by their functions and purposes yet not necessarily by their names.

A. Workload/workforce prediction tools

Workload and workforce prediction tools provide two forecasts: the available workforce, i.e. how many labours are available, in certain periods and the possible workload based on the flights, weather and rate of filling seats. In ground operations, workforce planners foresee the amount of flex workforce they need to order as well as the total quota of available leaves. However, these tools are not advanced enough in the status quo. They only use limited data and formula to calculate in excel sheets. Consequently, the employees in ground operations complain about not being able to take a leave even when the actual workload is very little. From the perspective of the management team, it is certainly inefficient and can be considered as an unnecessary cost when there are redundant manpower hired.

Having found the problem, Future Rostering team has been working on optimising the tools with machine learning algorithms. They feed the algorithm with thousands of data, including

statistics from the past and coming events, for finding patterns of workload and workforce. With the accumulating inputs and iterations, Future Rostering expects to predict the workload and workforce more precisely. Given that can be achieved, the leave availability can be more flexible, leading to a better leave-taking experience.

B. Rostering application: MyRoster

MyRoster is a web app that was developed one and a half years ago. It is open to use by the entire KLM, but was mainly developed for ground operation staff who work in shifts. Around 80% of ground operation staff are using the app.

Via MyRoster, workers can check their own agenda and those of their colleagues' by asking permission from the owners. At this moment, the development team is also building the functions for showing leave balance and submitting leave-requests. They expect to have the agenda on MyRoster to be shown on Windows Outlook, where the private and work agenda can display together, in the next few months. Furthermore, by the end of this year, shifts-swapping feature is also expected to be built.

C. Employee leaves system: Demi

Demi is the system widely used for taking employee leaves (see Glossary) in ground divisions. After employees send a request for leave, their manager can check and approve/disapprove the requests; further steps such as registering in the MPS system are also possible.

D. Leave-register system: MPS

Maintenance and Planning of Shifts, or MPS, is a system dedicated to shift workers when they need to take a leave. After managers approve the leave requests of their staff, they need to register them in MPS system so that the planners can

change the rosters accordingly.

E. Holiday planning systems

For the units in which employees work in shifts, such as Inflight and Ground Services, holidays are difficult to plan during the 'Vacation Season'. In these units, they have their own rules or systems to facilitate holiday planning in a relatively fair way. This is usually a blending of preference and lottery mechanism.

F. Shift-swapping system: Esther

Esther is the leave-swapping systems used in Ground Services. In units such as Inflight and E&M, it is also possible to swap shifts. But as the needs and settings are different across different units, they do not share the same facilitation framework for shift swapping.

G. Shift-replacement service

In Passenger Services, there is a unique mechanism by which employees can takeover the shifts from their colleagues with the consent of both sides. Unlike the shift-swapping system, this mechanism offers more flexibility to the employees for their holiday planning. Shift-replacement service is currently working only by paper form. Since the pilot test result of this service received 80% positive feedback, it will be digitised soon in the future.

Rostering related systems

Workload/
Workforce
prediction
system

Rostering
Application
(MyRoster)

Shift-swapping related systems

Shift-swapping
(Esther)

Shift
replacement

Leave-taking related systems

Leave-taking
(Demi)

Leave-
registration
(MPS)

Holiday
planning
system

Fig. 3.3 There are three types of systems: rostering-related, leave-taking related and shift-swapping related systems

Leave-taking process

Ideally, there should be one leave-taking process in one company; in KLM, however, there are several processes exist. The divided leave-taking processes has different origins, some developed from the bureaucratic hierarchy, some reflect the function of units or management ways, even few were evolved according to cultures. Nevertheless, one can categorise these leave-taking processes in two major clusters, informal and formal processes.

Informal processes

In most cases, managers would require their staff to inform them, either by face-to-face, phone calls, text message or email, when a leave taking is desired. Nevertheless, for those whose work involves moving across the airport or on the flights, not every employee has regular contact with their manager. In some cases, these employees report their leave to their project lead. Moreover, for those who work more independently, they only inform to their regular contact colleagues or choose to not inform anyone before taking a leave. Without informing their manager, they usually discuss with their colleagues about the workload redistribution.

Formal processes

Formal processes are mainly through electronic systems, e.g. DEMI for employee leaves, or via phone calls, e.g. sickness leaves. Once an employee files a leave-taking application, the system notifies corresponding manager and asks their approval. The process, however, does not terminate at that step; managers have to further notify HR or MPS departments manually. Managers of work-in-shift divisions need to notify the planning unit via MPS system or by email. For the leaves that have consequences on the salaries, such as care leaves or part-time work, the managers need to notify HR Shared Services centre to adjust the payroll.



Informal process

Inform the supervisors and colleagues

&/ Discuss with colleagues

Formal process

Register leave with DEMI (employee leave only)

/ report to KLM Health Services (sick leave only)

/ report to HR Shared Services (only when salaries are changed)

&/ Put in the planning system (shift workers only)

Fig. 3.4 Fig. The formal leave-taking process and the informal one

3.4 The Trends Among Stakeholders

Each division in KLM has their own ways of rostering and leave-taking management. It is not surprising that the type of jobs and the team culture between flight, ground service and Engineering & Maintenance are widely different. In light of such, each division has their miscellaneous CLA agreements with their own ATM manager, who is responsible in improving their rostering. On one hand, it is difficult for central HR to serve for all of them, considering that they all have their own preferred tools and ways of working; on the other hand, this variety and freedom also enable departments to generate new ideas and test it within a small community.

In the interviews, stakeholders described what they have been doing currently or in the near future to improve leave-taking and rostering. Despite of various functions and backgrounds, some common trends and development are summarised hereinbelow:

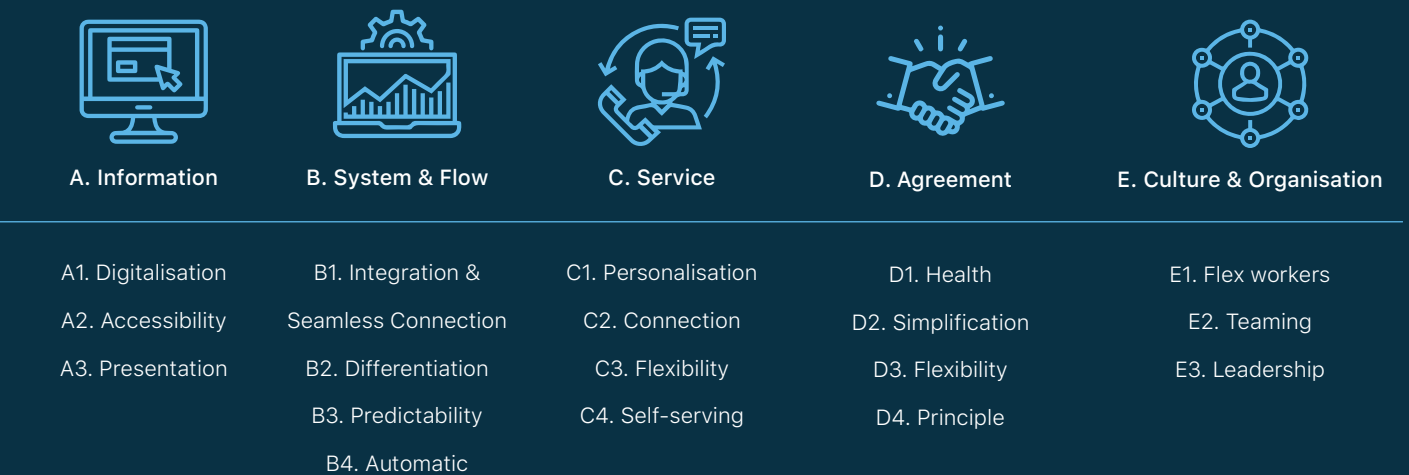


Fig. 3.5 The trends among stakeholders in different areas

A. The trends of information

A1. Digitalisation

Digital Studio has been digitalising their services since 2016. With digitised information, employees and managers can search for information themselves in KLM system, thereby being more independent in solving problems and finding solutions.

A2. Accessibility

Over the past decade, mailbox has become overloaded by excessive messages and information. It is no more an idea tool for effective communication of routine jobs. Some stakeholders have realised the problem and have been trying to build platforms for displaying information. Both SAP and MyRoster teams, for example, have added 'leave balance' on their platforms. Another example is the dashboard for showing absenteeism data, which is currently under development by HR Analytics.

A3. Presentation

As more and more information becomes digitised and accessible on screen, what becomes increasingly important is the presentation of information. It affects how frequent people would use the information and how useful the information could be. For example, HR Analytics team has been providing absenteeism data to managers, to help them compare absenteeism situations with other teams and to find patterns for further investigation, but the information is not in a well-readable presentation. HR Analytics team is building dashboard for making information more accessible and also more clear and useful for managers.

B. The trends of system & workflow

B1. Function integration and seamless connection between systems

Function integration and seamless connection have been highly discussed among stakeholders in KLM. MyRoster team is integrating the functions of checking and sharing rosters, swapping shifts and taking leaves in myRoster application. By consolidating them in the same app, employees can do all things regarding roster and the consequential data can be updated automatically. This will reduce the manual operations, checkings and errors; employees will have a better leave-taking experience.

However, function integration does not mean all the functions are built in one operating system. As KLM have several miscellaneous systems, it will be extremely pricey to rebuild them in one unified system, not to mention there are different needs in different divisions and units. Since it is nearly impossible to find a one-perfect-solution for everyone in KLM, the more practical way is thus to connect all the systems seamlessly. The goal is to display all information in one application for both employees and managers.

B2. Differentiation

Besides the trend of integrating different functions and information into one system, there is also a need to differentiate them. Outlook Calendar, Office 365 and MyRoster are all commonly used by KLM employees and managers, and are all for the functions of checking and sharing agenda. Some employees use two of them simultaneously for different purposes: They use Outlook Calendar for arranging and checking meetings while using Office 365 to overview the attendance of people in their team. The drawback of the differentiation is that they have to edit two agenda when something is changed. Hence, it is important to realise what should be integrated and differentiated, and how everything should be connected.

B3. Predictability

The workload fluctuates in many airline units: Flight, aircraft maintenance and airports operation units can have a very casual day in one day and the very next day becomes highly-intensive and overloaded. It is significantly subjected to the weather, accident, passengers and all kinds of reasons. The available workforce in some units are not always stable as people get sick or being absent more frequent than in the other units. Therefore, workload and workforce prediction is particularly important for KLM.

For Ground Services, the workload is rather stable but the workforce prediction is not accurate enough; for E&M and Cargo, it is the other way around. Future Rostering team in Digital Studio is aware of the importance of prediction and its influence on rostering. They are investigating in using machine learning to improve the preciseness of both workload and workforce.

B4. Automatic

The administrative procedures such as leave-taking, leave registration and planning are still using outdated methods that require unnecessary manual operations. Take Passenger Services as an example, every 25 agents need 1 planner working on roster and assigning agents to the roster, which is both inefficient and expensive. The system Demi for leave-taking also requires unnecessary steps such as manually filling in the department code and the manager's email.

Both HR Digital SAP and Future Rostering teams are aware of this situation and they are working on automatising these tasks. One of the toolkits they are exploiting is RPA-tool, or Robotic Process Automation; it enables the registration of approved leave requests in MPS system without manual copy-and-paste operation.

C. The trends of service

C1. Personalisation

Enabling and helping employees and managers to be self-steering is one of the most important key values in KLM. To be self-steering, however, it is essential that KLM provides certain flexibility to its employees in making decisions for better performance and employee morale. This means, the standard and universal choice should become personalisable and adaptable. For instance, roster personalisation can provide employees higher chances to receive a fit schedule and reduce the hassles in shift-swapping or the difficulties in leave-taking. It is now being investigated in Ground Services, Inflight Services and Engineering & Maintenance.

C2. Connection

More and more platforms for connecting colleagues have been built in KLM over the years. In MyRoster, which is mainly used by Ground Services, employees can check each other's roster. In Yammer, which is used by Inflight Services, employees can discuss, ask questions, and ask for holiday swapping. With these platforms, employees can be more easily connect with each other and help each other with taking leave.

C3. Flexibility

The flexibility in leave-taking and holiday planning have been increased in KLM in recent years. To provide employees with a better work-life balance, some departments have been trying to facilitate shift-swapping and holiday swapping to reduce their difficulties in planning their private life. Take Passenger Services as an example, they have launched a special shift-replacement service, in which employees can ask their colleagues to replace their shifts for them. If they successfully find someone, they can have a longer holiday than what they get in the system. Around 80% of employees are satisfied with this service.

C4. Self-service

More and more services in KLM are becoming self-service. The purpose is to reduce the labour costs of back office and to increase the transparency of the service for employees and managers. For instance, HR Digital Base SAP team has been transforming many HR services to self-service, such as changing address, marital status, emergency contact and contracts.

D. The trends of agreement

D1. Health v.s Flexibility

As people gain more and more knowledge in health, the related rules are built more and more by governments and companies. Take ground service as an example, after statistical facts have proved that too many night-shifts would cause health problems, the labour union proposed that the related regulations should be more strict to protect employee's health. But some employees were not positive about it, as they preferred night-shifts for matching their private agenda, and they did not foresee how night-shifts will influence their health. There are many discussions about health and flexibility like this one, and they remain unsettled in KLM.

D2. Simplification

The rules of leave-taking have been simplified in recent years, for making it easier to be understood and for letting managers to have more freedom of decisions. For example, five types of leaves were simplified to only employee leaves, in which employees decide the leave days, and KLM leaves, in which KLM decide the leave days.

D3. Flexibility

The trend of increasing flexibility reflects on the changes of rules. Take Inflight as an example, the rule used to say that a cabin crew by default would have the same amount of travel leave days as the travel days right after the flights. But as some crews brought up that they do not need leave days in a row, inflight changed the rules to allow cabin crews to travel again before they finish their travel leaves, and they can save those days for later.

D4. Principle

While the leave-taking rules have been made flexible for managers, the misused ones still need to be corrected. Otherwise, it would become a difficult task to realign. For instance, when ATM managers in grounds tried to simplify five types of leaves into only employee leave and KLM leave, it took a while for some teams in E&M to accept it. They had been using leave-taking rules in a wrong way, and it was hard for them to accept the new regulation which is less flexible than the one they had. How to balance between being self-steering and being principled is a major topic for KLM.

E. The trends of management

E1. Flex workers

Flex workers from outsourcing company (uitzendbureau) are carrying out more and more work in KLM, especially those positions with a low training threshold. By doing so, the problem of workload and workforce fluctuation can be reduced, and so does the labour cost, as KLM can just 'order' the right amount of workers they need. What is even more convenient, KLM only pay the flex workers the hours they work, they are not responsible for their leave-taking issues.

Apparently using flex workers can reduce costs; nevertheless, there are still concerns that flex employees could be less engaged to KLM and less likely to 'go further'. It is important for KLM to find the balance between hiring permanent employees and using flex workers.

E2. Teaming

Teaming it is to team up a group of people from a massive amount of people, and to empower them as a self-steering team. With teaming concept, the employees could have higher flexibility in leave-taking and holiday planning. Instead of being managed by systems or managers, they discuss their needs with their teammates and figure out the possibilities and ways within the team. In such a way, they not only have more freedom, but also have more sense of ownership and responsibility of their work.

E3. Leadership

HR Officers used to be part of the management teams, and managers relied a lot on them for people-related issues. Since HPO, HR started to help managers to become more self-steering. They stepped back from managers and became advisors instead. They encourages managers to take leadership and have faith in their own judgement.

3.5 Conclusion

In this chapter, the context analysis of leave-taking covers the stakeholders, the systems and the trends. Stakeholders in KLM can be classified into five areas of responsibility: System & Flows, Culture & Organisation, Services, Agreements and Information. All the stakeholders have their own responsibility and resources. Without an integration platform, however, they do not have the coherence on the way of improving leave-taking experience. For example, if HR wishes to change their service, they are subjected to the system development such as HR digital base, but also the other process might be influenced such as the ATM managers. Stakeholders of different departments can also have non-streamline relationship; some of them may cooperate in new service development while the others' workflow are affected. Despite the lack of a common vision in leave-taking system, they also perceive different levels of problems in the status quo. It is therefore essential to have all the stakeholders to align their understanding to the needs and pains of their users, the employees and team managers. This information will be further revealed in the following chapter.

KLM Comp

Moving Y
By Creating Memorab

WHY
Our purpose

WHO
Our identity

AMBITION
Our goal

WHAT
Our offering

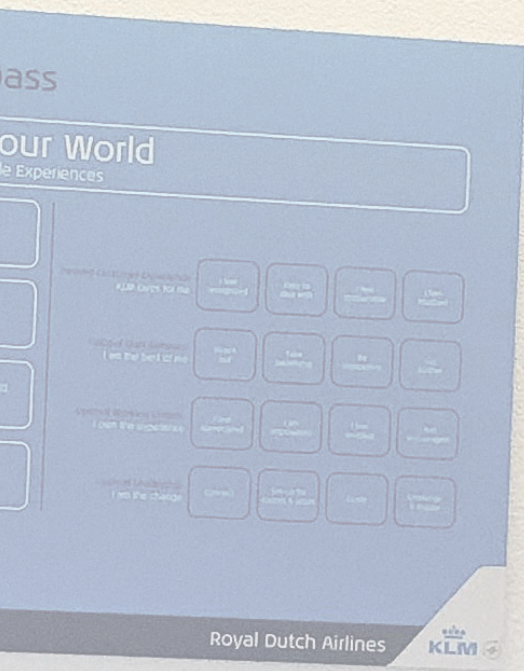
HOW
KLM spirit

We are aviation pioneers
Dutch at heart.

To become the most customer-
centric, innovative and efficient
European Network carrier

We bring our customers the world
taking them anywhere, anytime.

We dare to reach out, initiate
and explore new horizons.
We are KLM for you.



CHAPTER 4 User Research

With context-mapping method, this chapter discloses the types of users, the pain and the needs of them, and the value that they are expected carried out by KLM. Through interviews with employees and managers, several insights of the leave-taking problems are revealed and can be exploited as indispensable inputs in the later stages.

Research Question

- > What are the problems and expectations from employees and managers in leave-taking experience?
- > What are the factors that influence leave-taking experience?

4.1 Approach

Contextmapping

Leave-taking is not merely an action, but also a consequence of events such as emergency, sickness and unfit agenda. context-mapping is utilised as the main user research method as it can bring out the hidden information by involving users in the design process as the experts of their experience (Fig. 4.2).

Context-mapping contains workbook, probes and sessions/interviews that facilitate users to show their world, their reflections on it and their dreams for its future (Sanders, Stappers, 2018). There are two research questions to answer:

- > What are the factors that influence the behaviour, problems and wishes of leave-taking?
- > What are the problems in leave-taking experience?

Participant recruitment

In this project, the target participants were employees with leave-taking problems/complaints and managers with leave-taking supervising problems/complaints. In total, 6 managers and 4 employees volunteered to participate in the research. These participating managers and employees come from different units of KLM, including Inflight, Engineering,

Information Technology, Passenger Services and Human Resources. Although not all the units participated, the purpose of the research has been met: to understand the pain across different units in KLM as well as their needs and wishes.

Confidentiality and recording consent

Since the interviews involve personal feelings, opinions and events, all the data were recorded anonymously and will not be disclosed. Therefore, the identity of participants and the full contents of the interviews are not presented in the thesis. The consent form for participants to sign before the research can be seen in Appendix B.

User Research

Leave-taking (Supervising) Experience in KLM

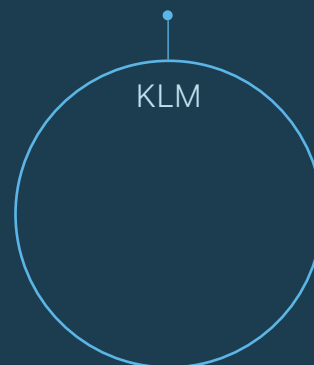


Fig. 4.1 The Scope of User Research

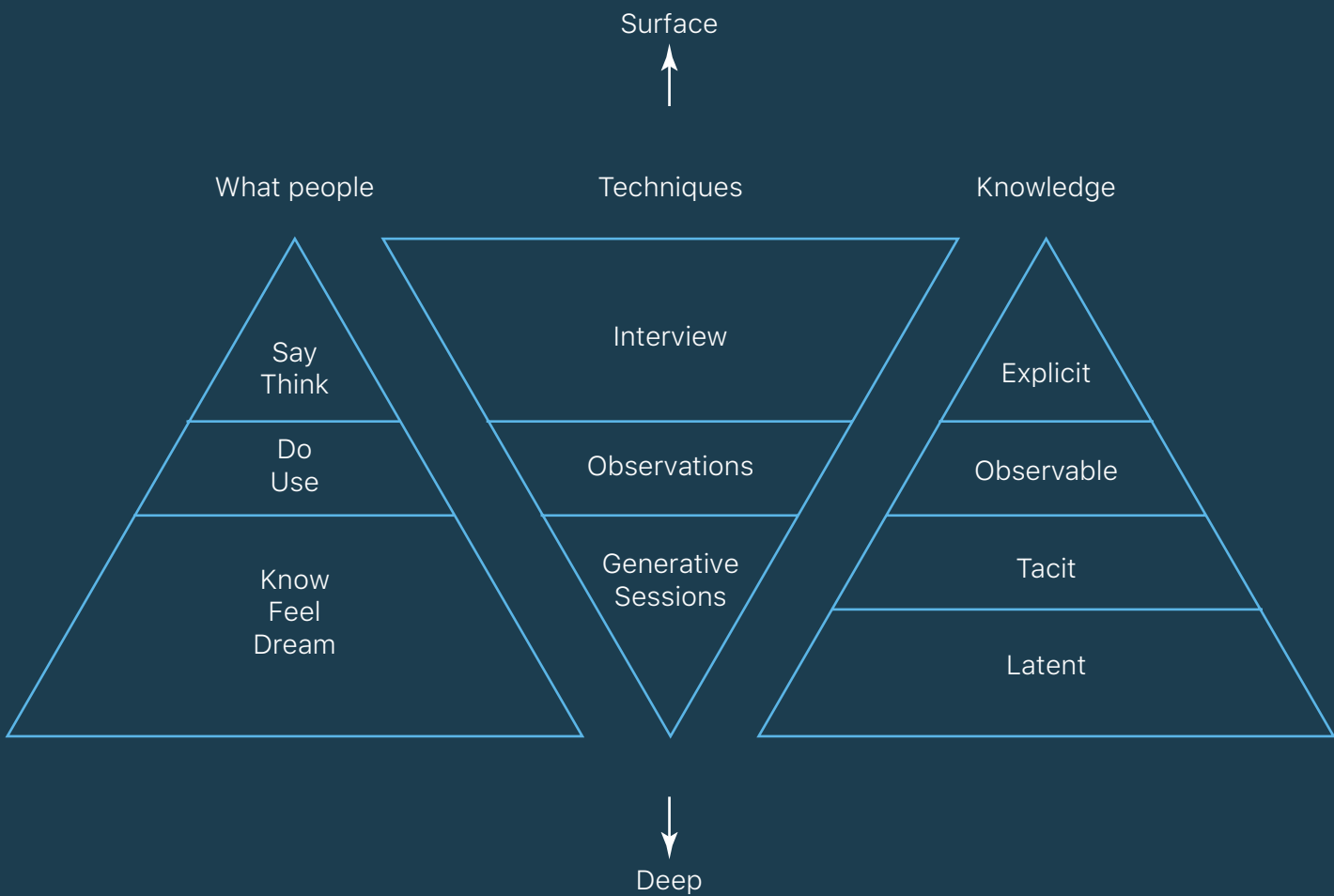



Fig. 4.2 Methods that study what people say, do, and make help access different levels of knowledge (Sanders, Stappers, 2018)

My leave-taking supervising experience in KLM

My name: _____



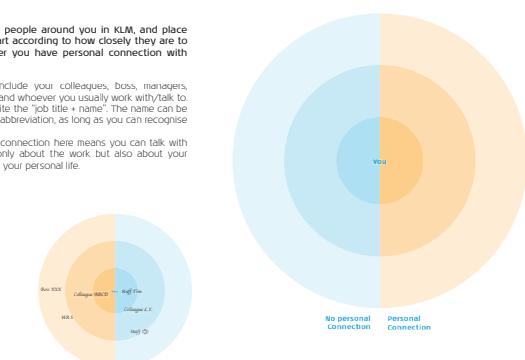
Day 2 Who are the people around you in KLM?

Step 1

Think about the people around you in KLM, and place them on the chart according to how closely they are to you and whether you have personal connection with them.

HINT 1: please include your colleagues, boss, managers, staffs, HR people and whoever you usually work with/talk to.
HINT 2: please write the "job title + name". The name can be a nickname or an abbreviation, as long as you can recognise who you refer to.
HINT 3: personal connection here means you can talk with the person not only about the work but also about your feelings and even your personal life.

E.g.
 Staff Tim
 Staff JGD
 Colleague RBCD
 Colleague LY.
 Boss XXX
 HR S.



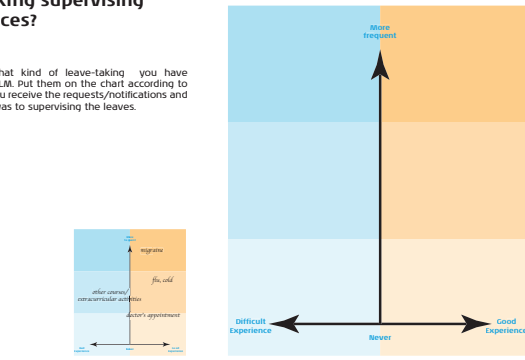
***What is leave-taking?**
 According to the Global Payroll of the Netherlands there are three types of leave-taking: pay leave, unpaid leave and sickness. Paid leave includes vacation, reduced working hours and maternity, unpaid leave includes strikes and special leave, sickness includes disability and accident.

***What is supervising leave-taking?**
 According to the KLM Absence Policy, the manager is responsible for ensuring the employees do not take unnecessary leaves of absence, and is also responsible for a successful progression of the absence and re-integration trajectory.

Day 3 How were your leave-taking supervising experiences?

Step 1

Think about what kind of leave-taking you have supervised in KLM. Put them on the chart according to how frequent you receive the requests/notifications and how difficult it was to supervising the leaves.



Welcome!

Thanks for contributing to this project!

In preparation of the interviews I have developed this booklet for you. Filling out the booklet will help you during the interview, inside are short daily tasks that will only take you 5 to 10 minutes. The idea is to do the assignments spread out over one work week.

Have fun and good luck with your assignments this week. Remember: you can be as creative as you like!

Hint 1
 Don't give the booklet to anyone, just bring it to the interview.


Hint 2
 The only purpose of the research is to improve the services of KLM. You will not be judged and no one will be judged because of what you write.

Hint 3
 Feel free to write anything. Everything you write will be anonymous and confidential.

For questions or remarks you are welcome to contact me at:
 Phone: +31 6 20736099
 Email: qinnyctyang@gmail.com

Who am I?

I'm Ginny Yang from Taiwan, a TU Delft Industrial Design Engineering student who focus on experience and service design. I'm currently doing graduation project about leave-taking (supervising) experience in KLM. My goal is to create a better leave-taking (supervising) experience with you and for you!



Who are you?

Your name: _____
 Your date of birth: _____
 Your department: _____
 Your job title: _____
 Your working years in KLM: _____
 Numbers of people in your team: _____
 What do you care more about:
 (Make one of the circle)

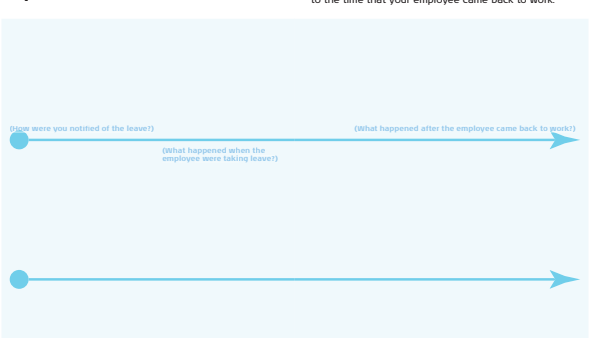
Better performance of the team Future development of the company

team as a whole Individual employee

Day 4 The most difficult leave-taking supervising experience

Step 1

Try to recall the most difficult leave-taking supervising experience. What happen? Show the entire process on the timeline, from the time that you were notified of the leave to the time that your employee came back to work.



Step 2 Draw your mood chart. _____


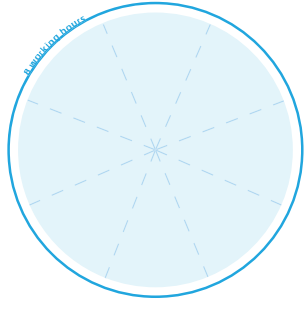
Day 1 What are your work activities?

Step 1

Think about all the activities you do in your work and place them on the pie chart according to how much time you do usually spend.

Hint 1: you can decide your own categories
Hint 2: trust your instinct. It doesn't need to be accurate

E.g.
 Reporting
 Phone call meeting
 Face-to-face meeting
 Face-to-face talk
 Emailing
 Checking
 Planning
 Machine Operation
 Solving staff's problem
 Solving customer's problem

Day 5 The future leave-taking supervising experience

Step 1

What do you wish to have/not have in the leave-taking supervising process? Try to imagine what KLM can provide you.

Hint: be creative and bold!

- When employees have questions about leave-taking...
 I wish... I wish there's no...
- When you are notified of the leave...
 I wish... I wish there's no...
- When employees are taking leave...
 I wish... I wish there's no...
- When employees go back to work...
 I wish... I wish there's no...

Fig. 4.3 The sensitising booklet for participants to reflect on the topic of 'Leave-taking'

Sensitising booklet

The sensitising booklet (see Appendix C) helps participants to have reflection on the topic before the interview, it was delivered to them at least one week ahead. The appearance of the booklet is shown in Fig. 4.3. The contents, which were designed based on the research questions and the scope of conceptual factors/sensitising, are as follows:

Day 1: Their work activities.

Day 2: Their relations and connections with people.

Day 3: The frequency of leave-taking (supervising) experiences and the extent of difficulty.

Day 4: The most difficult leave-taking experience they had.

Day 5: Their wishes and needs in the leave-taking process.

Interview

Each interview lasted about an hour, during which the participants explained what they have written in the booklet. While participants were explaining the contents, the conversations were led by the researcher to the topic of leave-taking, in order to find out the links between the experiences and the factors. Followings were the goals of each day:

Day 1: Understand how work activities influence the flexibility of leave-taking.

Day 2: Understand how their relations with employees/manages influence the leave-taking experiences.

Day 3: Understand the reasons why some leave-taking experiences are difficult for them.

Day 4: Understand what and how they experienced in the most difficult leave-taking/leave-taking supervising experience.

Day 5: Understand their wishes and needs and the reasons behind.

4.2 Target groups

The diversity of the target groups

This study is dedicated to the employees and managers working in KLM. In such an international aviation company, the working style between departments are usually fundamentally different from each other. In light of this, it is no surprise that they do not share much common ground on leave-taking problems and wishes.

Two axes as shown below classify the major differences in KLM staff: one axis depicts the size of the team, ranging from 3 people as 'small team' to 260 people as 'big team'. What ratios of managers to staff belong to big team or small team is not defined in literature. And nor can it be defined in this study, as it is influenced by many factors, such as the functions of the staff and the duties of the managers (Weiss, 2018).

The vertical axis represents the size of the team with a higher amount of staff sitting on top of the axis. The horizontal axis represents the extent of working schedule irregularity. The people on the left side of the vertical axis work in regular working hours, the end to the left represents the highest flexibility in arranging or adjusting their own schedule and vice versa.

The ones who work in shifts have very high schedule pressure, as they must finish their tasks during their shifts. Even if they need to take off, someone must replace them and accomplish the tasks, to make sure everything can operate as usual. On the contrary, the ones who work in regular working hours are relatively free in planning their schedule as long as they can finish their job in given time. Although 'Work-in-shifts' and 'Work-in-regular-working-hours' are clear divisions, there are also differences in terms of the schedule pressure. For instance, the workers in line maintenance in Schiphol Centrum have higher schedule pressure than the ones who work in other hangar, even if they both work in shifts. Among the ones who work in regular working hours, there are also workers who have tight schedules and the ones who have loose schedule can freely work from home or take leave when they wish to.

In short, the patterns are gradient without a clear-cut boundary. Nevertheless, for the ease of discussion, they are divided into four quadrants.

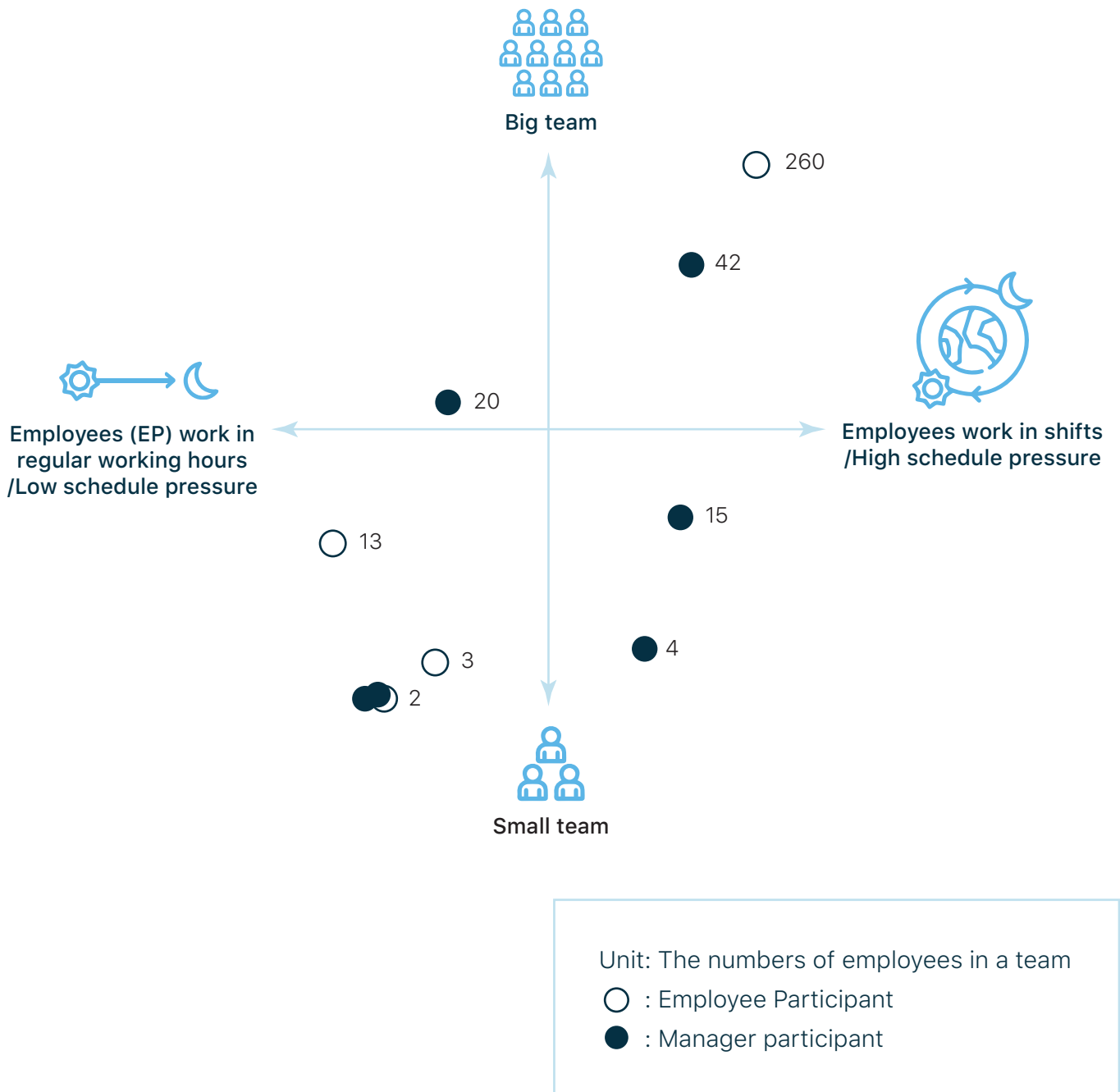


Fig. 4.4 Distribution in terms of working style and size of team from the background of interviewees.

The difference among the four target groups

There are five main differences among the four target groups: the interaction between employees and managers, the importance of teamwork concept, the regulation requirement, the system and workflow requirements, and the flexibility of leave-taking and holiday planning.

A. Interaction between employees and managers

In big teams or without any team setting

Managers' agendas are usually flooded with meeting appointment if they are managing big teams, they do not have much time for their staff therefore losing personal connections with them. Some managers might try to be accessible to their staff, but there is scarcely any meeting between them on a regular basis before something wrong can be blatantly noticed.

Employees in big teams usually try to figure out their problems by themselves without bothering managers. They only come to managers when it is inevitably necessary, for instance, when it involves higher level clearance that they do not have. Nevertheless, being lack of alignment with their managers, they could misinterpret the leave rules.

In small teams

The managers in small teams meet their staff regularly and are close to them. Knowing their personality and attitude in work better, it is therefore more flexible for managers to judge whether they should make exceptions for staff or not. Facing a small group of people, these managers are more likely to sense if there is something wrong with an employee.

The employees meet their managers regularly and are close to them. Whenever they have any problems or questions, they can discuss with their manager.

B. Teamwork concept

In big teams or without any team setting

There is no such concept of teamwork in big teams because employees do not see themselves in a team. They do not interact with their colleagues that much neither help each other as frequently as those in smaller teams.

In small teams

In small teams, employees are close to their colleagues. They tend to have more empathy for each other and are generally willing to help. The concept of teamwork is important for them, as they need to cooperate to finish the total amount of work on time.

C. Regulation

In big teams or without any team settings

The rules and regulations are important for big teams. As employees do not see their managers often, they need clear rules for them to follow. For managers, they rely on clear rules to manage their team efficiently. To both sides, the rules and regulations should be unambiguous, self-explanatory and accessible for both employees and managers.

In small teams

For small teams, the written rules and regulations are not as significant. As managers and employees know each other quite well, managers usually have a more comprehensive understanding of their staff and can act accordingly. Their decision making is inherently more flexible. One possible side effect is these teams could deviate from the norm of KLM.

D. System and workflow

In big teams or without any team setting

In addition to rules and regulations, big teams usually follow certain workflows or systems in their work. This workflow server as instructions to their daily tasks and therefore the involvement of managers are minimised.

In small teams

Small teams are usually more adaptive. They change their workflows accordingly for either a better efficiency or a more suitable fit of the team culture. Additional guidelines are usually considered as a hindrance to these teams.

E. Flexibility of leave-taking and holiday planning

Employees who work in shifts

For employees who work in shifts, leave-taking

and holiday planning are not flexible, especially when the work requires some special skill sets, it is difficult for the company to find a replacement.

Staff working in small teams has a closer relationship with each other, this benefits them in swapping the shift; for workers in a big team, they can hardly know who they can swap with despite it might be more opportunity to swap.

Employees who have regular working hours

For workers with regular working hours, they have nearly full freedom to take a leave whenever they want. They can plan their holiday any time without worrying about the others' schedule. Furthermore, some can even work from home when they physically cannot come to office.

	Big Team & Shift Work	Small Team & Shift Work	Big Team & Non-shift Work	Small Team & Non-shift Work
Flexibility of leave-taking & holiday planning	Very Low	Low	Very High	Very High
Frequency of interaction between managers and employees	Very Low	High	Low	Very High
Sense of teamwork	Very Low	Very High	High	Low
Rules & Regulation requirement	Clear & Accessible	Flexible	Clear & Accessible	Flexible
System & Service requirement	Good Workload/ Workforce Prediction & Self-service	Good Workload/ Workforce Prediction & Flexible	Self-service	Flexible

Fig. 4.5 The features and requirements of four target groups

4.3 Existing Problems

From the user research, many problems were raised by managers and employees. These problems are listed sequentially according to the leave-taking journey of employees and managers as follows:

A. Rostering

A1. Unpredictable rosters and difficult private life planning

B. Shift swapping

B1. No shift-swapping facilitation

B2. No effective roster sharing

B3. Discrete systems and information

B4. Inefficient communication for swapping shift

C. Leave-taking

C1. Untitled leave types

C2. Poor workload/workforce prediction

C3. Non-transparent leave-availability system

C4. Redundant manual operations

C5. Meaningless leave approval

C6. Leave without registration

C7. Leave-taking system and agendas are independent

D. Holiday planning

D1. Popular holiday season

D2. Imbalanced holiday planning

E. Health and sickness

E1. Choosing between health and salaries: part-time or full-time contract

E2. Choosing between health and salaries: work in shift or in regular working hours

E3. Occupational Hazard

E4. Bad consequences of high sickness

F. Leave-taking supervising

F1. Lack of information for support resources

F2. Unclear leave balance

F3. Scattered absenteeism information

F4. Presence status monitor

F5. Unshared knowledge and experience

A. Rostering

A1. Unpredictable rosters and difficult private life planning

Rosters are usually published 1 month ahead. Before then, there is no reliable information nor predictable pattern to the work-in-shift staff. It is therefore inconvenient for them to plan their private life in advance. Take Inflight Services as an example, study shows only around 8% cabin crews feel fully in charge of their personal agenda (Lai, 2018). Compared to an employee works without roster, these work-in-shift staff have little control in their year-round agenda, thereby frequently frustrated to plan for a leave.

B. Shift swapping

B1. No shift-swapping facilitation

One of the counter strategies against unpredictable rosters is to swap shifts with the other colleagues. Shift swapping, however, is not ubiquitously facilitated in all the work-in-shift department such as in Inflight service.

B2. No effective roster sharing

Employees in E&M cannot check the rosters of their colleagues of the same function, leading to yet another barrier to swap the shift

B3. Discrete systems and information

The CLA regulations, the rostering system, the leave-taking system and the overview of employees and their skills are all separate in E&M. Such discrete systems and the disconnected information hinder roster planners, managers and employees from doing shift swaps.

B4. Inefficient communication for swapping shift

After they receive a new rostering, employees frequently swap shifts with their colleagues for a better personal planning. At current stage, they can only communicate through emails and thus pollute their email boxes.

C. Leave-taking

C1. Untitled leave types

There are important or emergent events, such as the graduation ceremony of their children, that employees really want or need to take a leave. These events, however, do not belong to any entitled leave categories. For staff without a roster it is not a problem as they have little restriction in taking a normal employee leave. The problem occurs to staff work in shifts: They cannot take an employee leave if the minimum on-duty personnel has reached on the desired day. In the end, whether they can take the leave depends on their managers to make exceptions for them or not.

C2. Poor workload/workforce prediction

The workload is not well predicted enough in E&M, and the workforce is not well predicted enough in Ground Services. Managers find it difficult to grant their staff leave due to poor workload or workforce prediction.

C3. Non-transparent leave-availability system

There is a system to predict the workload/workforce and thereby determines the quota of leave-taking. This quota and the status is not visible to the employees. They need to rely on their managers to check the leave-availability for them. This is inconvenient for both employees and managers, consequently leaving employees feel unpleasant when they do not get their leave without a clear reason.

C4. Redundant manual operations

The leave-taking request, approval and register systems are now require several manual inputs which could be generated accordingly. For example, employees have to fill in their own email, manager's name and for how long they want to take leave which should be automatically calculated when they input the start and end time of the leave.

C5. Meaningless leave approval

Most of the leave requests have nothing to do with managers. The managers only check the quota for leave and approve accordingly. Such an approval control does not mean anything to the manages while it troubles them and employees in leave taking process.

C6. Leave without registration

Some people, especially those in high positions, do not need to report to anyone when they take leave. If they forget to register their leave, which happens frequently, HR will not be able to track their leave days.

C7. Leave-taking system and agendas are independent

The leave-taking system and the agenda systems are not connected. When employees take leave, they have to mark that they are away manually in their agendas, which is not convenient for them, especially when they use multiple work agendas.

D. Holiday planning

D1. Popular holiday season

It is not easy to plan holidays on popular season for everyone. Take Inflight Services as an example, around half of the cabin crews are not satisfied with their holiday planning (Lai, 2018).

This is particularly a great deal for those who wish to enjoy the summer vacation with their young children.

D2. Imbalanced holiday planning

Most employees are anxious about not getting the holiday they want, so they plan it way ahead and use up all the leave days early in the year. The consequence is that they do not have spare leave days for unforeseen or emergent situation. On the other hand, the other employees cannot take a leave when necessary as all the quota of leave-taking are fully claimed.

E. Health and sickness

E1. Choosing between health and salaries: part-time or full-time contract

Every employee has different needs, problems and wishes in different stages of his or her life. This means that a stationary working contract does not always match their lifestyles. For the employees who have young offspring tend to be overloaded with taking care of their children. This could be a struggle between working more but less healthy and working less but less disposable income.

E2. Choosing between health and salaries: work in shift or in regular working hours

The employees who work in shifts are more likely to be ill when they turn older as it can be seen from the relatively high sick rate in the shift work departments. Some managers suggest these elder employees to switch to regular working hours, but not everyone is willing to change, considering the payment is less.

E3. Occupational Hazard

Employees with certain jobs are more likely to

have certain health issues. For example, there is a greater portion of pilots having back pain issue than the other staff. KLM Health Services are trying to solve these problems but the effect so far is limited (Fig. 4.6).

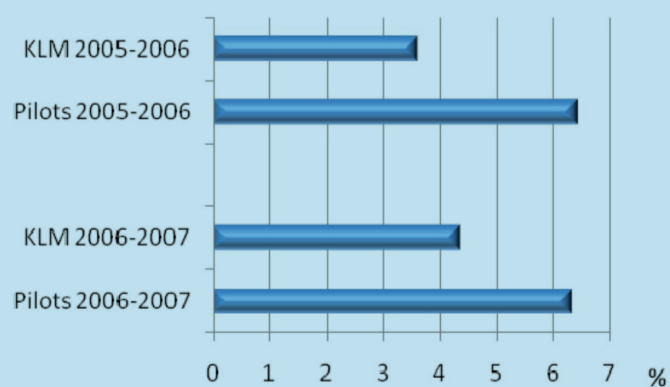


Fig. 4.6 The percentage of employees reporting back Injuries in KLM and in Flight Services from 2006 to 2007; apparently there are more pilots that reported back injuries (Vaart, 1970)

E4. Bad consequences of high sickness

Some teams have higher sick rates, this inevitably reduces the quota of normal leave-taking constantly.

F. Leave-taking supervising

F1. Lack of information for support resources

It is not easy for managers and for employees to know what resources KLM have for sick employees.

F2. Unclear leave balance

First, whenever managers want to arrange KLM leave for their staff, they can only check the leave balance of the staff from the mailbox.

Second, the KLM leave balance is presented differently to employees from it does to managers. The unit shown to employees is in 'percent' while the unit shown to managers is in 'day'.

Third, the amount of leave balance derived from two different units (percent and day) do not meet each other in small digits.

F3. Scattered absenteeism information

Various kinds of leaves are scattered in different systems. Managers do not have an overview over absenteeism status of their staff.

F4. Presence status monitor

For managers who want to check the staff's presence status, they can only go through the system one-by-one. This could be impractical for managers with a large team.

F5. Unshared knowledge and experience

First, managers do not share their way of management frequently. There are lack of opportunity for them to learn from each other and improve their managing skills.

Second, the leave taking procedures and systems are very different across various departments in KLM. These developments and experiences in leave-taking flow are not shared knowledge between different teams.

4.4 Needs and values

It may appear that there are several problems exist, some in employee's side and some in manager's. Nonetheless, these problems can all be traced back to a few common needs. It is not an incomprehensible logic that once a need is fulfilled, many problems can be solved.

Besides needs, it is equally important to align the solutions with the vision of KLM. The vision is clearly stated in the KLM Compass (Fig. 4.7), which can serve as a principle or a checklist to ensure the solutions reflecting KLM values.

Needs of employees and managers

A. Be understood and trusted

Managers want their staff to understand their decisions and the goals of the team. They want to be trusted and hope that the staff are willing to support and cooperate with them. On the other hand, employees want their manager and colleagues to understand their work attitude and them as persons. They also want their manager and colleagues to trust them and are willing to help them when they need to take a leave.

B. Be appreciated and supported

Managers want KLM to understand their difficulties, needs and wishes, and is willing to provide them support as much as possible. Employees want the same thing from their managers. They both want to be appreciated for their works and sacrifices, if there have to do it.

C. Be empowered and encouraged

Managers want to be empowered by KLM when managing and developing their team. They like to be encouraged to try, to improve and to go further. Employees want to be empowered by their manager to be independent. They also like to be encouraged to go further.

D. Be in control and enable

Managers want to have full control of different situations by having the right tools and information; likewise, employees want to have full control of their life and work by having the right systems and information.

KLM Values

A. Optimal staff behaviour

KLM expects a staff to be able and willing to reach out to customers, to take ownership, to be competent and to go further.

- A1. Reach out A2. Take ownership
A3. Be competent A4. Go further

B. Optimal leadership

KLM expects a manager to be able and willing to connect employees, to set-up for success, to guide employees and to challenge and inspire the team.

- A1. Connect A2. Set-up for success and result
A3. Guide A4. Challenge and inspire

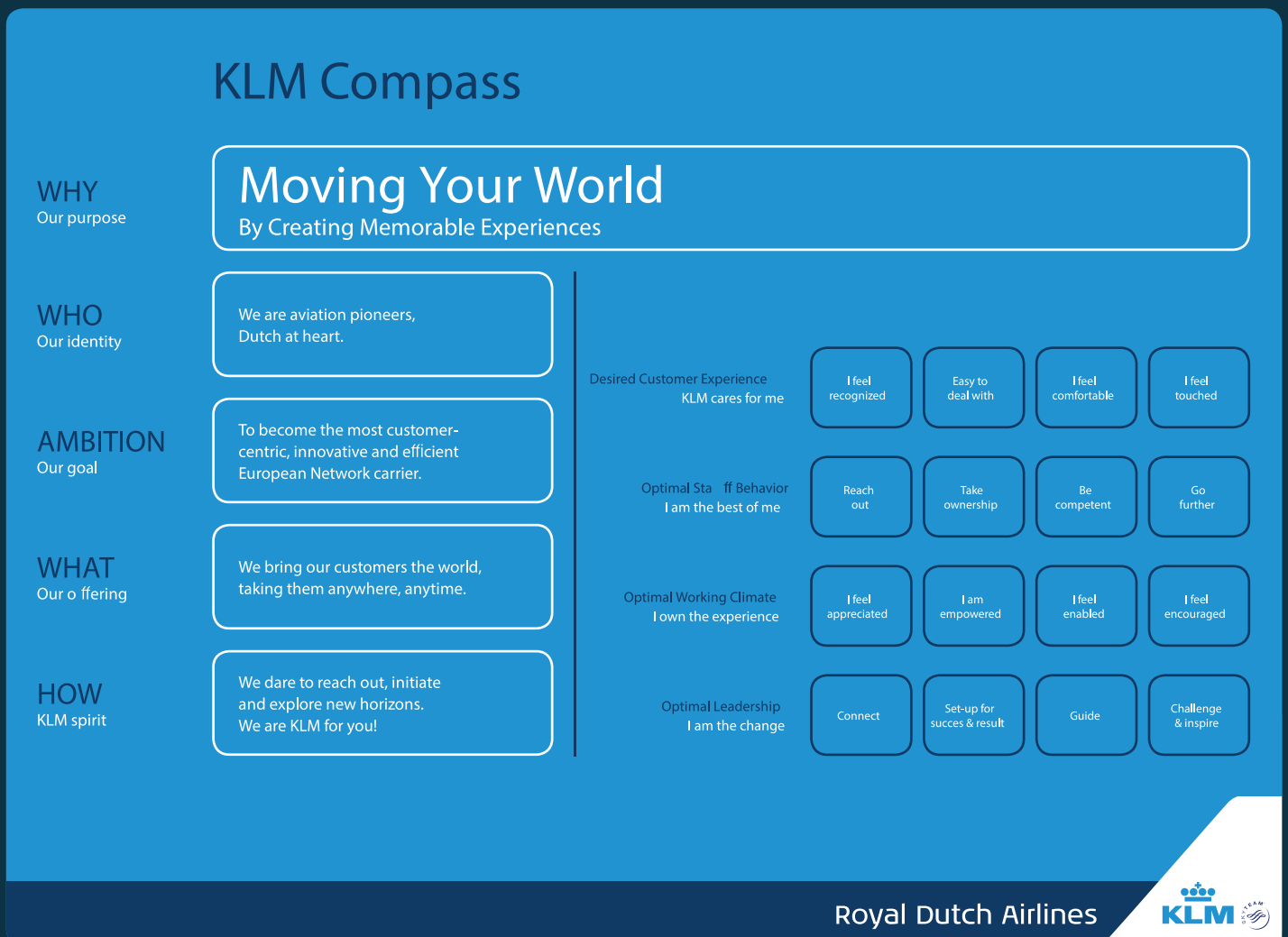


Fig. 4.7 KLM Compass ("Terugblik Medewerkerssessies November 2016", 2016)




KLM

4.5 Conclusion

Given the diversity of working style in aviation business, KLM is facing several different genres of problems regarding leave-taking experience. Some of the problems are specific to the shift-working style, such as rostering, leave availability, and holiday planning, while the others are of more general issues such as leave on sickness and leave management. It appears to be dreadful as one cannot solve these issues one-by-one while it reveals the opportunity in turning most of the downsides up if one tackles the fundamental. For example, most employees do not get the roster they want as rostering takes no input from them. The conflict between undesirable roster and personal life plan degrades both their life and work satisfaction. What makes it worse to the personal life planning is the late publication and unpredictable rosters.

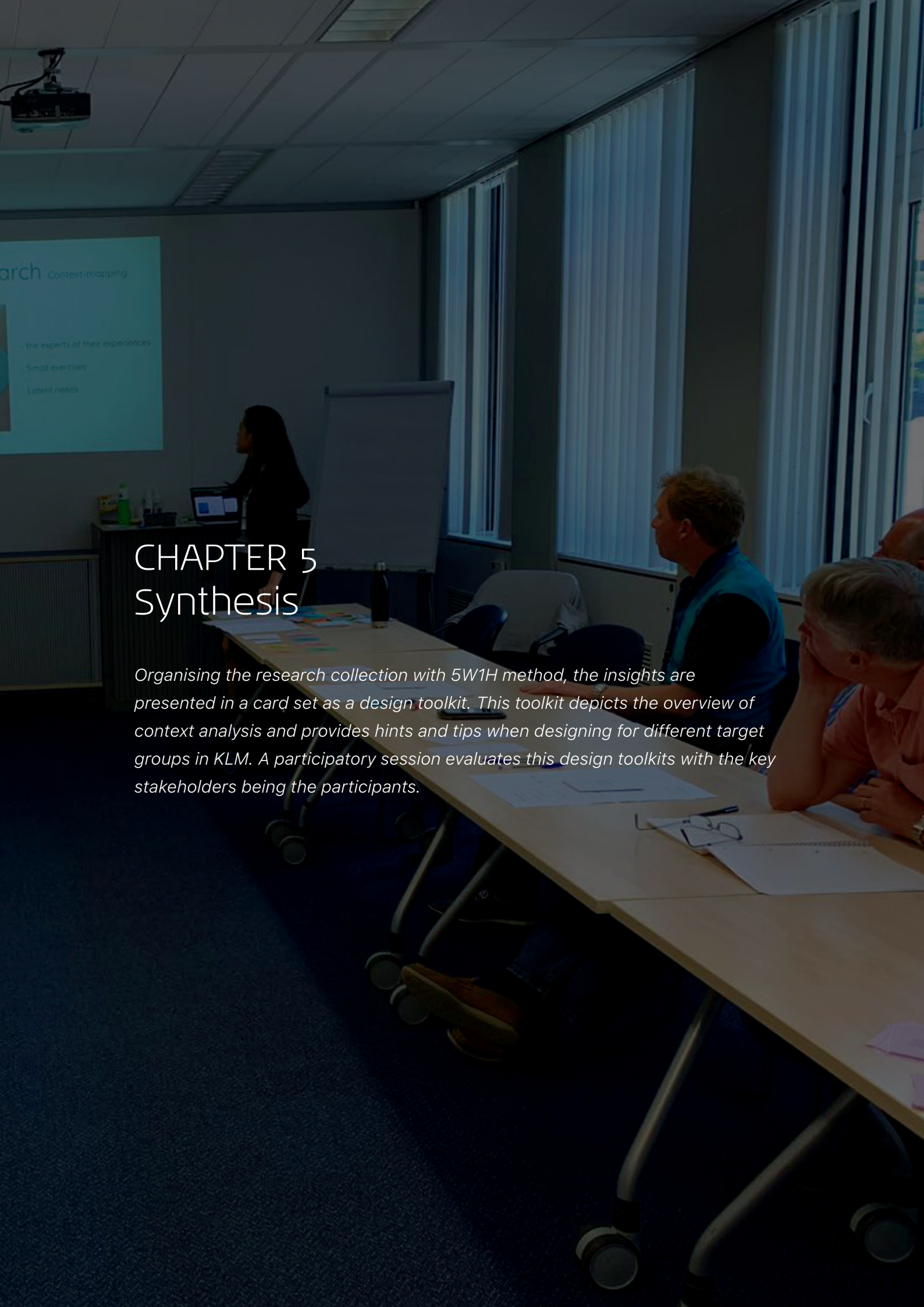
Besides of the above findings, this chapter reveals two major aspects that one never leaves out: People and Value. Regarding the working types among KLM staff, it reflects an obvious distinction in the difficulty to take a leave on desired days; likewise, employees who belong to a big team have entirely different needs than those who belong to a small team. This suggests a clear target group identification is crucial and the solution might be user-based. For a design assignment, a clear vision is indispensable when aligning the concept direction. The disclosure of Needs and Values in this chapter should serve as a guiding tool as it reflects KLM's expectations to their own staff. Such a compass should be well exploited when defining the problem and developing the design.

In summary, the revelation should have disclosed the complicity of the problems, the variety of stakeholders and the lengthy timeline in design implementation. Without an analysis tool, one might get lost in the broad problem scope and judging the priority based on a tunnel perspective. In light of such, the author intends to provide a toolkit to designers in the following chapter. Serving as a design guideline, such a toolkit should improve the readability of the findings in this chapter and provide common ground across different stakeholders and developers.



User rese





CHAPTER 5 Synthesis

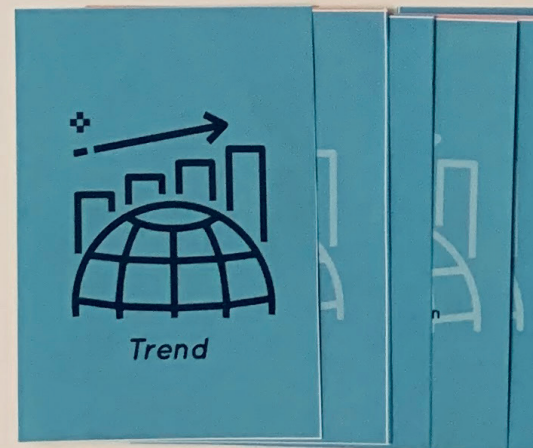
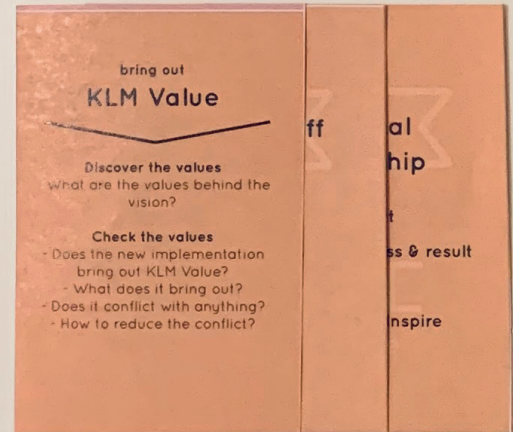
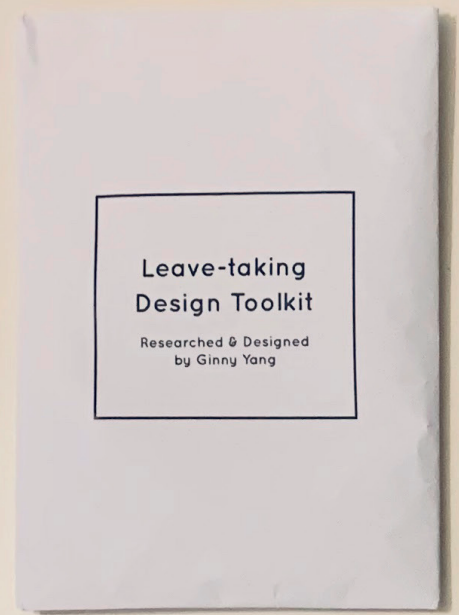
Organising the research collection with 5W1H method, the insights are presented in a card set as a design toolkit. This toolkit depicts the overview of context analysis and provides hints and tips when designing for different target groups in KLM. A participatory session evaluates this design toolkits with the key stakeholders being the participants.

5.1 Approach

In the previous two chapters, it has been revealed that the context and the stakeholders is rather complicated in this research. It is therefore necessary to organise the information in a way that covers all the relevant scopes with a suitable tool, the WWWWWH (5W1H) method. WWWWWH (Who, What, Where, When, Why, How) is a checklist of the most important questions to be asked. With this checklist, the problems can be systematically deconstructed its stakeholders and the facts and values involved can be clarified (Delft University of Technology, 2013).

WWWWWH, as it appears, is a question-driven method. A facilitator can use these interrogative pronouns to ask questions like 'Why there is a problem' or 'Who owns the problems' to the ones who participate in the session to answer (Heijne & van der Meer, 2019). Following the same concept: stakeholders who participate in the co-creation session will be guided on synthesising the research results with the 'Who', 'What', 'Why' and 'How' questions. For example, 'Who are the target group of the problem?' 'Who are the responsible unit?' 'What are the needs behind the problem?' 'What are the values the design can bring?' 'How to solve the problem with "system" solutions?'

This method provides the first overview of gathered information. Synthesize from which, a design toolkit is presented in a card set (Fig. 5.1). This toolkit conveys two purposes: 1. To present the research results in an organised way and 2. To serve as a design guide to the stakeholders when doing the follow-up design. The design toolkit is then evaluated with a participatory session (Sanders, Stappers, 2018) introduced in 5.3.



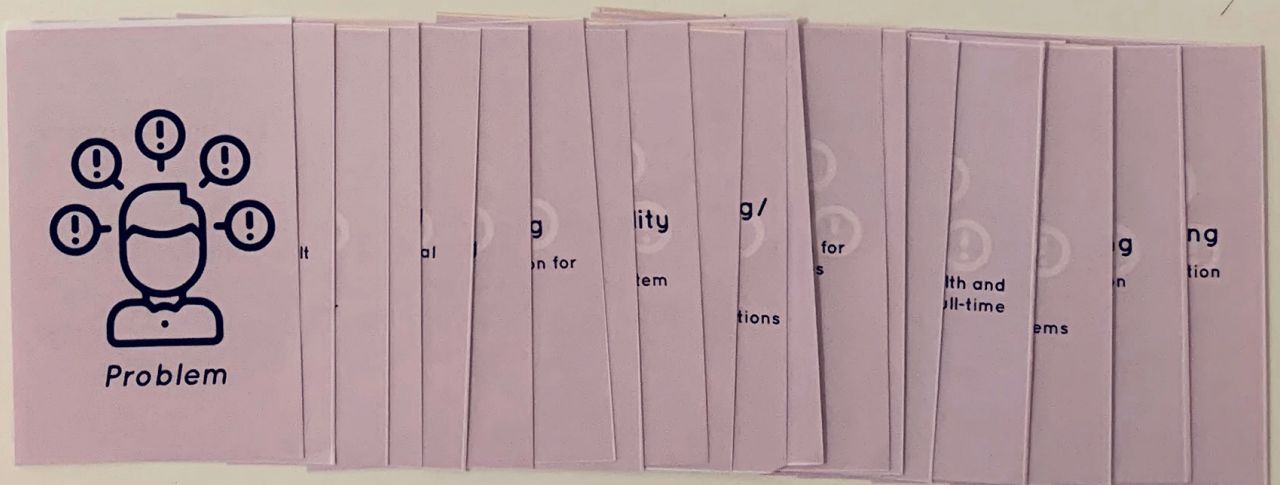
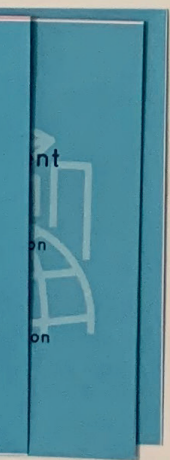
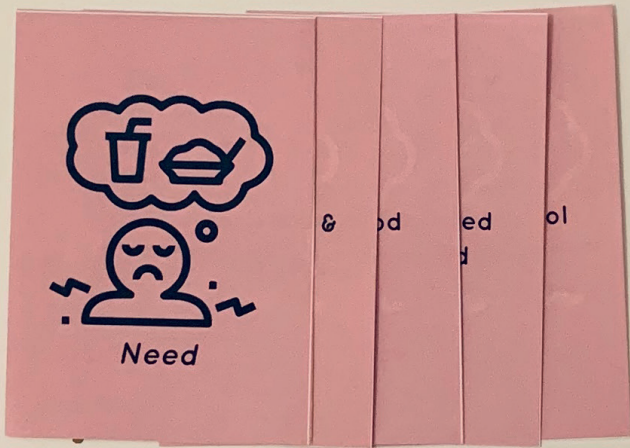
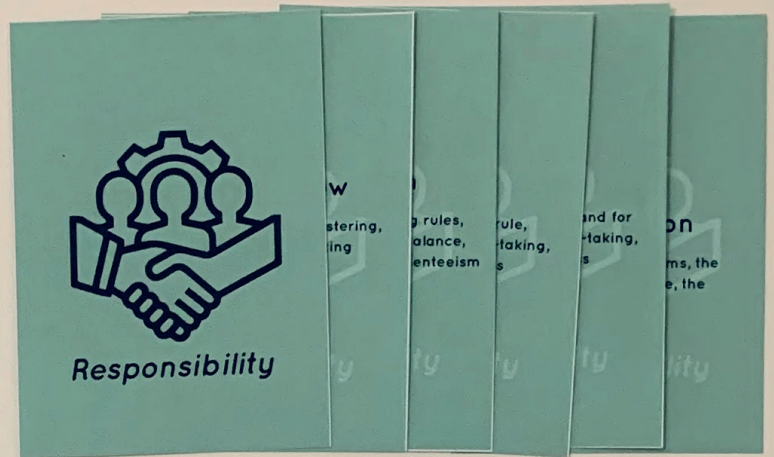
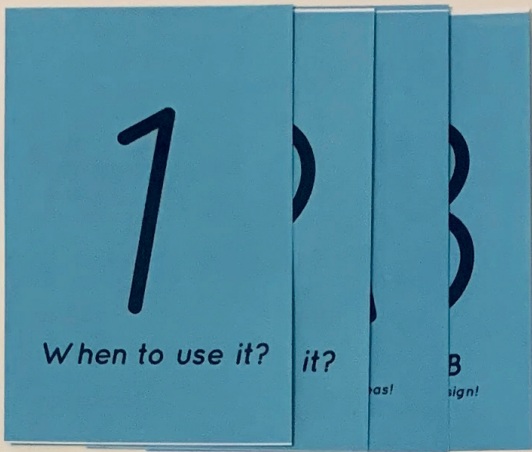


Fig. 5.1 The card set has seven types of cards: Introduction, Responsibility, Trends, Problems, Needs, Target Groups, Values.

5.2 Design toolkit

The Card Set

This card set (Appendix D and Fig. 5.2) has seven types of cards and should be used in a designated order: Introduction, Responsibility, Trends, Problems, Needs, Target Groups, Values. These sections are deduced from the 5W1H questions. For instance, some of the 'What' questions are: What is the existing problem? What is the current trend? What kinds of tools we have? What is my responsibility? The same logic applies to all the other questions.

A. Introduction

The 'Introduction' cards guide the stakeholders about when and how to use the toolkit (Fig. 5.2). There are two instructions on how to use the materials for different timings: one is for stakeholders when generating solutions or strategies, the other one is for them to reflect on the services/systems/information/agreements they are responsible for. By following the instructions shown on the cards, stakeholders can synthesise the right information and knowledge they need from the research results.

B. Responsibility

The 'Responsibility' set consists of one instruction card and five cards that introduce five areas of responsibility in designing for leave-taking: service, agreement, system & flow, information and culture & organisation. They are for stakeholders to identify where the responsibilities lie and what are their own responsibilities in leave-taking.

C. Trend

The 'Trend' set consists of one instruction card and six cards that discuss the trends of different

areas of responsibility in designing for leave-taking (see 3.4) with the examples of the trends. They are for stakeholders to consider the trends and to learn from other stakeholders.

D. Target group

'Target group' set comprise one instruction card and four target groups: the four types of team settings that matter leave-taking experience (see 4.2). The cards are for stakeholders to understand the features, problems and needs of their responsible departments, and to identify what kinds of group would own the problems they want to solve.

E. Problem

'Problem' set consists of one instruction card and 26 existing problems in leave-taking addressed by employees and managers.

F. Need

The 'Need' set comprise one instruction card and four types of needs behind the problems of leave-taking (see 4.4). They are for stakeholders to understand what are the fundamental needs of employees and managers that need to be fulfilled by KLM.

G. Value

'Value' set consists of one instruction card and two types of expectations from KLM. One is the expectation on the behaviour of staff, and another is the expectation on leadership (see 4.4). These values are for stakeholders to check and consider whether they could bring KLM values with their designs.

Front	Back	Front	Back
 <p>Problem</p>	<p>Understand Existing Problems</p> <p>Discover the problems</p> <ul style="list-style-type: none"> - What are the problems existed in your responsible group? - What is more severe? - What do you want to solve first? <p>Check the problems</p> <ul style="list-style-type: none"> - What problems/wishes I should consider in the design? - What can I solve? - What can't I solve? 	 <p>#3 Shift Swapping</p> <p>Inefficient communication for swapping shift</p> <p>Problem</p>	<p>After they receive a new rostering, employees frequently swap shifts with their colleagues for a better personal planning. At current stage, they can only communicate through emails and thus pollute their email boxes.</p>
 <p>Target group</p>	<p>Identify your target group Target group</p> <p>Identify the target groups</p> <ul style="list-style-type: none"> - Who are the main target group of the problems/you are responsible for? - What are their features? - What do they need? <p>Check the target groups</p> <ul style="list-style-type: none"> - Do the design meet the requirements of the target group? 	 <p>Big team & Non-shift</p> <p>A big team with employees who work in regular working hours.</p> <p>Target group</p>	<ul style="list-style-type: none"> - Flexibility of leave-taking & holiday planning: Very high - Frequency of interaction between managers and employees: Low - Sense of teamwork: Very low - Rules & Regulation requirement: clear, accessible - System & Service requirement: self-serving, self-explanatory, automatic
 <p>Responsibility</p>	<p>Identify Responsibility</p> <p>Identify the responsibility</p> <ul style="list-style-type: none"> - What is your responsibility? <p>Understand where responsibility belongs</p> <ul style="list-style-type: none"> - Who owns the responsibility or resources of the solutions? 	 <p>Culture & Organisation</p> <p>The composition of teams, the organization structure, the working culture</p> <p>Responsibility</p>	<p>Labour Time Management</p> <ul style="list-style-type: none"> Cooperated ATM ATM Cargo ATM Ground Services ATM E&M <p>Management Team</p> <ul style="list-style-type: none"> Unit-manager Team lead <p>Culture</p> <ul style="list-style-type: none"> Culture lead
 <p>Trend</p>	<p>Understand Trends</p> <p>Generate ideas</p> <ul style="list-style-type: none"> - A problem can be solved by system/service/agreement/... solution. How are you going to solve the problem? Generate ideas for different areas. - You can learn from the trends. <p>Check the trends</p> <ul style="list-style-type: none"> - What are the trends I can consider? 	 <p>Information</p> <ul style="list-style-type: none"> Digitalization Accessibility Presentation <p>Trend</p>	<p>Digitalization</p> <ul style="list-style-type: none"> e.g. HR information digitalisation by HR Digital <p>Accessibility</p> <ul style="list-style-type: none"> e.g. Leave balance displayed in SAP and myRoster <p>Absenteeism data dashboard by HR Analytics</p> <p>Presentation</p> <ul style="list-style-type: none"> e.g. Absenteeism data dashboard by HR Analytics
 <p>Value</p>	<p>bring out KLM Value</p> <p>Discover the values</p> <ul style="list-style-type: none"> - What are the values behind the vision? <p>Check the values</p> <ul style="list-style-type: none"> - Does the new implementation bring out KLM Value? - What does it bring out? - Does it conflict with anything? - How to reduce the conflict? 	 <p>Optimal leadership</p> <ul style="list-style-type: none"> Connect Set-up for success & result Guide Challenge & inspire <p>Value</p>	<p>For manager</p> <p>Managers are expected to be able and willing to connect employees, to set-up for success, to guide employees and to challenge and inspire the team.</p>
 <p>Need</p>	<p>fulfill Basic Needs</p> <p>Discover the needs</p> <ul style="list-style-type: none"> - What are the needs behind the problems? <p>Check the needs</p> <ul style="list-style-type: none"> - Does the design fulfill the basic needs of managers and employees? - What does it fulfill? - Does it conflict with anything? - How to reduce the conflict? 	 <p>I'm understood & trusted</p> <p>Need</p>	<p>I am a manager</p> <p>My staff understand the goals and the tasks of the team. They know the reasons behind my decisions and will support and cooperate with me.</p> <p>I am an employee</p> <p>My manager and colleagues understand me as a person and my work attitude. They trust me and are willing to help me when I need to take a leave.</p>

Fig. 5.2 The front and the back of the instruction cards are on the left side, and other cards on the right side

two ways to use the toolkit

Timing A. Design principles checking

The first usage is to provide a common ground to all the stakeholders, to present a comprehensive view of how their decision or flexibility are subjected to the others and how the others are subjected by them (Fig. 5.3).

1. Identify your responsibilities in leave-taking.
2. Understand the trends of the areas that you are responsible for. Check whether your designs align with the trends or not.
3. Identify the problem(s) you are capable or responsible to solve. Check whether your designs are suitable for solving the problems or not.
4. Identify the needs behind the problems. Check whether your design meets the needs of employees and managers or not.
5. Understand the target group they are responsible for. Check whether your designs can meet the needs of the target group or not.
6. Check whether your designs can bring the KLM values. If anything conflict KLM values, think about how to reduce or avoid the conflict.

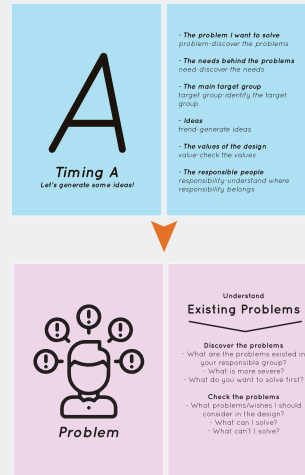
Timing B. Idea generation

The second function is to generate ideas following the process of Creative Problem Solving (Fig. 5.4 for the method see 6.1).

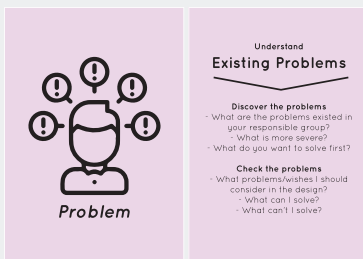
1. Discover and select the problem(s) you want to solve. It can be a problem of your team or a problem that is within your responsibility.
2. Discover and identify the needs behind the problem(s)
3. Identify the main target group of the problem(s) and understand its features and needs.
4. Understand the trends of different areas, and then generate ideas with the consideration of different areas and trends.
5. Check if the ideas can bring the KLM values. If anything conflict KLM values, think about how the conflict can be reduced.
6. Understand and identify the units and the people who should be responsible or involved in solving the problems.



Sort the cards according to the colours



Follow either timing A or B. Read the instruction cards according to the guidance on card A or B. For instance, the first step of card A is to discover the problem you want to solve. It tells you to read the instructions of 'Discover the problems' on 'Problem card'.



Follow the instructions to use other cards in the set. Try to generate your own answers for the questions on the instruction card. Use your mind and creativity!

Write down the answer on a paper.

Fig. 5.3 Manual of how to use the toolkit for two timings

5.3 Evaluation

Participatory Session

Participatory Session features its interactive and hands-on form. Compared to traditional forms of communication/presentation, a participatory session can lead to better use of the research results and better ownership of the insights and ideas (Sanders, Stappers, 2018). Before the session, the research results were presented in concise slides (see Appendix E) to the participants. Thereafter, the introductory session was held to guide the participants to use the toolkit. After the hands-on workshop, a short evaluation was done via questionnaire.

In the session, seven participants attended and were divided into three groups. Each group received one existing problem of leave-taking and they have 30 minutes to use the toolkit from synthesising the results to generating ideas. Figure 5.5 shows the design notes from one group.



Fig. 5.4 Photo of participants when using the toolkit

Creative form for timing A I'm _____

- The problem I want to solve #16 Health
- The needs behind the problem I'm in control & enable + I'm understood & trust
I'm empowered & encouraged
- The main target group owns the problem Big team + small team with shift.
- Ideas Agreement + Culture & Organisation

Information	System & Flow	Service	Agreement	Culture & Organisation
	flexibility Self Rostering		flexible contract hours	
				Create awareness with managers
			Mobility (different job temporary)	

- The values of the design on staff: take ownership, Reach out
leadership: Connect, Set up for Success & Result
- The responsible people
Agreement, Culture & Organisation, System & Flow

Fig. 5.5 A sheet with design notes written by a group of participants

Evaluation setup and result

A short evaluation form (see Appendix F) is filled in by the participants for the evaluation of the design toolkit. There are two parts in the evaluation form, the first part is questions to be answered in level of agreement. The first two questions are regarding the general presentation of the research results, indicating the success of using design toolkit as a presentation tool. The third question addresses the toolkit as a design facilitator; the fourth one evaluates the capability of triggering self-reflection in the design process. There were seven participants and all of them handed in the evaluation forms.

For the evaluation form, the average score of 'the research provides me with a clear overview of leave-taking.' is 4.9/7; the average score of 'the research provides me clear insights into the needs & wishes in leave-taking experience.' is 5/7; the average score of 'The creative session provides me a useful way to generate ideas.' is 6.1/7; the average score of 'The research and the creative session help me with what I'm doing.' is 5.5/7.

Few quotes from the feedback form about the toolkit are presented hereunder:

'I'm really enthusiastic of the way you creatively designed the workshop. It makes sense! And forces you to not jump into solutions but take all important elements into account.'

- A manager in HR Shared Services

'I really like the way you designed this creative but guided session. It is helpful to tackle one issue at a time and think it through.'

- A HR in Engineering & Maintenance

'Very helpful toolkit for searching ideas, solutions and plan of action.'

- An ATM manager

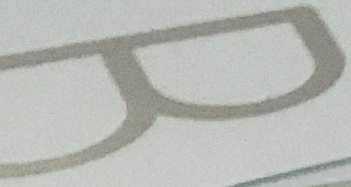
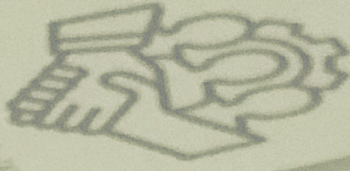
5.4 Conclusion

In synthesis, the 5W1H method was exploited for organising the information discussed in Chapter 4. Through the checklist, it reveals six major pillars in the design toolkit: Problems, Needs, Ideas, Trends, Target groups and KLM values. The design toolkit serves two purposes: 1. To convey the research results to the stakeholders and 2. To trigger and guide the design process. In the second purpose, the toolkit intends to achieve three functions during the design process: to present a common ground to the diverse stakeholders in KLM, to facilitate the ideation and to reflect their own function and responsibility in improving the leave-taking experience.

A participatory session with most of the stakeholders presented was conducted to evaluate the design toolkit. The feedback from the workshop meets the expectations in general. The participants engaged actively and the toolkit apparently inspires rich discussions during the session. Through the workshop, the areas to improve are also emerging. Even though the presented information is highly condensed, the amount of information was still slightly overwhelming to the first-time users. This is suspected to be one of the reasons why the first two questions receive a mediocre positive score. It also requires more time than expected, 30 minutes, to use the toolkit from the stage of understanding the context to the stage of generating a concept. Nevertheless, the evaluation from the participants are exceptionally positive when using the design toolkit as a creative facilitator; moreover, the output of the participatory session provides unforeseeable new insights thanks to the fact that most of the participants have either worked on the topic for a while or about to get started. These outputs will be further presented and processed in the following chapter.

Culture &
Organization

Responsibility



Leave-taking Design Toolkit

Researched & Designed
by Ginny Yang

Leaves

Leave-taking
Design Toolkit
Researched
by Ginny Yang

CHAPTER 6 Creation

With the design toolkit described in the previous chapter, three concepts are developed in this chapter. Given the time limitation, only one of the most prevailing problems is selected as the main design challenge. The concept intends to answer this problem with an implemable solution. This chapter describes how the concept was developed, what does it look like and how it works.

6.1 Scope and problem definition

In the previous chapter, a design toolkit was generated for designers and developers to gather the multi-aspect information from the research results while serving as a design facilitation tool. To further demonstrate the usage of the design toolkit and for answering to the assignment of this research topic, the author will generate a design concept for solving one of the major leave-taking problems in KLM. The design process will take the perspective of the clients of this assignment.



Creation & Evaluation

Leave-taking supervising experience for the managers who have a big team with shift worker with HR resources

Fig. 6.0 The scope of Creation and Evaluation

The role and responsibilities of the clients

The clients of this project are the head of HR Shared Services and the head of HR Digital Studio of KLM. Their responsibilities are providing HR services to managers and employees. HR services are mainly about staffing, employee compensation and everything related to salaries and contracts.

The problems within the scope

Problem 1: Untitled leave

The first problem is about untitled leaves. Whenever there are important or emergent events which employees have the obligation or responsibility to go to, they need to take a leave. For staff working in regular hours, this is not a problem as they can always use their employee leaves for that. The problem occurs to staff who work in shifts: They cannot take an employee leave if the minimum on-duty personnel has reached on the desired day. Since these events do not fall into any entitled leave categories, they can only ask for exception from their manager personally and might not get approved every time.

Problem 2: Redundant leave-taking process

The second problem is the redundant leave-taking process. Redundant manual operations and meaningless leave approvals are stemmed from the legacy construction of IT systems. These operations take employees and managers unnecessary time and can only leave more room to make a mistake for the users.

Problem 3: Inconvenient leave-taking supervision

The third problem is that the inconvenience to managers in absenteeism supervision. The leave balance of employees and the absenteeism information is scattered across different systems; and the information for support resources is not organised. It is also difficult for managers to monitor the presence/absence status of employees. Furthermore, managers have less experience cannot find any previous examples or accumulated knowledge in absenteeism management, consequently having less confidence in making decisions.

Problem 4: Unfit contract

The last problem is caused from the fact that employees have different needs, problems and wishes in different stages of their lives. While they need different ways of working to balance their private life, there are only limited contract types that they can choose from. As a consequence, they cannot be self-managing and self-steering with respect to their health status and their job. This problem is within the responsibility of HR; however, it is out of the scope of 'leave taking'.

The main target group

Most of the problems above are much more pronounced in bigger teams and among employees who work in shifts (see 4.2 and Fig. 6.1). Managers of these teams often feel less in control over the absenteeism management, mostly because of their staff is scattered all

over the entire airport or on dozens of flights. The employees in these teams are also under restricted and have little support from their managers when they want to take a leave.

Approach

One advantage of using the design toolkit is that it facilitates the design process by providing the trends and contexts as a solid ground and pointing the needs and values out as a design vision. This means that it could help generate a great amount of ideas in a rather short period of time. This is particularly handy in dealing with the above mentioned problems, since we have more than one problem to solve. The approach in the creation phase is thus using the design toolkit to generate initial concepts for each of the design problems, then prioritising the concepts based on the Impact/Effort matrix, followed by further development of the priority concept.

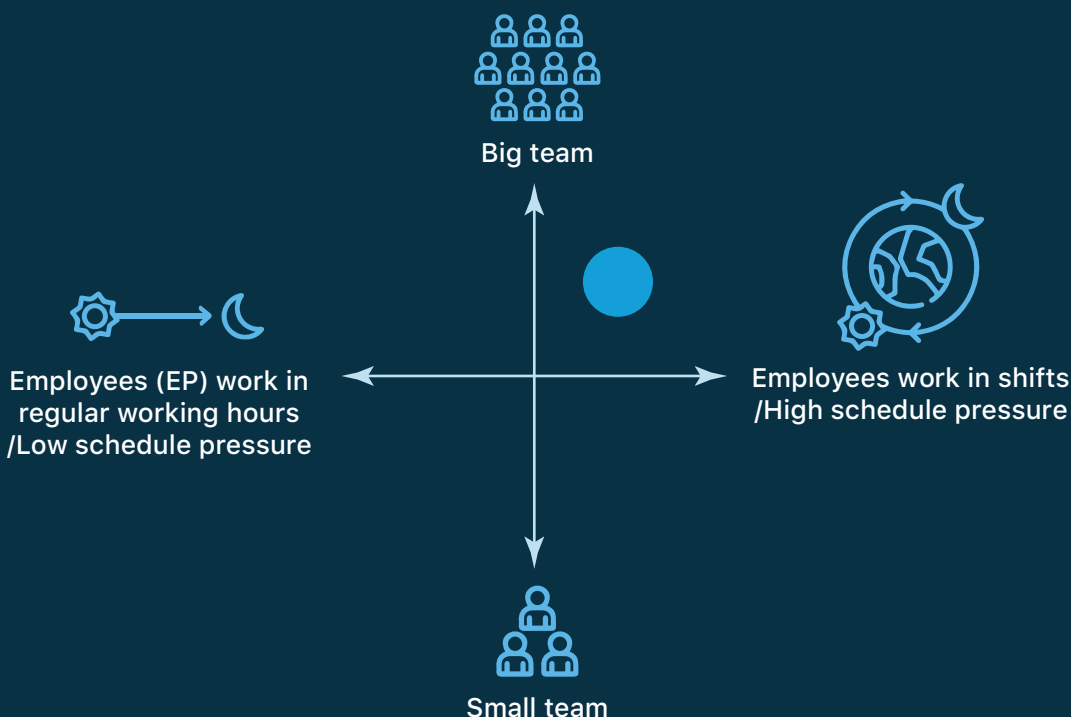


Fig. 6.1 The main target group is the big team with employees who work in shifts

6.2 Initial Concepts

The three initial concepts are generated to answer the problems listed in the previous section. Herein the generation process and the concept themselves will be described. The first concept is proposed as the solution to the first problem, untitled leave; likewise, the second concept is proposed to solve the redundant leave-taking procedure and the third concept is doing the same to the third problem, inconvenient leave-taking supervision.

Concept 1: Manager Leave

The concept Manager Leave is for solving the problem of 'untitled leave'. It is a new category of leave called 'manager leave' for which is designed to be granted by managers only. The purpose of manager leave is to provide leaves to justifiable reasons of which do not fall into any of the entitled leave.

This solution is particularly useful in the following scenario: An work-in-shift employee has an emergency event that he needs to take a leave, he is willing to use his or her normal employee leave but there is no available quota on the system and no other people and no other people can swap with him/her in such a short notice. He/she can then ask his or her manager for a 'manager leave'. Manager will then decide whether the an extra shortage of workforce is acceptable for that day. If it does, the manager can grant the leave to her for the emergency event.

While the manager was granting the 'manager leave', he/she also learned a few pieces of his private life from the submitted reasons for asking the leave. He/She can then use his or her

resources as a manager to help the employee if he/she finds the situation requires some more assistance. Even though he/she does not enable any extra resources, he/she can also adjust the way she manages the team and thereby providing more support with the entire team. This could be helping the employee to get a shift swap more easily in the future or maybe some other colleagues are willing to take over the shift for extra income.

Needs and Values

Needs

With the concept, employees can have more control of their life. They could feel appreciated and supported by the company when they have difficulties in their life. On the other hand, managers could also feel trusted by employees and feel empowered by the company to make such decisions.

Values

The concept fulfills not only the needs of both the employees and managers, but also could bring out the optimal behaviours expected from KLM. By implementing this concept, employees would be encouraged to connect and help each other, and managers would be encouraged to guide employees and to connect them with each other.

Requirement and Responsibility

To be able to grant manager leaves, managers have to ensure that there are enough people on duty, or enough workforce to cover the workload. This means that the workload/workforce prediction needs to be more accurate. Furthermore, managers do not have a clear overview in one integrated interface that consolidates the information from rosters, leave status and balance from HR system. They have no quick access to the leave quota of the team

nor the possibility for other employees to swap their shifts with the leave taker. All of these have to be changed so that the value of this concept can be carried out.

In addition to a new IT system, this concept requires a new setup in both the HR policy and CLA (collectieve arbeidsovereenkomst) agreement. Such a process requires a common vision from both sides of the employment and new written agreements.

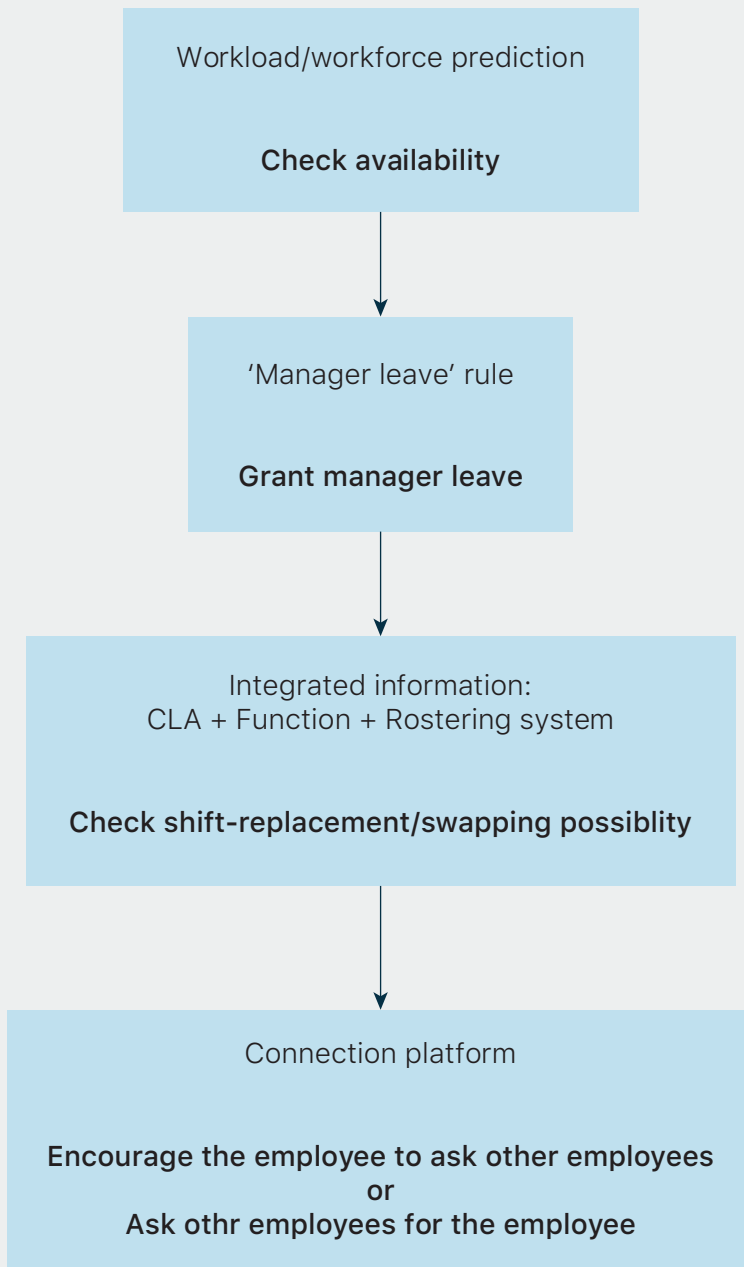


Fig. 6.2 The user flow of manager leave

Concept 2: Leave-Taking Self-Service

The second concept intends to solve the problem of 'redundant leave-taking process'. The concept leave-taking self-service is to empower the employees to process most of the leave-taking procedures by themselves with the help of linked-systems. In this self-service, employees will be able to check the available leave balance, rosters of the other colleagues and additional constraints from HR or according to CLA agreement. If he or she sees an opportunity to take a leave or swap a shift, he or she can submit such an application. Once the application is approved by her manager, the roster and the workforce distribution also get updated without manual input. If the leave involves the adjustment of the payroll, the auto-updated change will be pending by HR for their final conformation.

Needs and Values

Needs

By empowering colleagues to go through the leave taking process, this self-service will enhance the sense of in-control in their life and work planning. Besides, with the information being transparent to both managers and employees, the mutual-trust between them is expected to increase.

Values

The concept enables employees to take leave by themselves without the involvement of managers. It means employees have to be independent and they will need to understand the workload/workforce balance. It is expected that they could have more ownership of the team performance and feel more responsible in making sure the work can be finished by the 2team.

Requirement and Responsibility

This concept requires a significantly more accurate workforce/workload prediction model, this is the key to whether the approval of leave can be mostly approved as suggested by the system or not. A much bigger challenge is the integration of the systems. The workload/workforce system, the leave balance system and the roster system are all now independent systems. These stakeholders have their own opinions and the estimated cost for developing a universal, all-inclusive system is unacceptable. A more practical way could be an integrated interface that streams all these different sources of information together and present them coherently. While a great part of the auto-update functions are to be developed, HR Analytics has already worked on the SAP system which links the payroll and the absenteeism database. The SAP system could be the foundation of the future fully automatic linkage system. Last but not the least, all these information, except for personal data or complex formulas, should be transparent to employees; without which they cannot make an independent and responsible decision during the leave-taking or shift-swapping process.

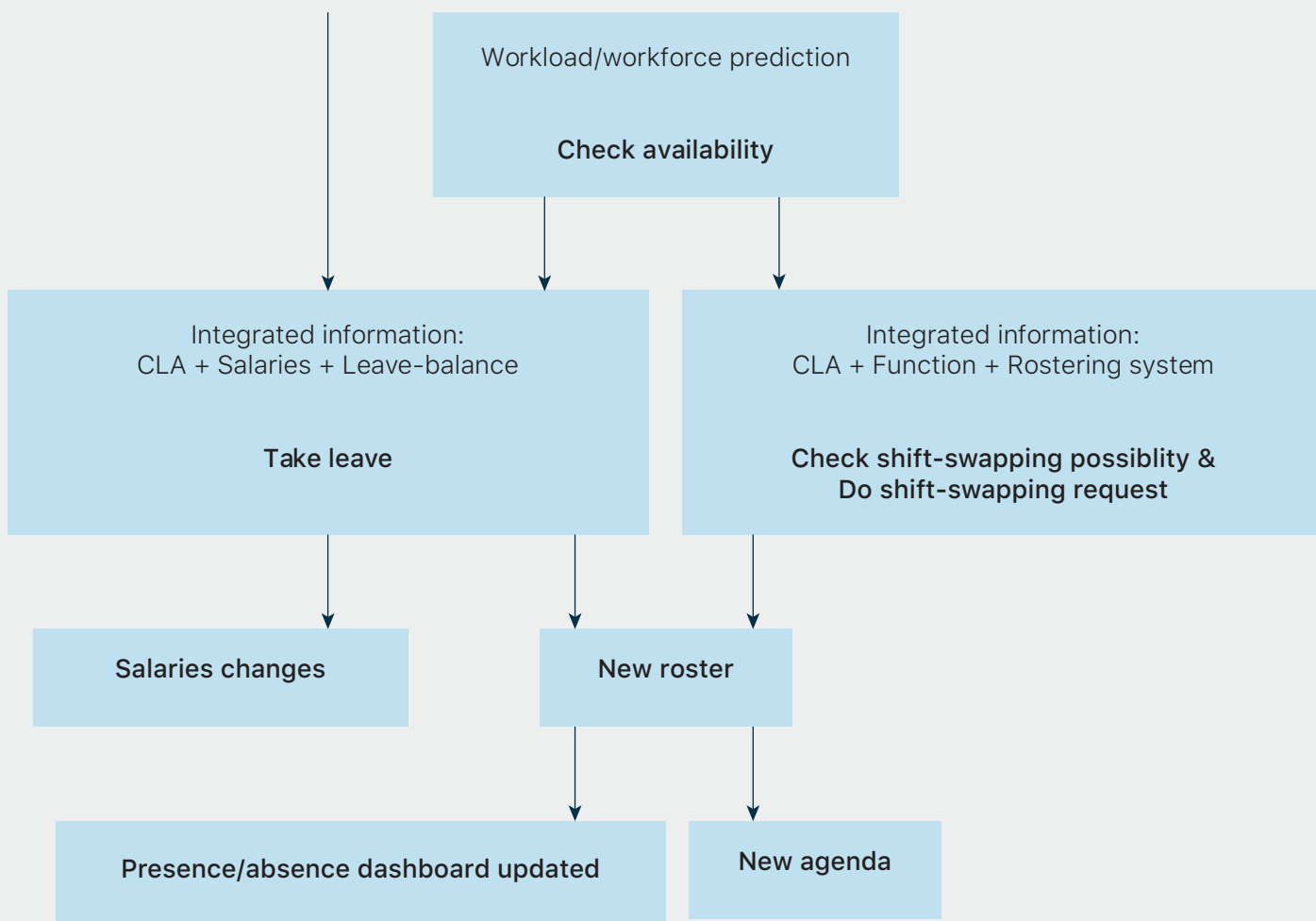


Fig. 6.3 The user flow of Leave-taking Self-service

Concept 3: Manager Dashboard

This concept intends to solve the problem of 'inconvenient leave-taking supervision'. This dashboard provides presence/absence status of each day with which a manager of a big team can have an overview about the workforce of today very quick. Furthermore, the dashboard can summarise the absenteeism and highlight the employees that might be in need based on their sickness leave frequency. Since it is a dashboard exclusively to managers, what can further be incorporated is the comparison of absenteeism statistics between team under his or her management and the KLM average. Besides receiving information, managers can report their findings to HR Analytics or asking for support from HR service. Through this platform, experience and examples can be shared across managing level without compromising the privacy of the employees.

Needs and Values

Needs

With the manager dashboard, it is expected that leave-taking supervision will be much easier. Managers could have more control of the attendance, sickness and absenteeism situation of their staff. They will be able to help their staff more by proactively providing support to sickness problems.

Values

With this concept, managers could have all the essential absenteeism information about their staff. It is believed that this will encourage managers to have more understanding about their team, having more incentive to find out the root causes of severe absenteeism, and willing to

deal with the problems with the support of HR.

Requirement and Responsibility

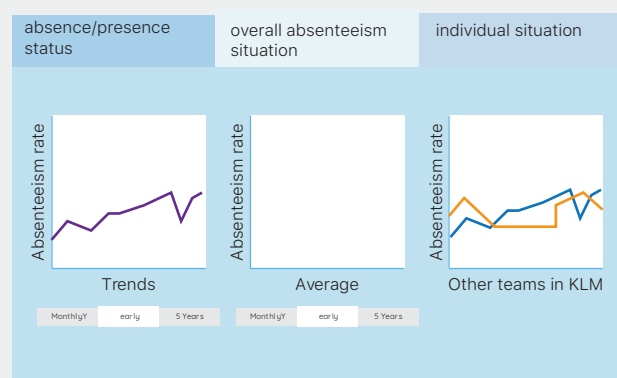
Without the need of changing the HR regulations and CLA (collectieve arbeidsovereenkomst) agreement, the realization of this concept requires solely the well integration of data across different systems. For instance, the leave-taking information and the rostering information should be coupled. All the absenteeism statistics exist already but has no digital tool to present them. The links to the healthcare supporting resources should be re-organised in a clean and readily recognisable arrangement.

1. Manager can supervise absence/presence status and absenteeism situation on SAP dashboard. There are three functions in total, which manager can switch between dashboards.
 Function A: Presence/absence status checking
 Function B: Overall absenteeism situation checking
 Function C: Individual situation checking

2. With function A, managers can know when they can see or cannot see someone.



3. With function B, managers can compare their teams with other teams in KLM and see if there's anything suspicious.



4. If they find anything suspicious, they can check if there is something wrong by viewing the examples and previous cases.

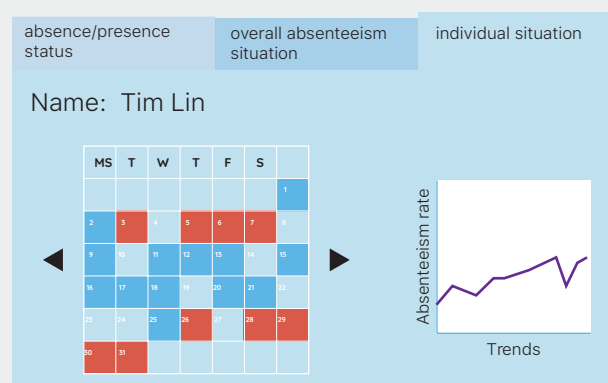
+ Check the examples and previous cases

5. Or directly report it to HR Analytics.

[Upload images +](#)

Description:

5. With function C, they can check individual's situation.



6. If they want to help the individual, they can check the FAQ link, in which they can find the support resources and other possibilities that can be useful for the individual.

- FAQ

- + Frequent sickness
- + Longterm sickness
- + Absence without reasons
- + Conflict with employees
- + Contract changes

7. They can also ask question through there if there's no answer for their question.

[There is no answer for my question?](#)

Fig. 6.4 An illustration of Manager Dashboard; name and numbers are just example

6.3 Prioritisation

Due to the time limitation, only one concept will be further developed in this project. The impact/effort matrix was exploited for prioritising the concepts. This matrix helps one to make decisions with the balance between delivering impact and limited available resources (“Editable Impact Effort Matrix Templates”, n.d.). The potential effort and impact of each concept will be discussed in the following.

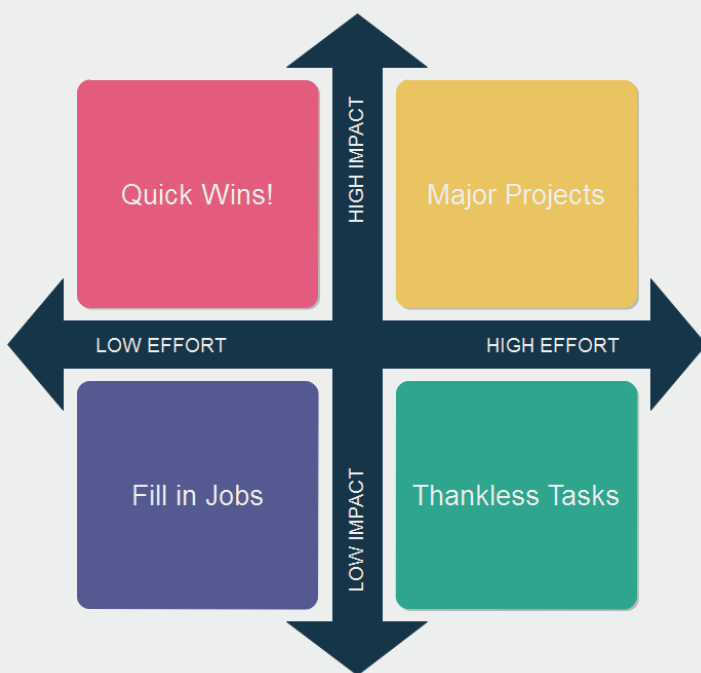


Fig. 6.5 Impact Effort Matrix
 (“Editable Impact Effort Matrix Templates”, n.d.)

Concept 1: Manager leave

> Medium impact with low effort

To effectively implement ‘manager leave’, the IT systems and the CLA agreements both need to be advised. Yet, the impact is relatively small as the untitled leaves are only a fragment portion of all the leave types. It is therefore expected to have the least impact/effort ratio, ranking as the least priority of the three.

Concept 2: Leave-taking Self-service

> High impact but high effort

Leave-taking self-service is estimated to have high impact to the great amount of staff. The concept suggests a fundamental change of the leave process and management which could benefit all of the employees and managers on a daily basis. In the meantime, it is also the most challenging to implement among the three concepts. Besides the complexity of integrating all the systems and information, some desired functions, such as workload prediction, are not sufficiently reliable alone. It could take a while for these developments to catch up, which is not optimal for the clients to solve the current problems. This concept, however, could be a vision for the clients and stakeholders to improve towards in KLM.

Concept 3: Manager Dashboard

> High impact and low effort

The ‘manager dashboard’ requires low effort as most part of the concept can be done by HR Shared Services and HR Digital Studio. Besides, HR Analytics team is currently developing a tool for monitoring absenteeism data, which is one part of the manager dashboard. Moreover, this concept could have high impact to absenteeism management, help managers to have better overviews of their team and taking proactive moves to take care of them.

According to Fig. 6.6, the one concept with the least effort to implement yet remains high expected impact is 'Manager dashboard'. The quantitative estimation of the impact and the effort is finalised with the expert opinions from clients and stakeholders, i.e. IT developers and HR managers of KLM. The scale was not based on a certain quantitative index but normalised together with the consent among stakeholders. One of the most attractive reasons is that this concept matches their recent developing trends; some proposed features are already under construction in the IT system 'HR Analytics Cloud' ("SAP Analytics Cloud", n.d.). This means a big part of the infrastructure cost has been covered.

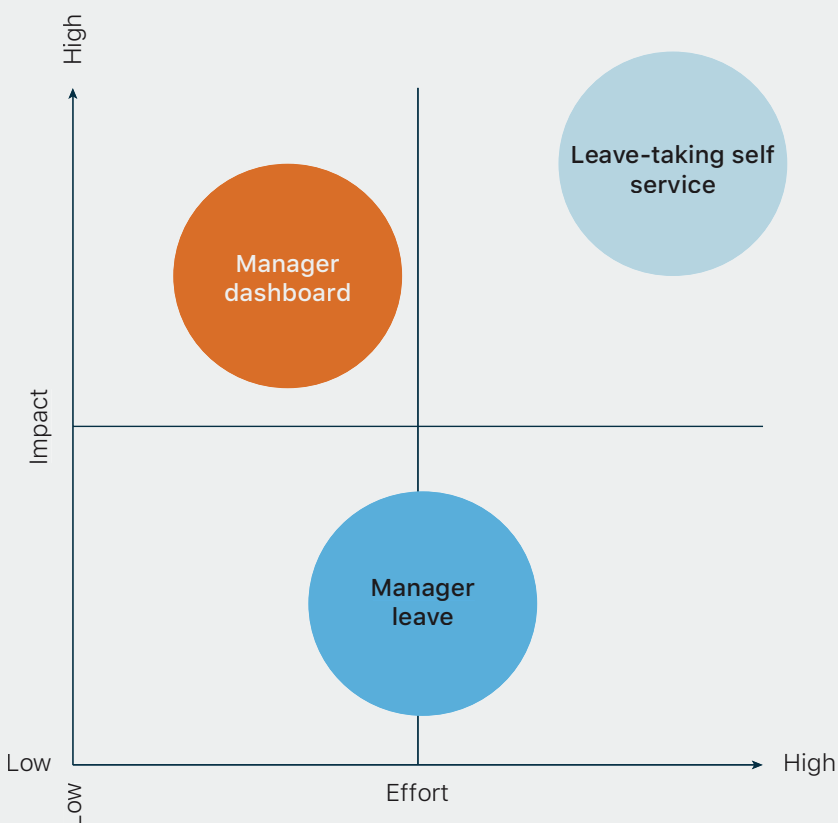


Fig. 6.6 The result shows that Manager Dashboard has high impact and requires relatively low effort

6.4 The final concept: Manager dashboard

In the development of the concept 'Manager Dashboard', the author aimed at two main targets: a seamless coherence to the new UI of the KLM staff website and a short time-to-deployment. The first strategy is to design the interface that matches the Visual Identity (VI) of the new internal website, also known as MyKLM (my.klm.com). This website is still in the developing phase and has no proper function yet. Its UI inherits the iconic KLM blue theme with a modern clean and tidy touch (see Fig. 6.7 (a)). By adopting the VI as much as possible, the end product will not need much adjustment for a non-intrusive display. For the time being, the design will focus on the desktop/laptop platforms and the main input media will be keyboard and mouse. In addition to the VI, some of the proposed functions, such as providing absenteeism statistics, has been under development in HR Analytics. The design of that aspect will then focus on creating an interface that can present the already built content and structure.

Manager Dashboard has three main functions: 1. Providing the managers the overview of the presence status, 2. Displaying the absenteeism statistics from HR Analytics and 3. Giving clear access for managers to fetch the support from HR for absenteeism management and to help their staff. These three main functions are interrelated but it would make no sense if presenting them all in one interface; therefore, each function has been embodied as one product. Managers can have the presence/absence overview via the product 'Employee Attendance Overview'; if they found someone needs more help and would like to receive some support from HR, they can find all the support resources from 'Absenteeism and Healthcare Support'; occasionally, they can check the absenteeism statistics on 'Absenteeism Dashboard' for more insights.

The Figure 6.7 shows that there are three main items in the main menu of myKLM: 'myKLM dashboard', 'My workplace' and 'myHR link'. Concerning that the final concept is about people management duty, and does not belong to any items here, the author decided to add another dashboard 'Manager dashboard' to place the final concept. In the future, there might be more products developed that are also about people management duty. The author suggests that they all be put in the category of 'Manager dashboard'. This could help managers build up the sense that everything about staffing could check such categories.

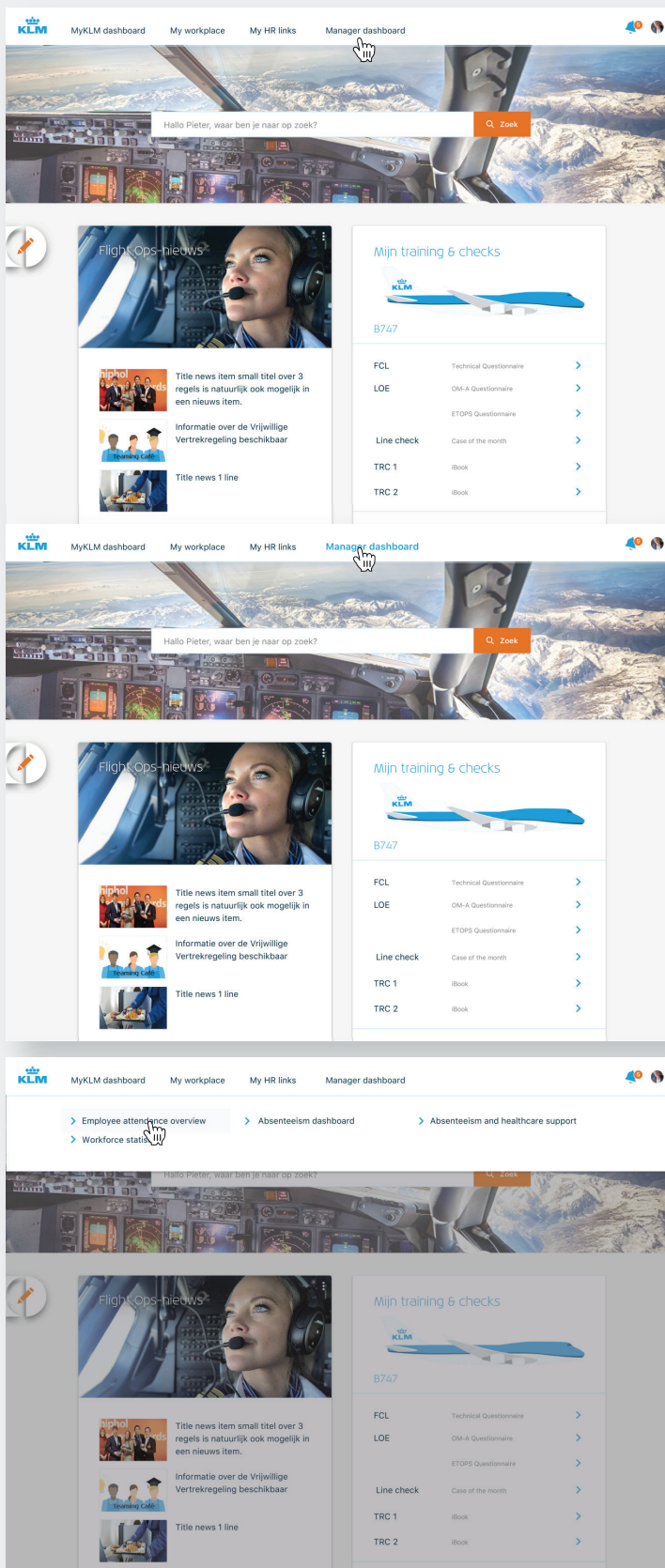


Fig. 6.7 The operation steps of using Manager dashboard menu from top to bottom

Employee Attendance Overview

Employee Overview

Employee Attendance Overview is the gateway of the entire Manager Dashboard. It is expected that managers will use this tool on a daily basis for checking the presence status of their staff. Through Employee Attendance Overview, managers can check who is on duty, who is sick and who is on vacation. Such an overview is particularly suitable for teams that work in shift. Besides, managers can also check the attendance overview of any single employee, daily (Fig. 6.8), weekly (Fig. 6.10), monthly or yearly display, just like a calendar.

The system is able to discern the employees who took more sick leaves than the others (Fig. 6.14). If the leaves beyond a certain threshold, the dashboard will give a notification to the corresponding manager, encouraging managers to take further steps to help or support the employees.

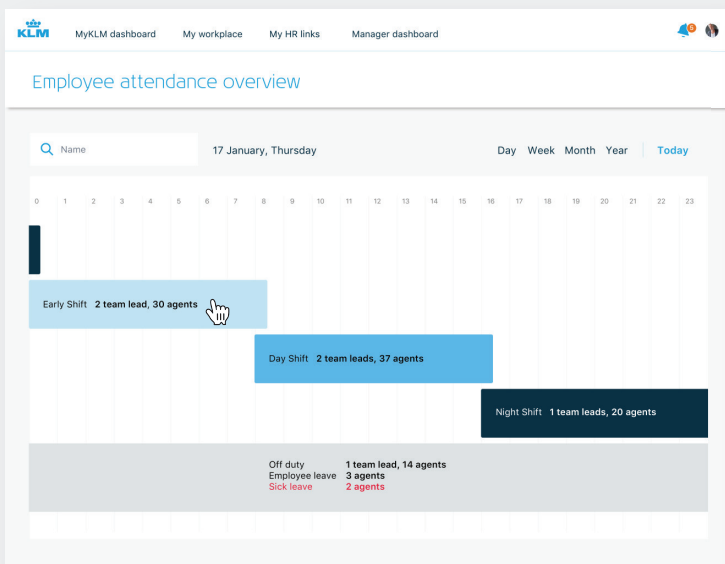


Fig. 6.8 Employee attendance overview displaying shifts of a day; the numbers and times are only for example.

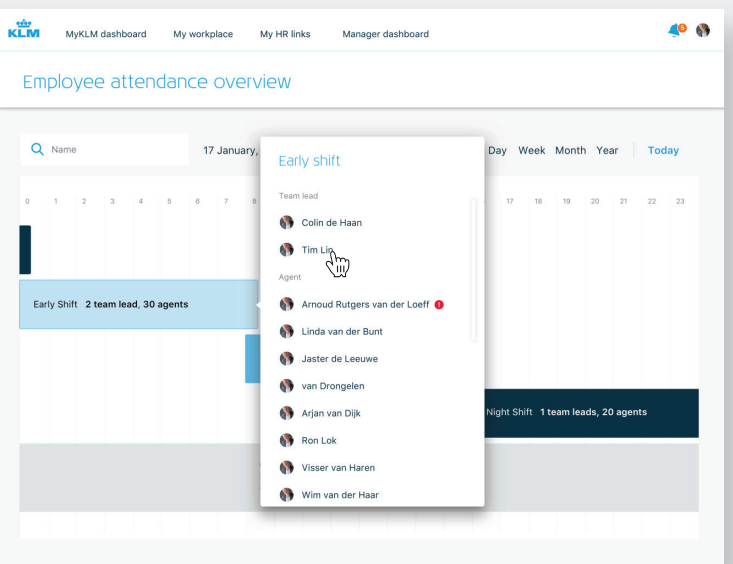


Fig. 6.9. Interface of employee attendance overview when showing the list of staff in the early shift; names and photos are only for example

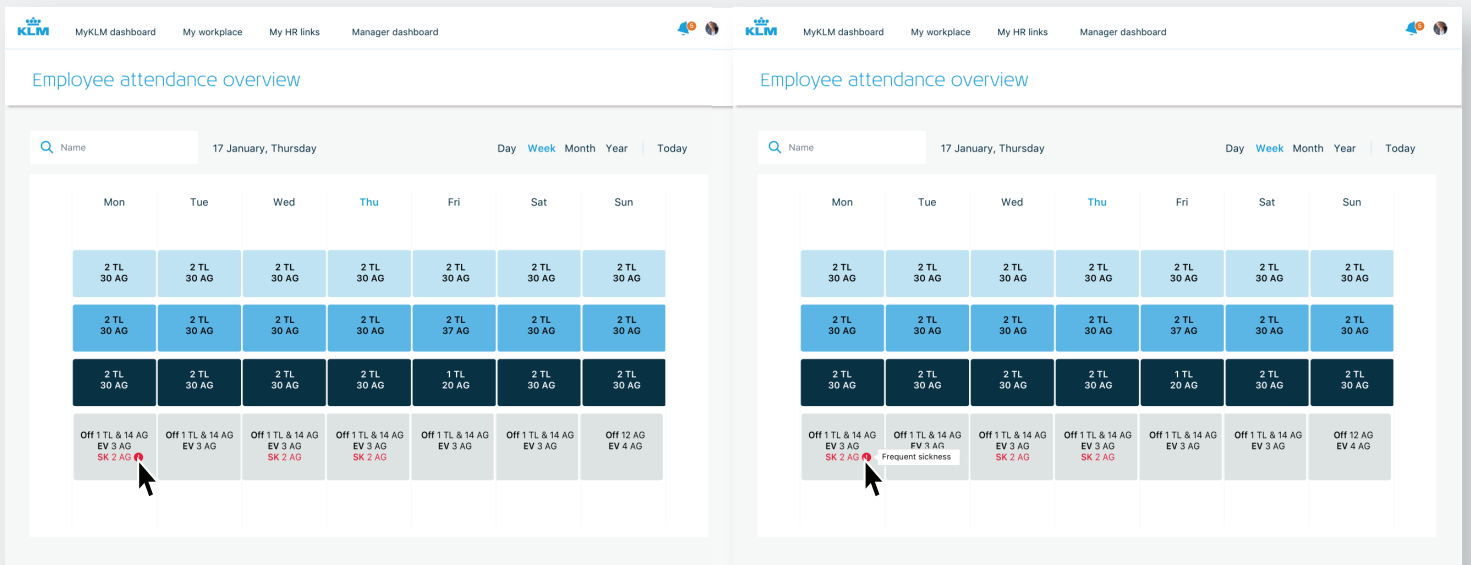


Fig. 6.10 Weekly overview of employee attendance; fequent sickness warning popping up when hovering mouse indicators on the exclamation mark

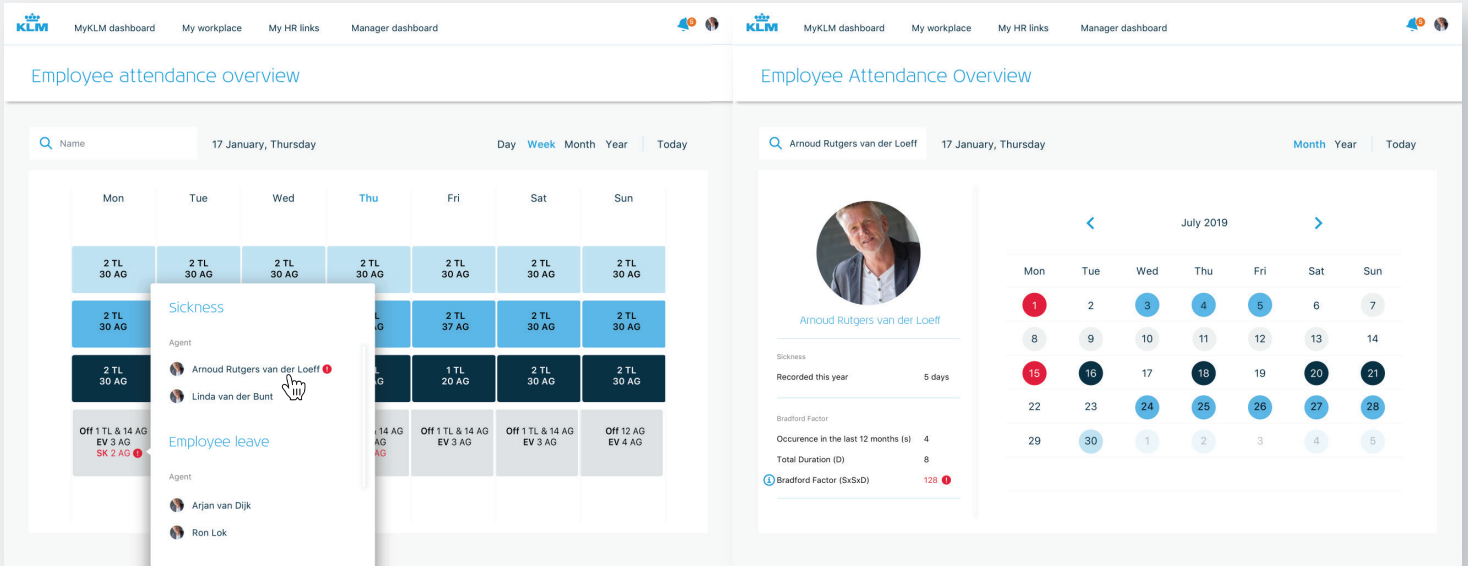


Fig. 6.11 Interface which showing list of employees who take leave(s) according to their types of leaves in weekly overview

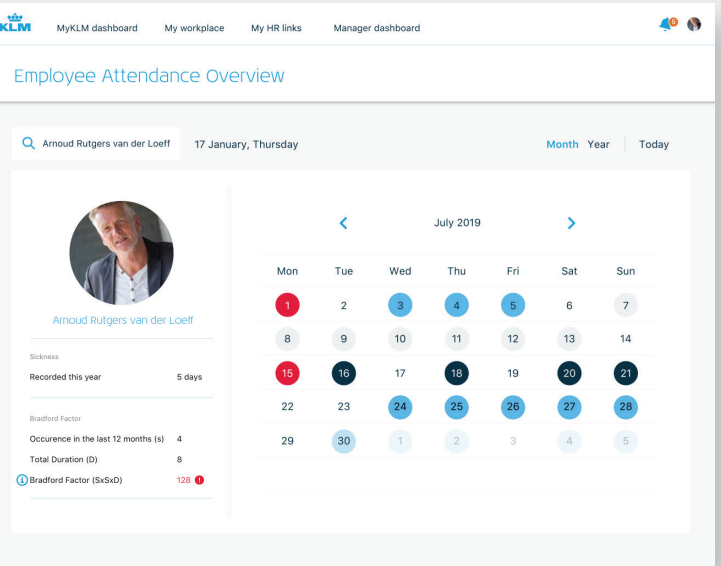


Fig. 6.12 Interface of attendance overview of an individual people; the name, the personal profile and the status are only for example

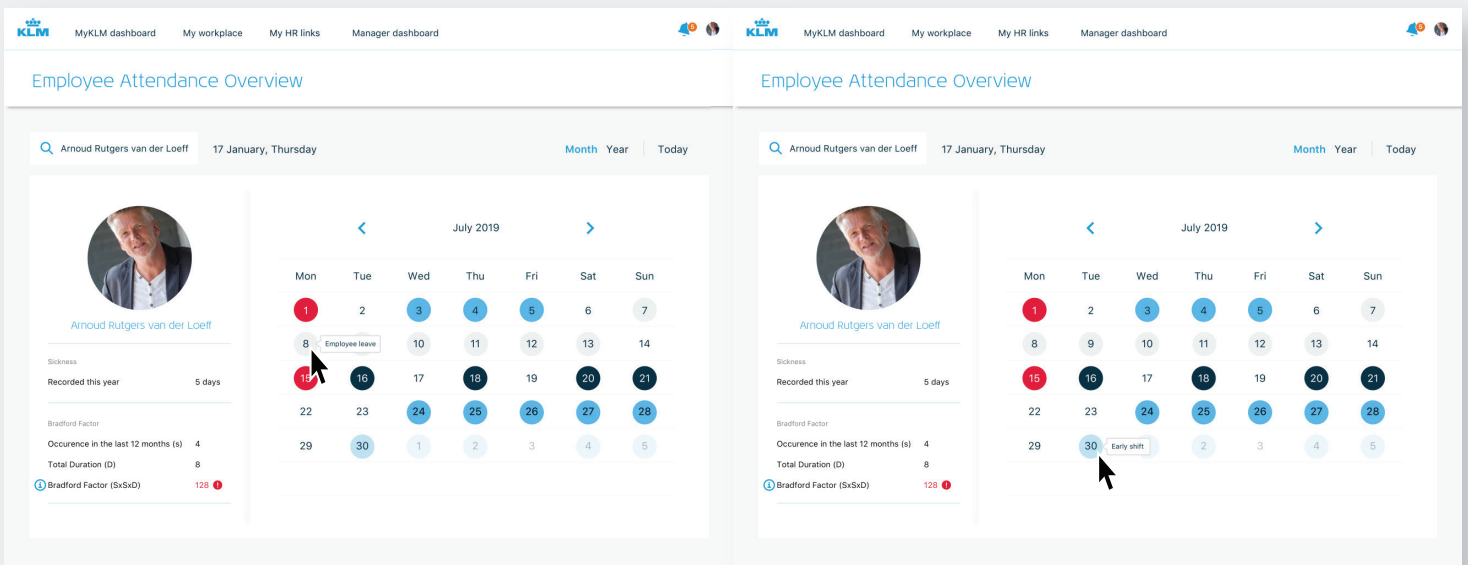


Fig. 6.13 In individual profiles, managers can have an overview of one's attendance situation. Different colours stand for different shifts and situations.

Clicking from the list of staff or from searching bar (Fig. 6.11), managers can also check the profile of individual employees to see his or her agenda.

Managers can see the absenteeism situation of an employee (Fig. 6.13); Bradford factor (2013) is used to calculate the seriousness of one's absence situation (Fig. 6.14). If one has frequent sickness, managers can click the suggested link 'Absenteeism and Healthcare Support (Fig. 6.18)' to check how they can manage the situation and how to provide help (Fig. 6.15).

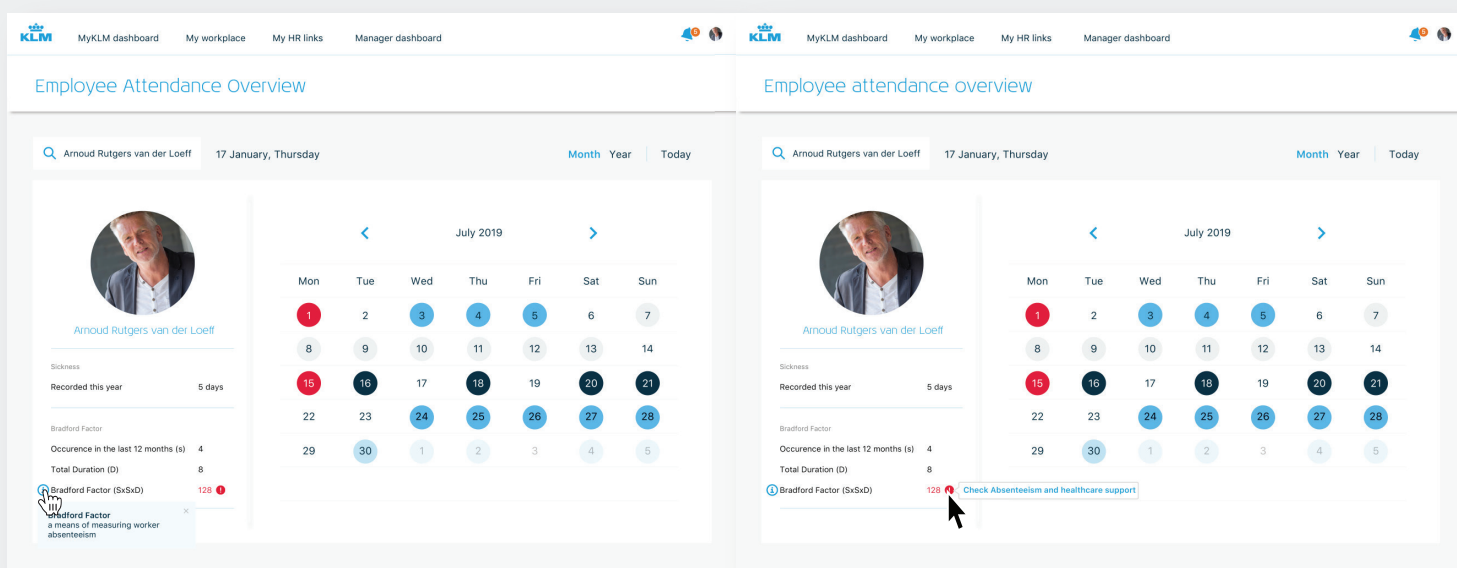


Fig. 6.14 Explanation of Bradford factor showing at the bottom left corner on the individual profile

Fig. 6.15 Pop-up link to 'Absenteeism and Healthcare Support' when hovering mouse indicator on the red exclamation mark

Absenteeism and Healthcare Support

The second product in manager dashboard is 'Absenteeism and Healthcare Support' (Fig. 6.18). If any employee has a high sickness rate based on the Bradford factor, an exclamation mark will appear for attracting the manager's attention. Through the mark, which is also a link, managers will be directed to the support page, where all the support resources are presented in one page. This product shows all the information of absenteeism management, preventive healthcare, KLM health care resources and sickness management. All these information and resources have existed but they were scattered on KLM internal website (Fig. 6.16). The main contribution of this product is to reorganise the information clearly so that these tools can make the most use of themselves.



Fig. 6.16 Health and absenteeism information displayed in the old myKLM website; the screenshot cannot contain all the items from the drop down list

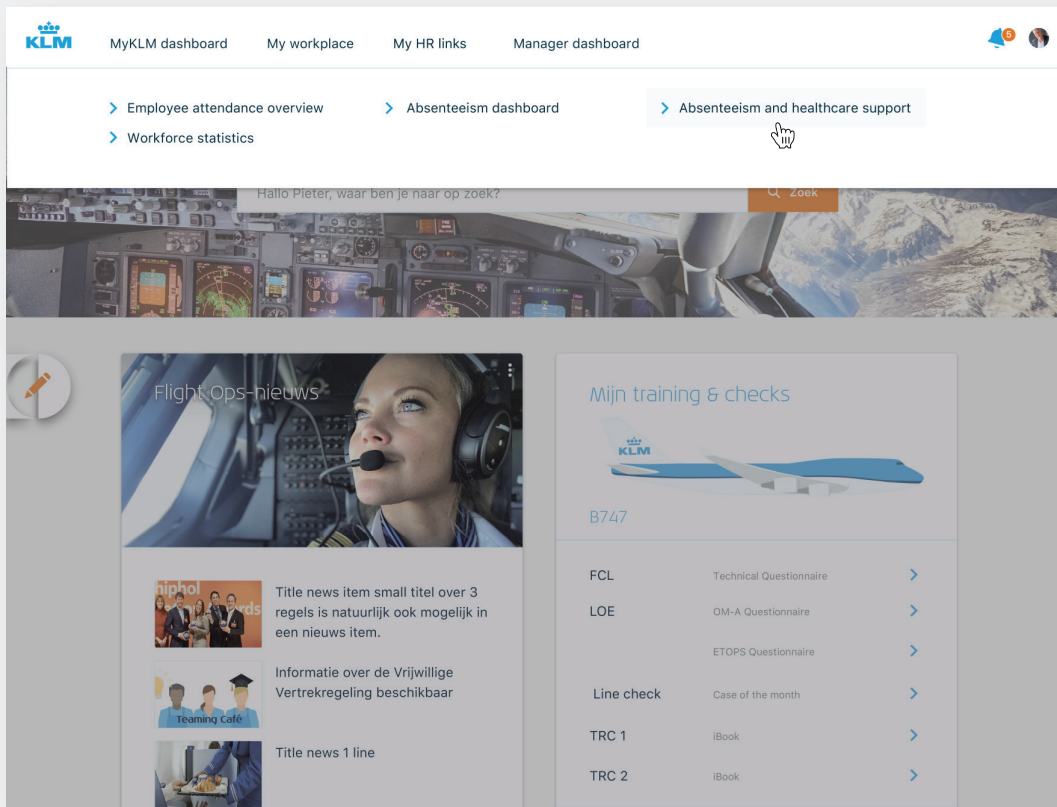


Fig. 6.17 Main menu of the new MyKLM website indicating the entry of Absenteeism and healthcare support on top of the dropdown manual

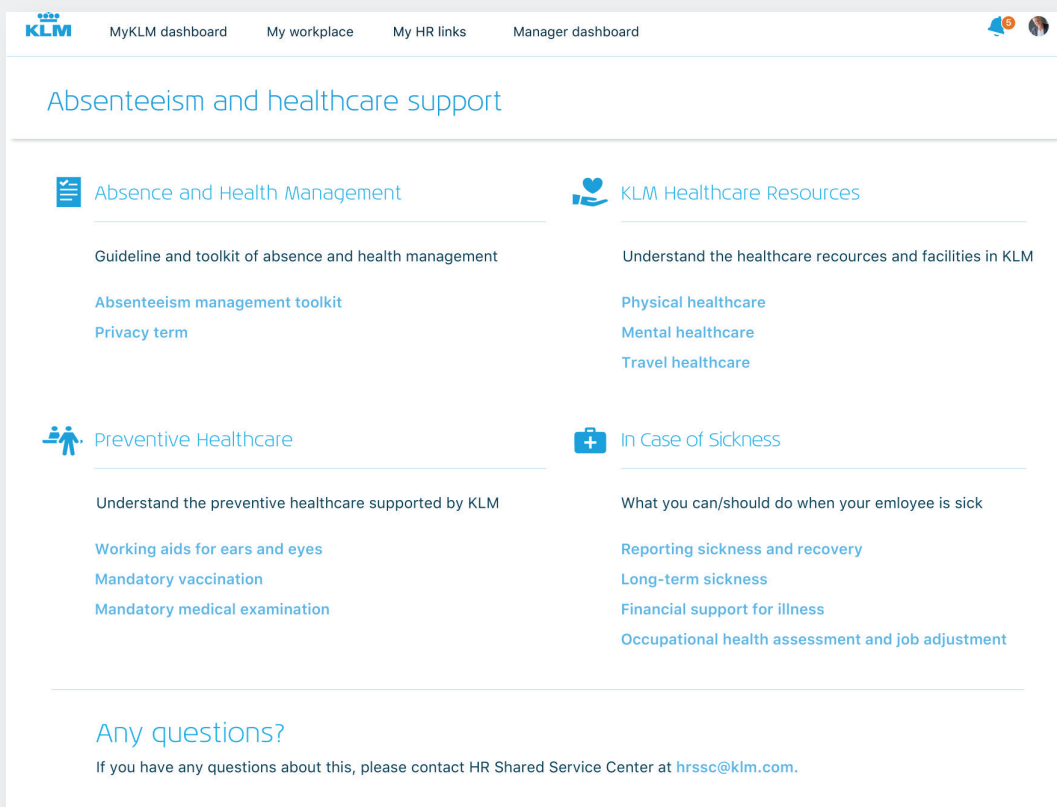


Fig. 6.18 The general overview of Absenteeism and healthcare support interface

Absenteeism Dashboard

The third product is 'Absenteeism Dashboard', which provides the absenteeism statistics. Most of the functions are under developed by HR Analytics team, they cooperate with Ground Services manager to investigate what information and data should be there in the dashboard. The contents are still under investigation but the current prototype (Fig. 6.19) is used as a reference of this product. The UI design guideline that is exploited is KLKM Digital UX Guide.

The dashboard has four main pages: 'Summary', 'History', 'Team, Division and KLM' and 'Age, Function and Contract Percentage'. In the 'Summary', it displays the summarized information of absenteeism and employees statistics, including headcount, average age, average years of service and absence rate (Fig. 6.20). The 'History' shows monthly and yearly fluctuation of absenteeism and employment statistics in more detailed numbers and curves (Fig. 6.21). In the tag 'Team, Division and KLM', managers can find absenteeism and other employment statistics comparisons between their own teams and with entire division or the difference between KLM average (Fig. 6.22). The 'Age, Function and Contract Percentage' shows absenteeism per age bracket, function group and contract percentage bracket (Fig. 6.23).

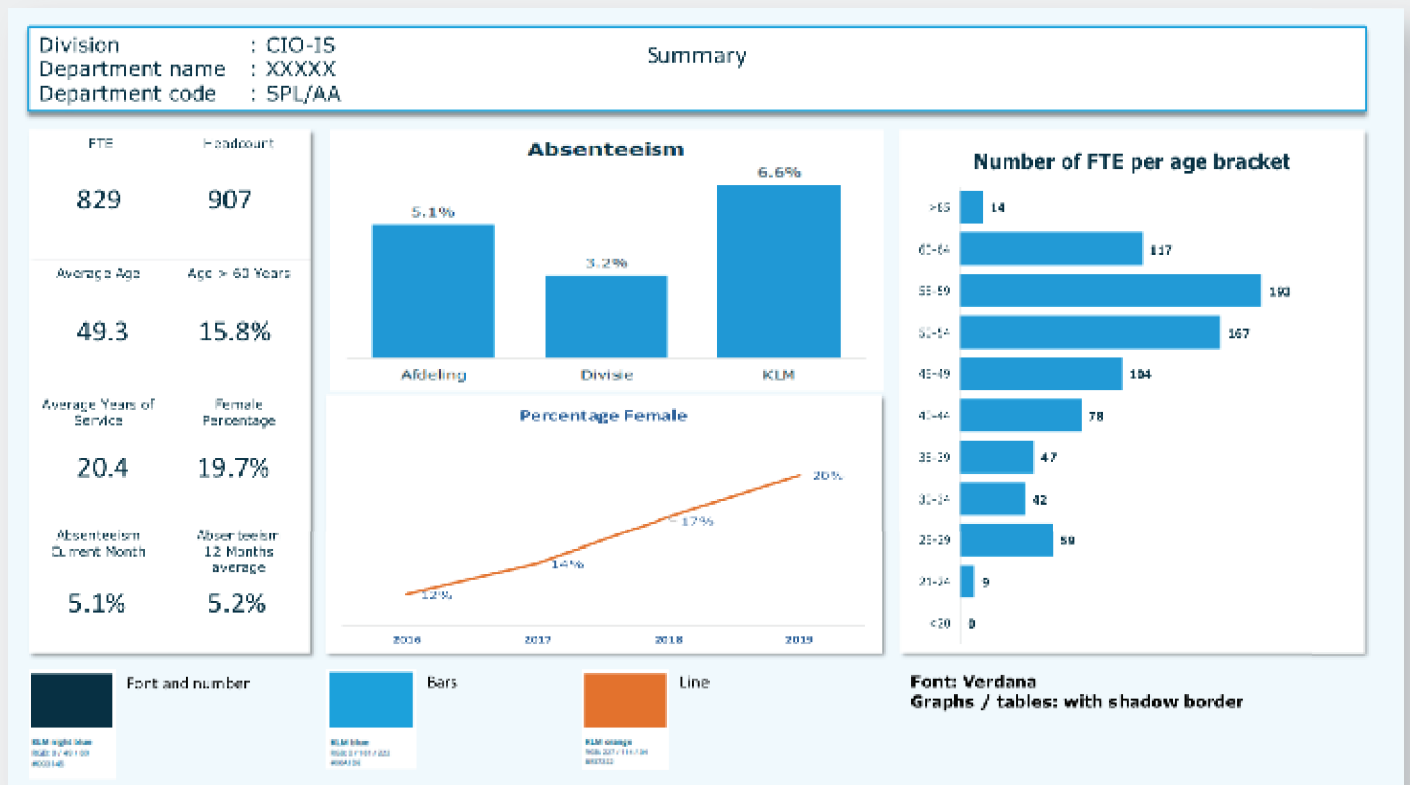


Fig. 6.19 The current prototype of absenteeism statistics developed by HR Analytics

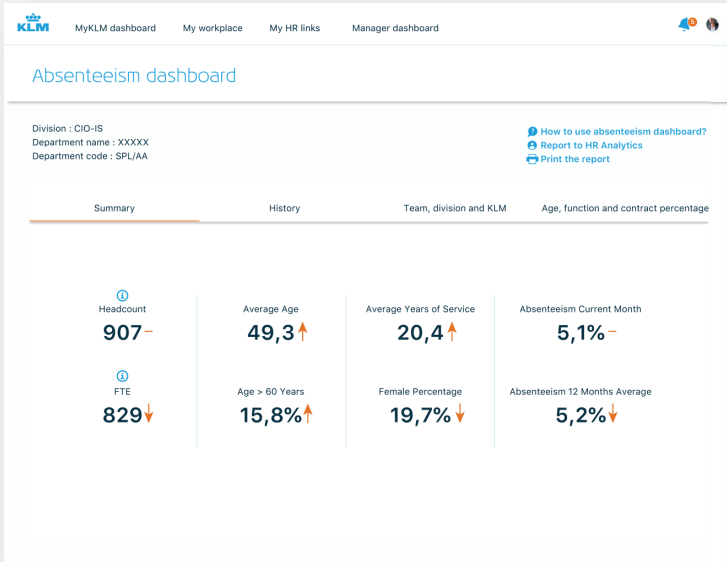


Fig. 6.20 The 'Summary' page of Absenteeism dashboard; numbers and division name is for example only

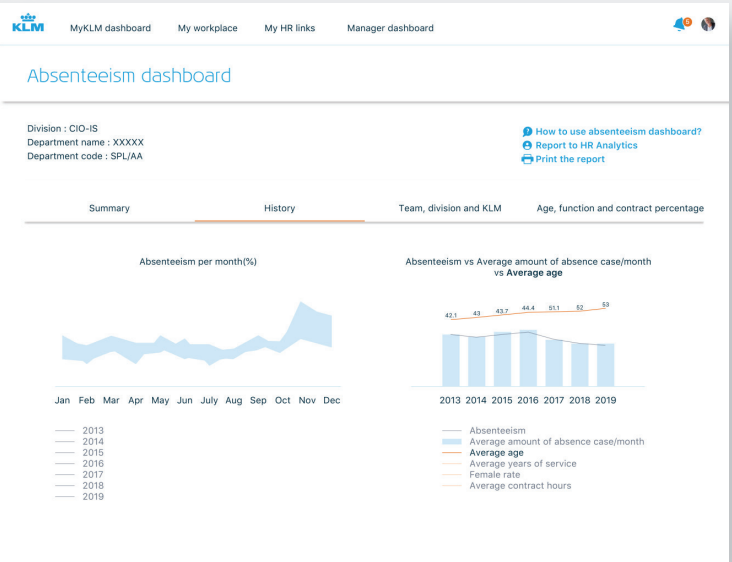


Fig.6.21 The 'History' page of Absenteeism dashboard, the left side showing the absenteeism rate of each month while the right side showing the correlation between absenteeism and demographic statistics; the numbers and division name is for example only



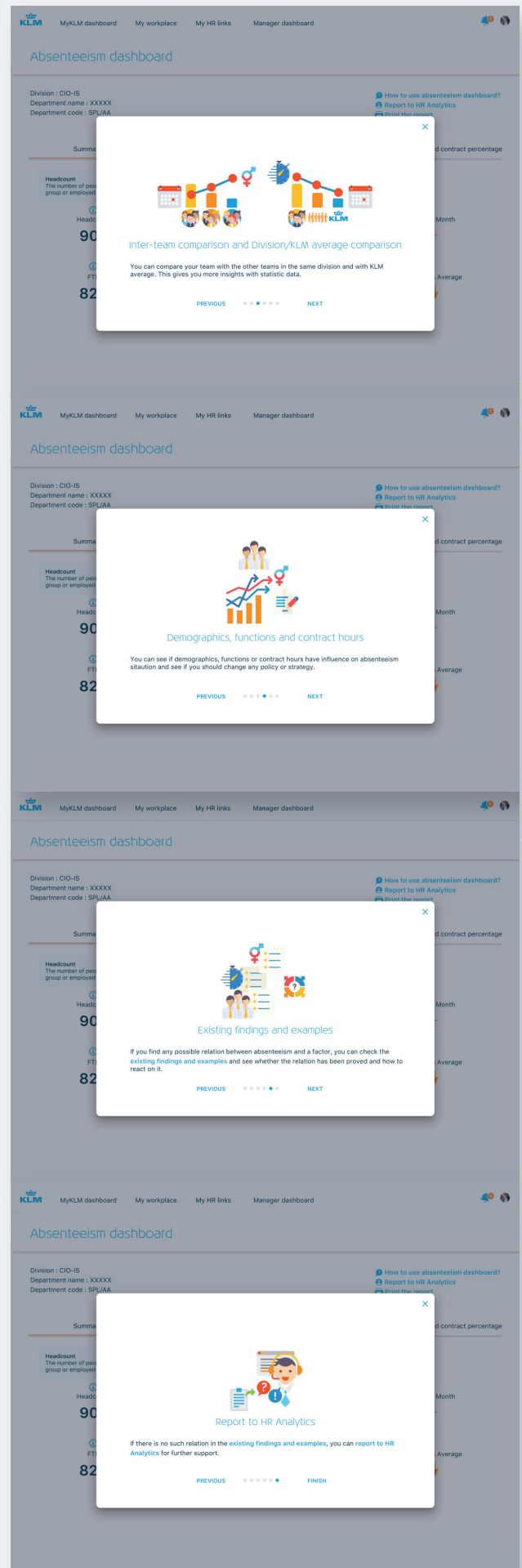
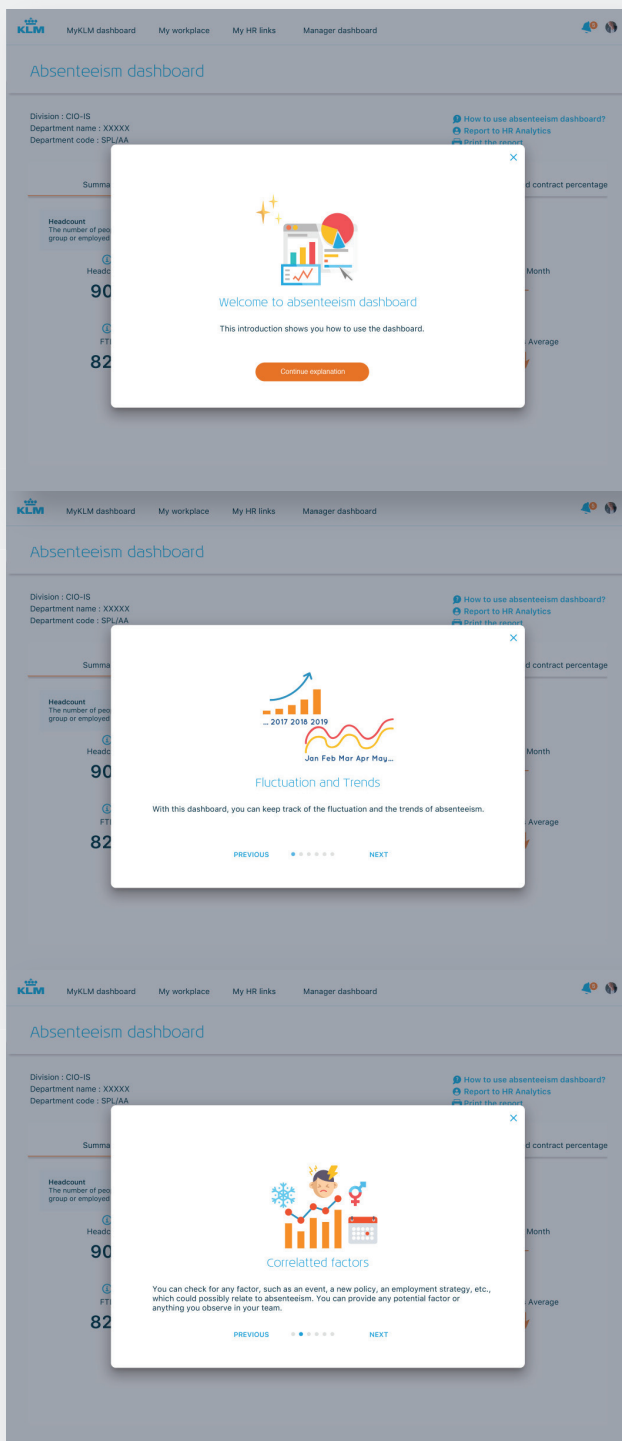
Fig. 6.22 The 'Team, division and KLM' page in Absenteeism dashboard; the left side shows the comparison among teams, division and the right side shows the gender-dependent absenteeism; all numbers and statistics shown are for example only



Fig. 6.23 'Age, function and contract percentage' page of Absenteeism dashboard; all numbers and statistics are for example only

When managers first open the dashboard, an introduction will pop up for illustrating what the dashboard is about and how can one use it. This introduction can also be found on the right-up corner later for review.

Fig. 6.24 The introduction of the absenteeism dashboard, presenting in sequence from left to right bottom

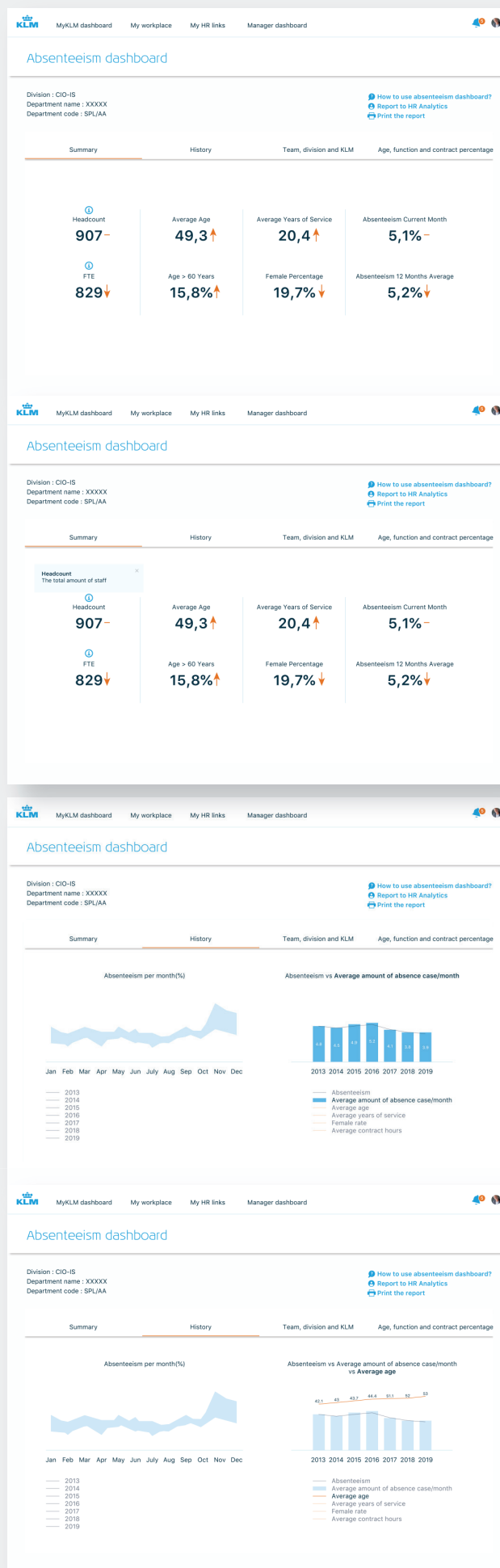


Considering some managers are not familiar with all the employment terminologies, the dashboard also provide basic explanations of relative jargon. Managers can click the information icon to check the meanings of the terms (Fig. 6.25).

Fig. 6.25 The explanation of 'Headcount' pops up when hovering mouse indicator on top of blue exclamation mark above headcount number; all numbers are of fiction and for example only

It is worth mentioning that the data of the dashboard is interactive. Managers can click the text to highlight the graph and check the numbers. With such functions, managers can easily compare different factors with absenteeism rate or cases.

Fig. 6.26 Different levels of information showing on the 'History' page; the page shown when (a) 'Average amount of absence case/month' being clicked and (b) 'Average age' being clicked



All the data on the dashboard can be exported to PDF file or be printed. Managers can select the data themselves to make a clean and clear absenteeism report (Fig. 7.27 & 6.28).

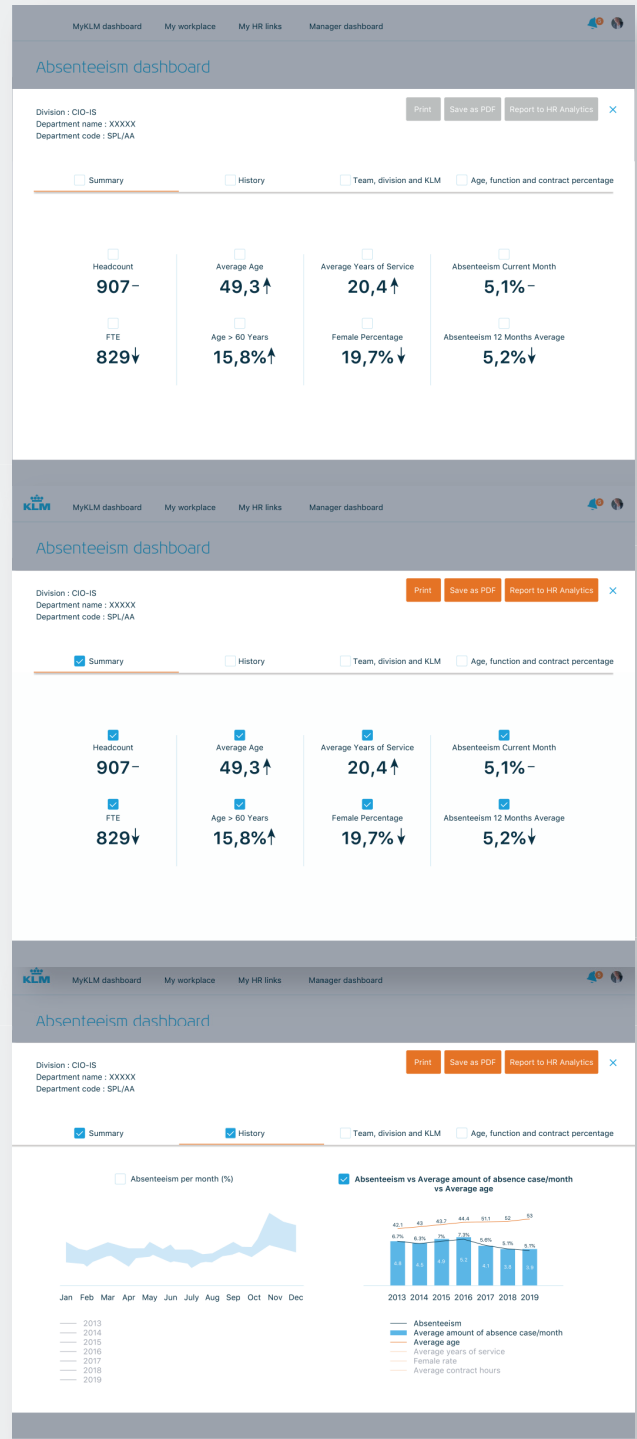


Fig. 6.27 Different selections on the printing page; the page shown when (a) nothing is selected, (b) checkbox of 'Summary' is selected, all the sub-items within the same page are selected by default (c) checkboxes of 'Absenteeism' and 'Average amount of absence case/month' on 'History' page are selected.

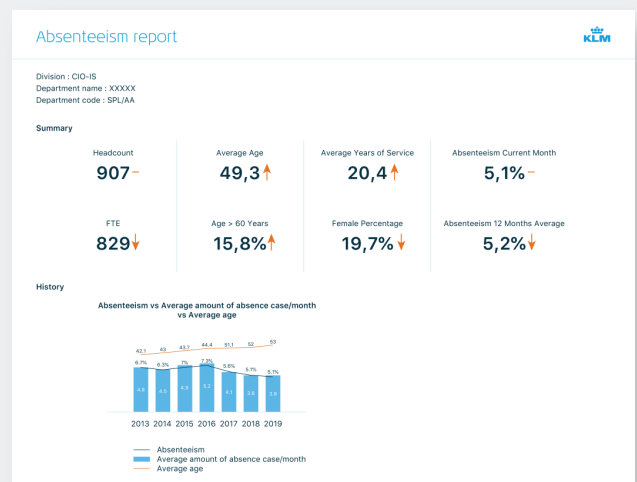


FIG. 6.28 The Absenteeism report generated based on the selection of Fig. 6.27

If a manager finds out any possible correlations between a factor and absenteeism, they can report to HR Analytics (Fig. 6.29). The correlations can be the factors shown on the dashboard, or other self-discovered factors or events that are not listed. Some existing findings of the correlation will be provided to managers as examples as well as an accumulated knowledge base. Managers can also ask for further help from HR Analytics if the correlation they found is not listed in the examples. They can submit their own observations, assumptions and descriptions to HR Analytics for further investigation.

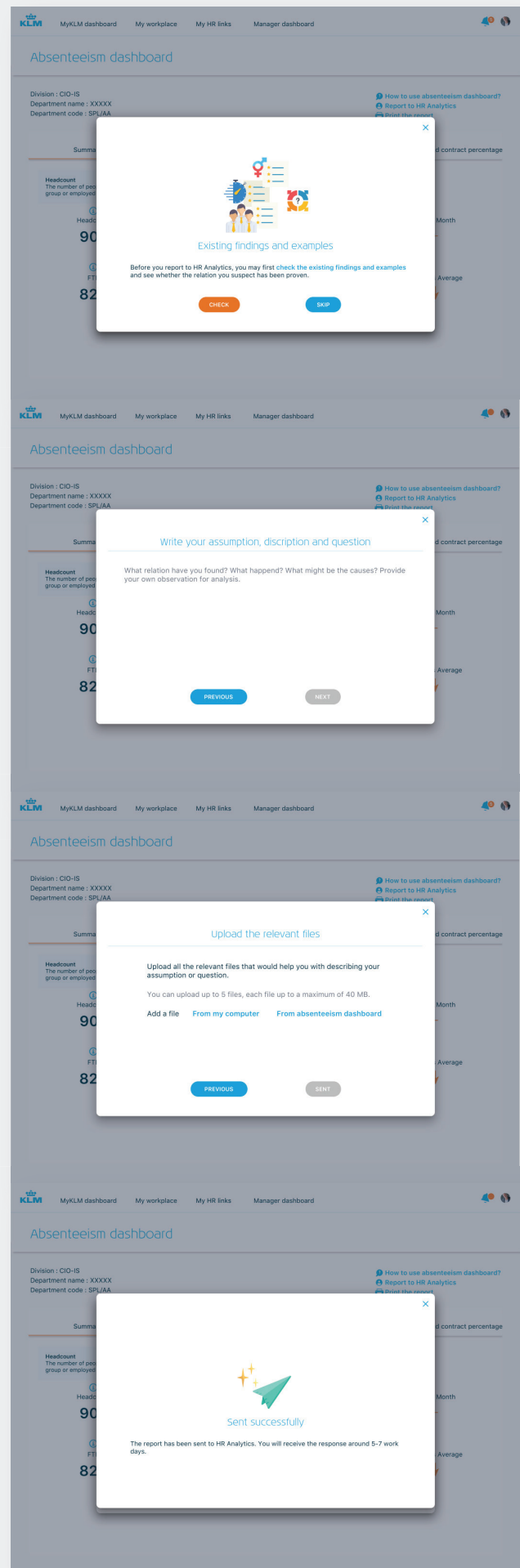


Fig. 6.29 The step-by-step instructions of 'Report to HR Analytics' from top to bottom

Benefits Estimation

The three products are expected to improve the leave-taking supervision experience greatly. With 'Employee attendance overview', managers can know where their staff are and individual's sickness situation without calling service desk or checking multiple systems. With 'Absenteeism and Healthcare support', they can effectively find the right information to help their staff to stay healthy and re-integrate sooner. With 'Absenteeism dashboard', managers can keep track of the absenteeism rate and find out the factors that cause high absenteeism with data intelligence.

All of these will help managers and KLM to control absenteeism rate, though difficult to estimate it with precise quantitative data. According to the KLM Annual Report, the absenteeism rate of 2017 was 6.93%, ("KLM Annual Report 2018", n.d.), remarkably higher than 4,7%, the average of the Netherlands ('Netherlands: Sickness absence rate 2007-2017', n.d.). From the numbers we can see KLM have quite some room to improve. Assuming that the average absenteeism rate in KLM can drop by 1 %, based on the calculation below, this could mean a striking € 26.557.500 of save in merely a year.

Calculation

For the absenteeism costs of one employee = (1 x gross wage day salary for direct wage loss) + (1,5 x gross wage for indirect costs) (Cuijpers, 2010)

- The total amount of employees are 35.410 people ("Full Year 2018 Results", 2019)
- € 30.000 gross wage per person per year (Cuijpers, 2010)
- The absenteeism costs for a year = absenteeism costs of one employee * (total amount of employees * absenteeism rate)

The absenteeism costs saved for a year if absenteeism rate drop by 1%

$$= \text{absenteeism costs of one employee} * \text{total amount of employees} * 1\%$$

$$= (30.000+45.000) * (35.410 * 1\%) = \text{€ } 26.557.500$$

6.5 Conclusion

This chapter summarizes the previous discovery and transfers it into solutions. It started from defining the scope and problems, continued by developing the problems into concepts, and ends by designing one of the concepts in detailed products.

First, by using the toolkit presented in chapter five, the responsibility of the client, HR Shared Service and HR Digital, were clarified: staffing, employee compensation and everything related to salaries and contracts. From the list of problems in 4.3, the existing problems that lies within their responsibilities were identified and clustered. In total, there are three clusters of problem that is corresponding with leave-taking: 'Untitled leave', 'Redundant leave-taking process' and 'Inconvenient leave-taking supervision'. To tackle these questions, three concepts were proposed; they are 'Manager leave', 'Leave-taking self-service' and 'Manager dashboard'.

Exploiting the impact/effort matrix, 'Manager dashboard' is considered with the highest priority for its high impact and under-medium effort. The attraction points to the client is that they can have full control when implementing this concept and some proposed functions have already been under development by HR analytics. This single concept, Manager dashboard, was developed into three products according to their functions: 'Employee attendance overview', 'Absenteeism dashboard' and 'Absenteeism and healthcare support'. All three products were designed based on the problems addressed by managers during user research. With the finishing of the KLM VI and improved interface, these products are expected to be integrated into MyKLM seamlessly and provide help to managers in absenteeism management. Further user tests are necessary to check if the design goals are met and if the product are well received by potential users, the KLM managers.





CHAPTER 7 Evaluation

In this chapter, the finalised prototypes developed from the concept are put into user test. These user tests were conducted with interactive videos to mimic the real operation. In total, five managers who is managing big teams that work in shifts are involved in the test to evaluate the usability, cognitive ergonomics and values of the concept.

Research Questions

- > Do managers understand the functionality of the dashboard?
- > Does the dashboard provide the right functions for managers?
- > Are the needs of managers fulfilled as intended?
- > Do the expected behaviours triggered as intended?

7.1 Approach

Participants

In total, there are five managers participated in the test, one from Inflight Services, two from Engineering & Maintenance, one from Ground Services and one from IT. All of them have management duty over their team and these teams are all belong to the main target group of the final concept - big teams with employees who work in shifts. Two of the participants have previously participated in the user research presented in chapter four, in which they addressed the problems that lead to the final concept.



Fig. 7.1 Photos of participants thinking-aloud during user test

Research Setup

The user test took place at or close to the participants' workplaces. The duration of the test was between 30 to 60 minutes. There were three parts in the user tests. First, managers were asked to think-aloud while using the prototypes. Second, they were asked to fill in an evaluation form. Third, a few more questions were asked verbally for more feedback and they are free to share more comments or remarks.

Thinking-aloud

The thinking-aloud method encourages users to speak up their thoughts while using a computer system prototype/paper mock-up/documentation, i.e., prompted verbalising ideas, facts, expectations, doubt, etc. that comes to mind during the operation. It was utilized as a research method for evaluating the cognitive ergonomics score as it can bring timely, genuine and applicable feedback to the designers (Jørgensen, 1990).

During the user test, each participant was asked to think-aloud while 'interacting with' the prototype built with Keynote. The prototype is only partial interactive, participants can control the tempo but cannot really click any button on the screen. Nevertheless, through the keynote animation (see Appendix G), they were able to get the ideas of how the system works. To help the participants understand the usage of the prototype, contextual scenarios (Delft University of Technology, 2013) were given before a series of actions were displayed.

Evaluation form

After the operation, an evaluation form (see Appendix H) is provided for them to rate how clear the functions are and whether the concept fulfills the expected needs and bring out the KLM values. As described in 6.2, the needs that are expected to be fulfilled are 'in control', 'enabled', and 'encouraged'. The KLM values that are expected to be triggered are 'take ownership', 'be competent' and 'go-further'.

Feedback and remarks

After the evaluation form was filled, participants were asked to freely share their feedback and remarks on the concept. To trigger the thinking for getting more insights, the following question was asked to all of the participants:

- When do you foresee yourself using the products?
- In what occasion or situation?
- How often would you use it?

7.2 Result and Discussion

In result and discussion, both the quantitative and qualitative results are presented. These results concern the usability, cognitive ergonomics, needs and values of each product. Aesthetics and feasibility of the entire concept are discussed as a whole.

Employee Attendance overview

Usability

The average score of 'I will use it in the future':
6

In general, all the managers like the tool very much and would like to use it every workday at the beginning of a day. As they belong to different teams, they mentioned that they would use the tool quite differently. One said she would use it for knowing who she can call and who she can expect to meet at the workplace. Two managers said they will use it for knowing the total amount of workforce so that they can decide what they can get done in a day. One manager said she will use it for knowing who is on sick leave.

Employee overview

Four out of five managers said that the tool is very useful for overviewing employees. With the tool, they can quickly know who is on duty and who is not. Yet, one manager mentioned that there is already an excel document in her team which provides the same function. Her employees indicate their presence/absence status manually in the excel file and share with their colleagues and her. Therefore, the tool will only replace the excel file but will not make it more convenient for her to overview the employees' attendance

status.

Different types of shift

It is important to note that the shift types are different in every department. The staff in the IT department have 'Reserve shift' which does not exist in many departments. In Engine Services, they have 'Day shift' and 'Evening shift'. In Inflight Services, they do not work in shifts but they have different statuses such as 'Reporting', 'En route' and 'Training'.

Different types of worker and different functions
It is also important to mention that there are different types of workers and different functions in every department. Managers says such information is important for them and they would like to see it on the tool.

Supervising employees beyond people management duty

During the user test, a manager mentioned that some team leads have to supervise the employees who are beyond the managers' people management duty during the shifts. This means these team leads would like to know not only where their employees are but also who work with them in the shift, even though those are not under their management. However, they are not supposed to check the profiles of these colleagues who is not under their management for confidential reasons. Such issues should be taken into account in the future.

Individual's presence/absence status

All the managers like the page that they can check individual's presence/absence status. Two managers who have more than 250 employees especially like the function, because it allows them to know where their staff are without checking multiple systems or calling service desks.

Leave balance checking

Two managers think it will be great if they can check employee's leave-balance, such as employee leave balance and care leave balance, in individual profile. Concerning that the balance is very relevant to one's presence/absence status, the employee's leave balance was added in the new prototype (Fig. 7.2).

Frequent sickness warning

All the managers like the frequent sickness alert. A manager, who has a team with an average age of 60 and very high sickness rate, thinks the alert will be an important notifications for her to pay attention to sick employees.

However, there are some questions raised about the way of measuring frequent sickness. In the current prototype, Bradford factor is provided to measure sickness. However, among these participants, no manager has ever heard of Bradford factor. One manager shared that the standard way of measuring frequent sickness in KLM is to count the sick absence days in the past twelve months. An employee is considered to have high sickness rate if he/she has more than three sick absence days in that period; note that this is not confirmed by HR. The other manager added that if one employee has two sick absence cases in a very short time, he/she is considered to have frequent sickness. The other four managers were not completely sure about the definition of frequent sickness, but they all agreed it is important to have a clear criteria to measure frequent sickness in KLM.

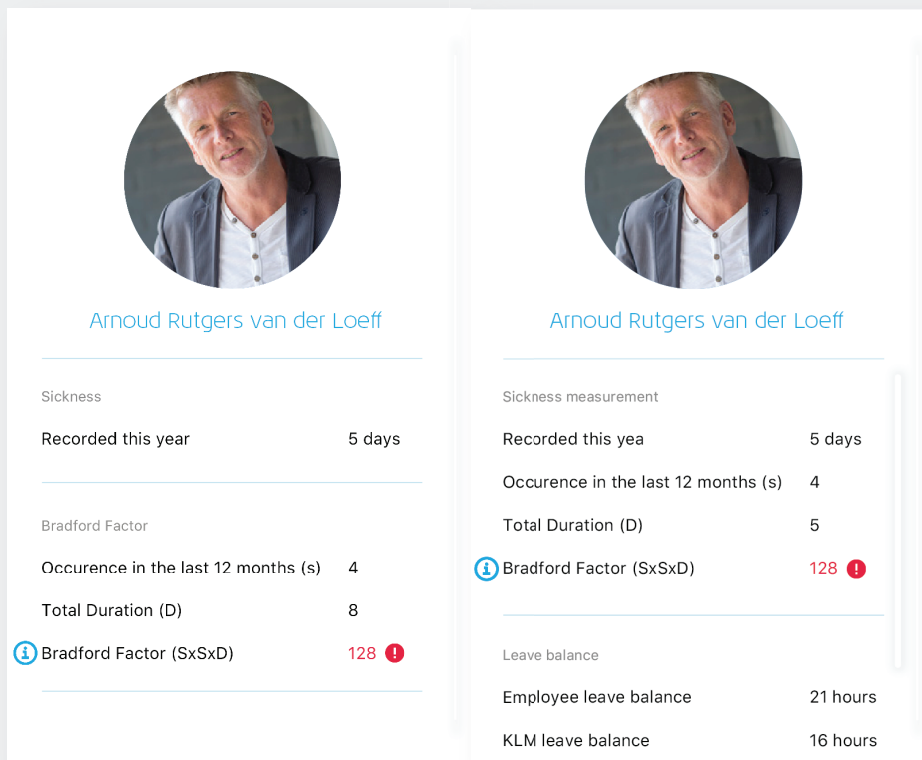


Fig. 7.2 Interface an individual profile; names and photos are only for example; on the left is the original version and on the right is the revised version where leave balance information are provided

Cognitive Ergonomics

The average score of 'It is clear to me how to use it': 5,8

In general, How to use the tool is clear for all the managers. Only one minor problem regarding weekly overview is raised as mentioned below.

Unclear information in weekly overview

In daily overview, the names of the shifts are indicated clearly. However, in weekly overview, there are no explanation of what the colours stand for. One manager does not understand what the colours mean when she was looking at the weekly overview.

To make the information in the weekly overview more clear, the timeline was added. Managers can clearly see what time it is and which shift they are in. They can also click the colour box to see the name of the shift and who are on duty.

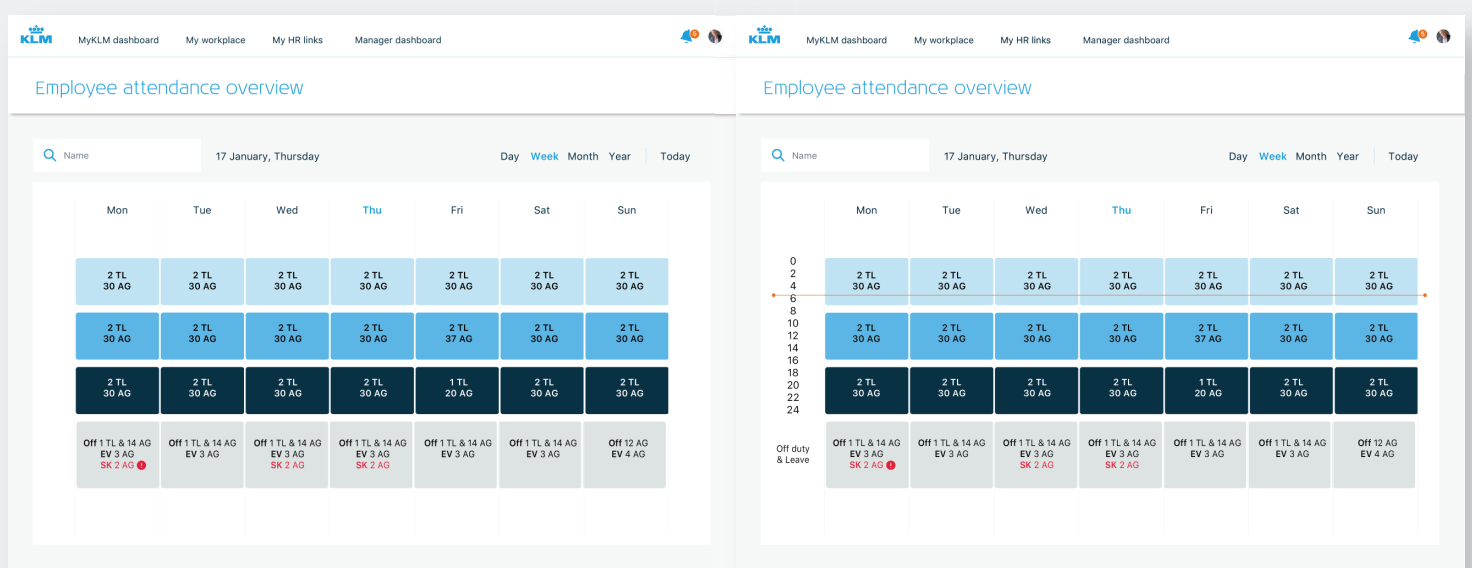


Fig. 7.3 Side-by-side comparisons of weekly overview of the original design and the revised design

Needs and Value

- The average score of 'It enables me to have more control of my management team': 5,8

- The average score of 'It enables me to have more understanding of my employee's attendance situation': 5,8

- The average score of 'It encourages me to pay more attention to individual's sickness situation': 5,6

The needs and values all scored rather high, showing that the expected needs of 'being in control', 'being enabled' and 'being encouraged' could be fulfilled and the expected values of 'being competent' and 'going further' could be brought out.

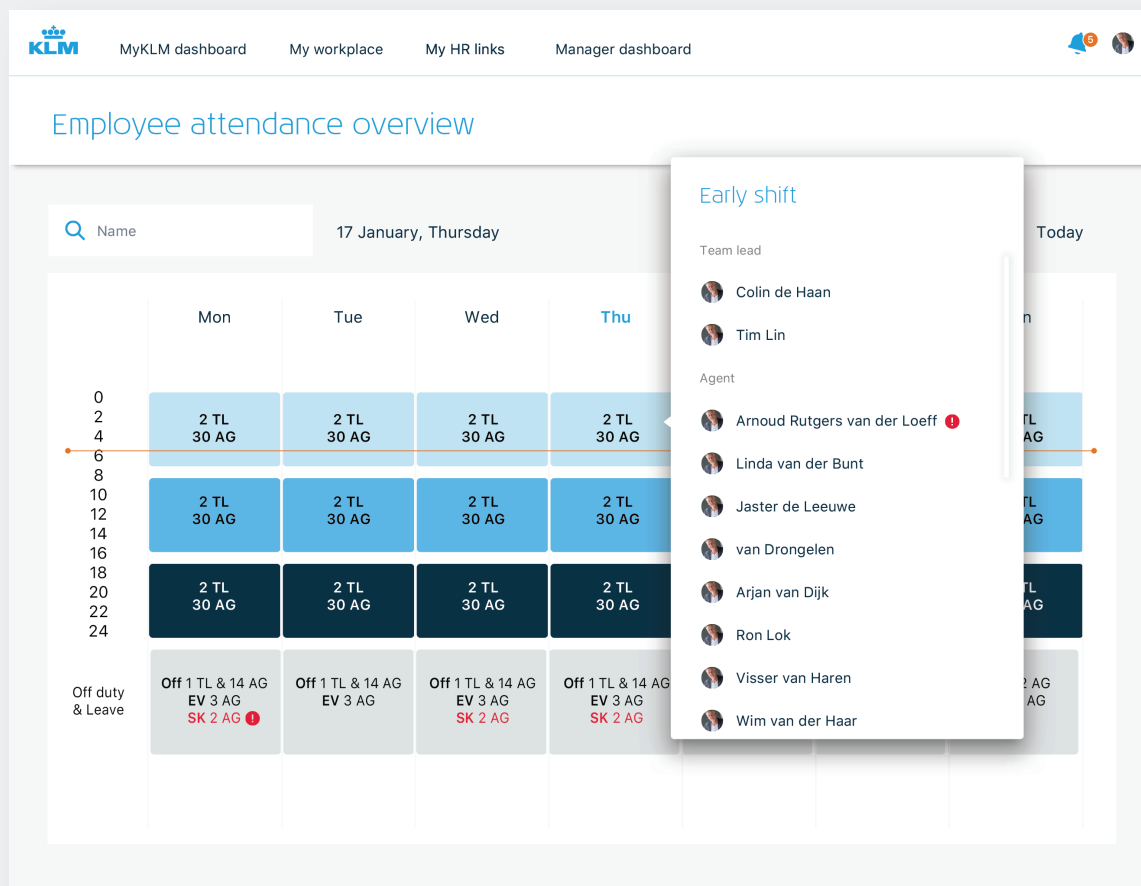


Fig. 7.4 The new interface of employee attendance overview when showing the list of staff in the early shift; names and photos are only for example

Absenteeism and Healthcare Support

Usability

***The average score of 'I will use it in the future':
6,4***

The information in 'absenteeism and healthcare support' is actually nothing more than what is provided in the current myKLM website (<http://myklm.klm.com>). However, as the information was little or no organised at all, some information was overlooked by managers. To most of the participants, they all think they have found something new in this product compared with the current website. After explaining that all the links were actually there but now only in a more organised way, managers are being strongly positive that such organised information could be provided.

Participants said that they would only use this product when they notice someone is sick abnormally or when one of their staff has a question about healthcare or sickness.

Sickness reasons

One manager mentioned that the regulations in the Netherlands provide employees the flexibility to tell their employers causes of sickness or not. Employees can decide themselves how detailed they want to share with their manager. Therefore, managers can only provide healthcare support suggestions when their employees tell them enough information.

Nevertheless, most employees are willing to tell the causes of sickness to their managers in

general. When they are in need, they can also check the healthcare support resources by themselves. Thus, such issues would not be a major problem for the tool.

Also for employees

As the tool gives much clearer information to managers, almost all the managers foresee that the tool will help them manage and support sick staff more easily. However, for those who have more than 200 employees to supervise, it is not very efficient for managers to teach individual employees what to do every time. Therefore, a manager suggested that such clear information should also be available to employees to a certain extent. Which information should be kept for employees' level is to be studied.

Future editing

One manager said there is an absenteeism management toolkit now but is only available to Ground Services. Such division specific toolkit should also be included on this website so that people do not need to go to different places to obtain similar resources. Being aware of this, the tool was redesigned to make adding information easier as shown in Figure 7.5 and Fig. 7.6. Simply following the categories, the developers in the future can add any information easily. However, the author observed that there are some redundant information which could be removed. What items should be kept or deleted or edited/renamed are still need to be further discussed.



Absenteeism and healthcare support

Absence and Health Management

Absenteeism management toolkit 

[Absenteeism policy & protocol](#)

[Absenteeism management toolkit](#)

[Absenteeism management toolkit \(Ground Services\)](#)

[Privacy term](#)

Preventive Healthcare

[Working aids for ears and eyes](#)

[Mandatory vaccination](#)

[Mandatory medical examination](#)

KLM Healthcare Resources


[Physical healthcare - Hello Fysio](#)

Mental healthcare 

Travel healthcare 

In Case of Sickness

Reporting sickness and recovery 

Long-term sickness 

Financial support for illness 

Occupational health assessment and job adjustment 

[Any questions?](#)

If you have any questions about this, please contact HR Shared Service Center at hrssc@klm.com.

Fig. 7.5 An advised version of Absenteeism and healthcare support webpage, only absenteeism management toolkit is expanded.

Absenteeism and healthcare support

Absence and Health Management

Absenteeism management toolkit

- [Absenteeism policy & protocol](#)
- [Absenteeism management toolkit](#)
- [Absenteeism management toolkit \(Ground Services\)](#)
- [Privacy term](#)

Preventive Healthcare

- [Working aids for ears and eyes](#)
- [Mandatory vaccination](#)
- [Mandatory medical examination](#)

KLM Healthcare Resources

[Physical healthcare - Hello Fysio](#)

Mental healthcare

- [Critical Incident Response Program \(CIRP\) \(Cockpit & Cabine\)](#)

Work & Life

- [Confidential advisors](#)
- [Corporate social work](#)

Travel healthcare

- [Healthcare costs abroad](#)
- [Travel clinic](#)
- [Malaria and other tropical infectious disease](#)

In Case of Sickness

Reporting sickness and recovery

- [Reporting sickness and recovery](#)
- [Illness and consequence on your schedule](#)

Long-term sickness

- [Illness, what to do](#)
- [Reintegration protocol](#)
- [Reintegration officer](#)
- [Home visit of absent employees](#)
- [Company doctor \(sickness longer than 5 weeks\)](#)
- [Illness longer than one year: WVL](#)
- [Illness longer than two year: WVL](#)

Financial support for illness

- [Informal care](#)
- [Self-insurance for the Return to Work Scheme for the Partially](#)
- [Procedure for reimbursement of healthcare costs](#)

Occupational health assessment and job adjustment

- [Unfit to fly](#)
- [Occupational health nurse](#)
- [Occupational health assessments](#)
- [Temporary work via Coordination Temporary Work](#)

[Any questions?](#)

If you have any questions about this, please contact HR Shared Service Center at hrssc@klm.com.

Fig. 7.6 An advised version of Absenteeism and healthcare support webpage; all items are expanded

Cognitive Ergonomics

The average score of 'It is clear to me how to use it': 6

In general, it is clear to managers regarding how to use the product; however, there is one aspect that can be improved as shown in below:

Title of the product

One manager said she did not know what to expect when she saw only 'Absenteeism and healthcare support' in the main menu. The title of the tool could be reconsidered and be made more clear. 'Absenteeism and healthcare support information' might be a better option. It still needs further discussion and research.

Needs and Value

- The average score of 'It enables me to find the right information to support sickness more easily': 5,8

- The average score of 'It encourages me to help and guide sick individuals more': 5,4

The needs and values are all scored very high, showing that the expected needs 'being enabled' and 'being encouraged' will be fulfilled and the expected values 'going further' and 'guide' will be brought out by the tool.

Absenteeism and Healthcare Support

Usability

The average score of 'I will use it in the future': 6,8

Clearly, all the managers like the tool very much and will use it in the future. Two managers also mentioned it is a great news for them that they will no longer receive emails from HR Analytics about absenteeism statistics. This will reduce the problem of having excessive information in their email box.

Regarding the frequency of using the product, two managers said they will use it once a week, on Mondays or Fridays. One said she will use it twice a month. One said she will use it weekly to check 'headcount' and 'FTE', once a month to check 'absenteeism rate' and 'amount of absenteeism case', and probably half a year to check 'years of service' and 'female rate'. One said she will use it biweekly when she has meetings with her managers or re-integration officer.

Terminology explanation

The explanation of headcount and FTE is complimented by three managers. They said it makes them feel more secure about the meaning of the terminology.

Arrows

In summary page, there are arrows that shows whether the numbers are increasing or decreasing. However, one manager pointed out that it was not clear to which period it is compared with. The suggestions is to remove such information, as

these information are also provided in a more precise and detailed format.

Female rate

All the managers addressed questions or doubts about the cell 'Female rate.'

For the two managers who have teams with almost male, they think female rate is not important, as the numbers are little in their team. Another manager thinks female rate does not worth to be shown on the dashboard as an individual index; cultures, backgrounds and many other factors that influence the diversity of the team are equally important as female rate. Compared to these factors, female rate is very obvious and does not need extra reminders. The other manager pointed out the dashboard might indicate prejudice of gender by only showing female percentage not male percentage. Such information will cause unpleasant feelings to managers.

Therefore, 'Female rate' in the summary should be replaced by some more neutral words such as 'Gender ratio'. In Figure 7.7, some more examples of showing gender ratios are provided, which one will be more suitable still needs to be tested.

Industry comparison

One manager said she would like to have the comparison with the industry in absenteeism rate. The difference across different companies in the aviation might suggest the influence of different working culture. Such function and the source of data need to be further studied.

Reason of sickness

One manager said she would like to see the reasons of sickness. Although it is clear the managers cannot write down sickness reasons,

it is possible to get such information from other resources, and should be further researched.

Printing absenteeism report

All of the managers said they like the function of exporting and saving/printing the absenteeism report. It would help them with discussion in management meetings or weekly meetings with their colleagues.

Reporting to HR Analytics

None of the five manager knew they can send request to HR Analytics to investigate the correlated factors before they did the user test. Clearly, this service is unknown to most managers. Among the five managers, three of them said they are happy about having such services, one of them does not foresee using such service and another one said the service might be more useful to the managers who overview the entire division.

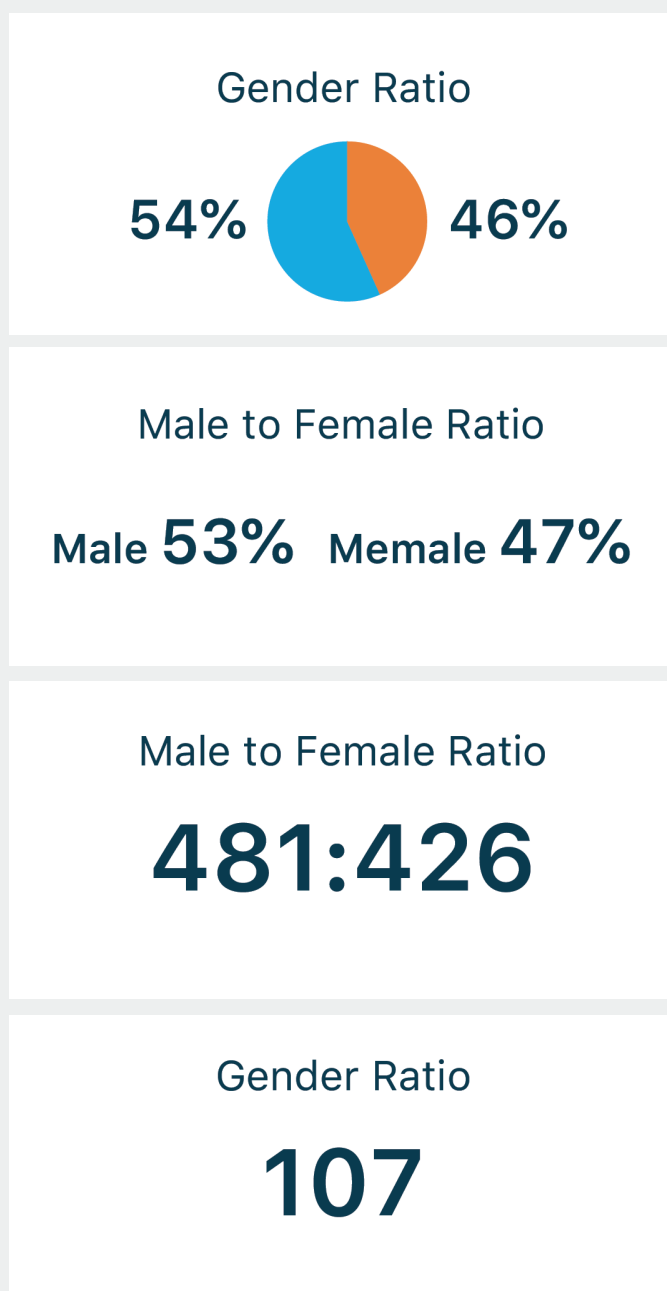


Fig. 7.7 Four alternatives for gender ratio information display in absenteeism statistics; all numbers are of fiction and for example only

Cognitive Ergonomics

The average score of 'It is clear to me how to use it': 5,8

The cognitive ergonomic scores are high, showing that the tool is straightforward to most managers.

'How to use absenteeism dashboard' and Correlated factors

When managers first used the dashboard, the introduction of 'how to use absenteeism dashboard' will pop up. The introduction provides information about the dashboard, including the functions of reporting correlated factors to HR Analytics. However, in the user test, it is observed that all the managers only quickly scanned the introductory pages. They read only the titles but not the explanation texts. After they closed the introduction, many of them were still not sure about what correlated factors are and what is 'report to HR Analytics'. To remind them again what these are about, two more pages of introduction in 'Report to HR Analytics' are added. The Fig. 7.8 (a) will be shown before the Fig. 6.29 (a) and the Fig. 7.8 (b) will be shown before the Fig. 6.29 (d). These changes requires to be tested in the future stages.

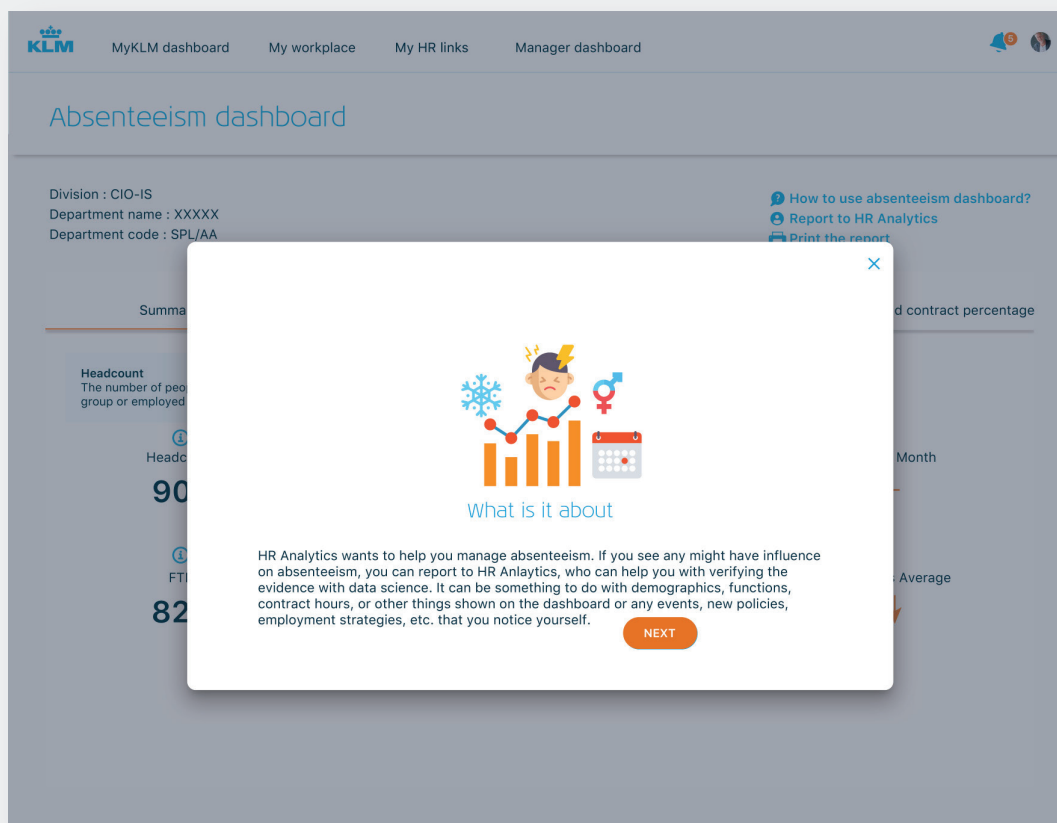


Fig. 7.8 Additional slides to the step-by-step instructions of 'Report to HR Analytics'; the explanation of what the function 'Report to HR Analytics' is about

Needs and Values

- The average score of 'It enables me to have more understanding in absenteeism situation': 6,4
- The average score of 'It enables me to discover the factors which are potentially correlated to absenteeism': 6,2
- The average score of 'It encourages me to keep track of absenteeism situation': 6,2
- The average score of 'It encourages me to react on absenteeism data more': 6,6

The needs and values are all scored higher than 6 out of 7, indicating that the expected needs will be fulfilled and the expected values will be brought out by the tool.

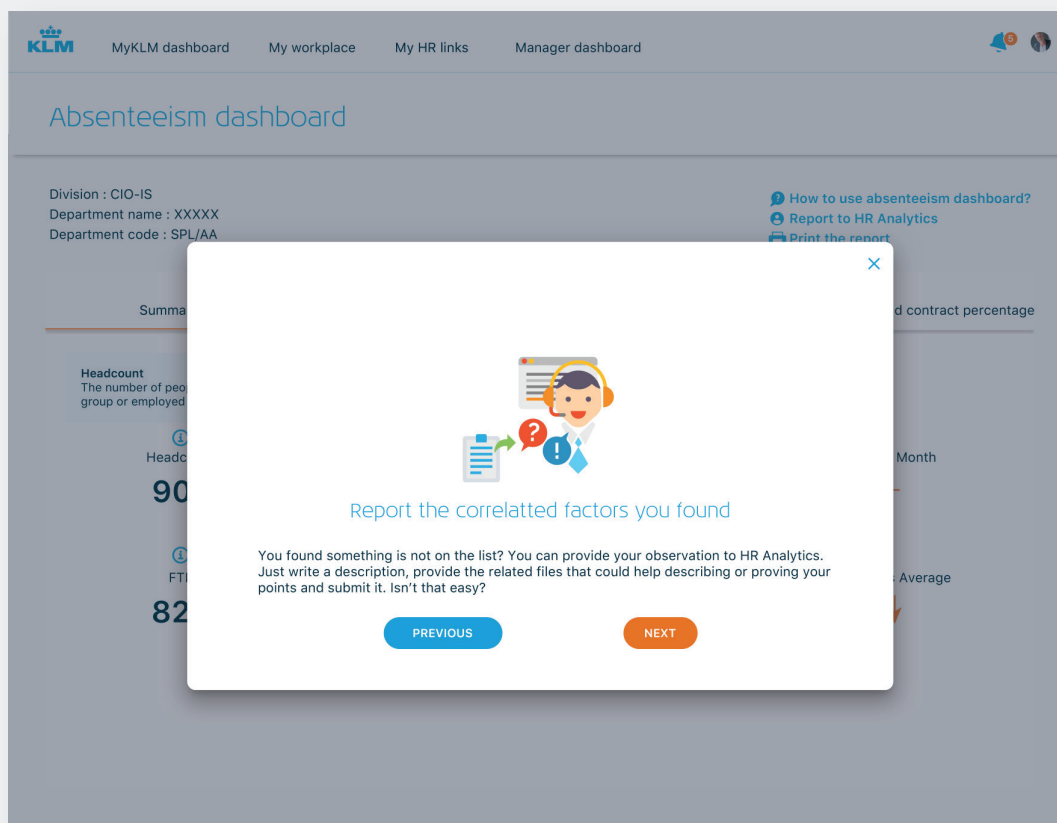


Fig. 7.9 Additional slides to the step-by-step instructions of 'Report to HR Analytics'; the explanation of steps to report to HR Analytics.

Aesthetics

Although aesthetics was not quantitatively evaluated by managers, all of the managers have positive reaction on the appearance of dashboard. Two managers said it looks professional, one said it looks beautiful. Two managers pointed out that they like the graphic design of 'how to use absenteeism dashboard.' Most importantly, they all agree that the design is coherent with the new MyKLM visuals.

Feasibility

For 'Absenteeism and healthcare support' and 'Absenteeism dashboard', no obvious problem is found regarding feasibility. Both of them can be implemented through the existing technologies in KLM.

Unintegrated agenda and leave-taking system

Three out of five managers said that their planning department do not have up-to-date agendas when shift-swapping happens between two employees underhandedly. Some manual update function would help to keep the roster more accountable. In some other cases, if an employee takes a leave and have somebody takes over his or her shift, the information might conflict between the leave system and roster system. An intercheck mechanism talking across these two systems will avoid such mismatch and perhaps update the rosters automatically.

7.3 Conclusion

In chapter seven, the concept 'Manager dashboard' with its three products 'Employee attendance overview', 'Absenteeism dashboard' and 'Absenteeism and healthcare support' were prototyped as an interactive animation using Keynote, through which participants can see how the interaction works.

Five managers in Inflight Services, Engineering & Maintenance, Ground Services and IT participated in the user test, and all of them give high regards to the concept. Both quantitative and qualitative evaluation results indicate that the concept has high usability (scored 6.4 out of 7), good cognitive ergonomics (5.7 out of 7) and it fulfills the needs of managers meanwhile bringing out the KLM values. Although aesthetics and feasibility was not quantitatively evaluated, the feedback from participants also showed that the concept has high aesthetics and feasibility.

Despite of high evaluation, there are still plenty of room to improve. For instance, 'Employee attendance overview' can have a better colour indication when presenting weekly overview; its functionality and connectivity in practice should also be further considered. Based on the feedback, some designs have been improved but further user tests or pilot test should be conducted to verify the adjustment. All in all, the concept and the products are highly placed by both the users and the clients. The implementation of it, if a bold statement is permitted, could revolutionise the way how the KLM managing absenteeism in the future.





CHAPTER 8

Conclusion and Recommendation

The chapter concludes the entire project with recommendation and reflection. It presents a roadmap for further development and implementation, followed by a side idea generated along the research phase for a related problem. The author's self-evaluation and reflection regarding the process of the entire project is attached at the end.

8.1 Conclusion

This project started with an ambition of improving the leave-taking experiences in the entire KLM. It turned out to be a broad topic as the diversity of working styles in KLM is much more complicated than usual office-based or factory-based companies. The research began with a literature review, where the definition of absenteeism and the basic regulations of KLM in leave management are stated. What follows next is the interviews with various stakeholders, developers, managers and employees.

Through context-mapping research and interviews, abundant information about the context were gathered and the problems and pains from the users had become clear. In KLM, it is found that there are five main responsibilities regarding leave-taking management: System & Flows, Culture & Organisation, Services, Agreements and Information. Different stakeholders hold different responsibilities and resources and there is little cooperation between them at this moment. The user research reveals that staff who work in shifts have the most pain when trying to take a leave as they are obligated to the roster as well as the workforce constraints, i.e. the leave availability. On the other hand, managers have difficulty in managing a large team especially if they do not see their employees very often. Summarising the information, the main target group is identified: staff of big teams who work in shifts and their managers.

One of the major creations of this study is the design toolkit. This design toolkit serves two purposes: 1. An organised and interactive information carrier for the stakeholders to have the full picture of the findings and 2. A design

facilitator that guides the developers and designers when generating new ideas to solve these problems. This design tool performs well in both jobs but particularly excels in the second mission.

With the same design tool and the input from the participatory session, three concepts were proposed for solving the three main problems that lie within the responsibility of HR. One of the concepts 'Manager dashboard' potentially could make a great impact with little effort, thus was developed into three products, and with the design goal of 'seamless integration with the new MyKLM VI' and 'a short time-to-launch'. The evaluation was a great success where mostly positive comments are received and some other constructive suggestions. The final design has adjusted accordingly and will hand over to the clients for embodiment and deployment.

8.2 Recommendation

This section will provide recommendations for the next step of the concept development and deployment. A roadmap is first proposed which includes all the concepts, not just the developed one in Chapter 6, for solving most of the existing problems regarding leave-taking. The roadmap serves as a guideline for the HR department in KLM to have an timeline-based perspective of how they can improve/solve the leave-taking issues progressively. The second part of the recommendation is about the rostering. In Chapter 4, it has been revealed that a great part of the pain in leave-taking is stemmed from the rigid rostering and unpredictable. In fact, during the concept development process, an idea was also proposed to the rostering team for solving these issues. The discussion of such an idea claims the second part of the recommendation. Lastly, some more suggestions are mentioned to the entire KLM management team. These concerning their strategies for future designs and company internal communications.

Roadmap to Better Leave-taking

In this roadmap, there are three sections of time period. This roadmap is still a draft version and should be further investigated within the clients and between the stakeholders. The roadmap does not take the financial budget into account as those information are not available to the author. Nonetheless, the roadmap can be used as a checklist of strategic suggestions in the future development.

2019 Q4-2020 Q1

In the first two quarters, the focus will be on the three products developed from the concept 'Manager dashboard'. More realistic prototypes based on the database and UI system should be built and tested. The product 'Absenteeism and sickness support' is basically a rearrangement of existing information. Without much of the foreseeable technical challenges, this product is expected to be launched first. The other product, 'Absenteeism dashboard', requires more testing and development concerning the gender-related information and more additional information. Since HR analytics already has the basic construction of the system, the design should help them to finalise the interface before entering into pilot test or even Beta test.

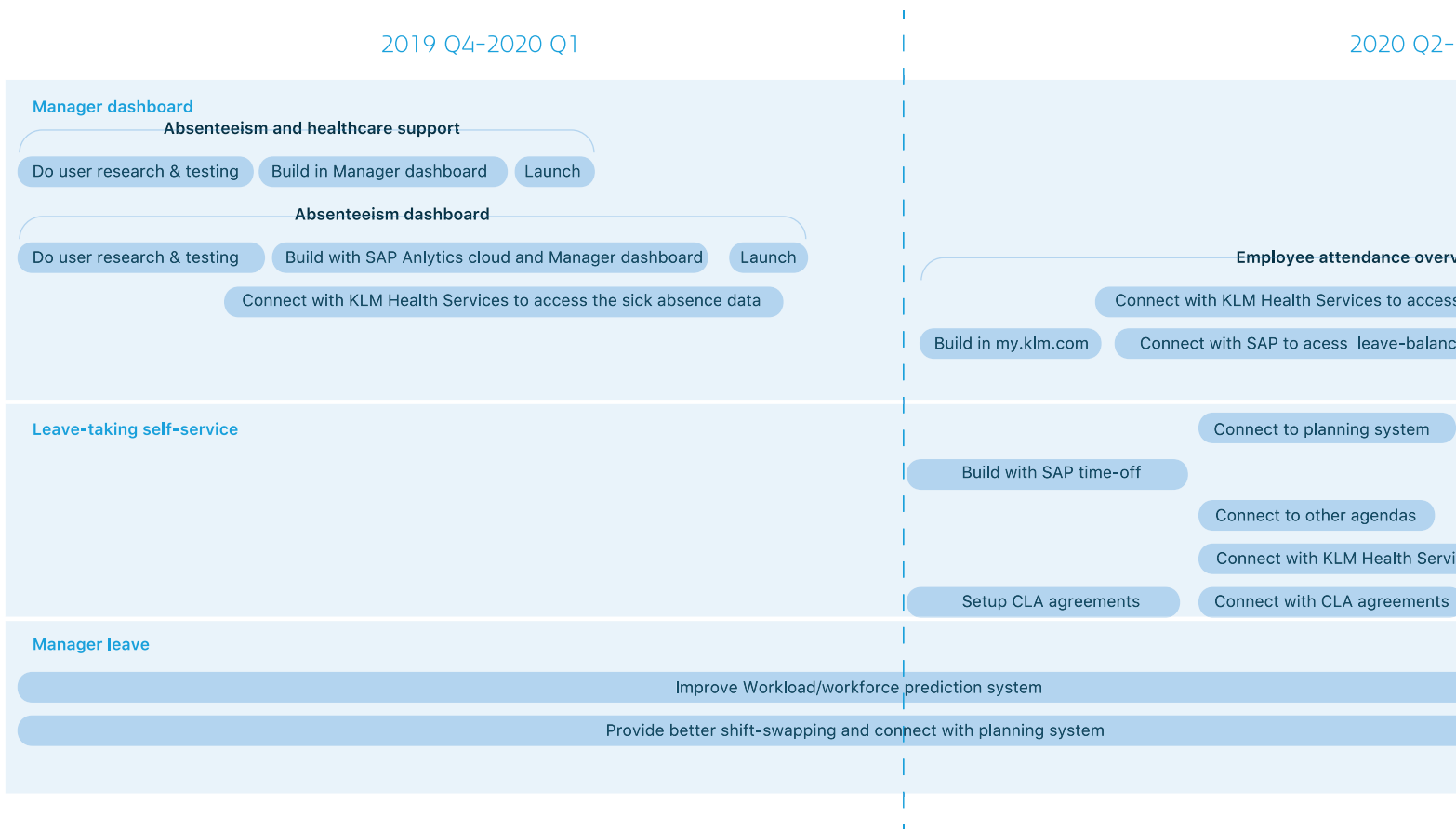
What have been working on and should keep on improving are the workload/workforce prediction system and the shift-swapping system. The implementation of the machine learning should help the prediction more accurate over time. Shift-swapping system should be built in a universal format with modular capability. This will ensure the system meets special needs of each division while the information can be shared seamlessly

to HR analytics. The deployment of such a system can be department-by-department so that new modules are added respectively.

2020 Q2-2020 Q4

In the second time period, the product 'Employee attendance overview' can be constructed after the infrastructure of SAP system and the connection from roster/planning systems. It requires a stand alone application 'Manager dashboard' on MyKLM website and connected with KLM Health Services and SAP. Even if employees still need to update their shift-swapping manually by themselves or by managers, the application can already be launched with the essential functions. Each department can gradually migrate from the current Excel documents to the interlinked system 'Employee attendance overview.' Once the shift-swapping system is also constructed and deployed in each department or to each team, we can expect much less manual operations and less room to make mistakes thereafter.

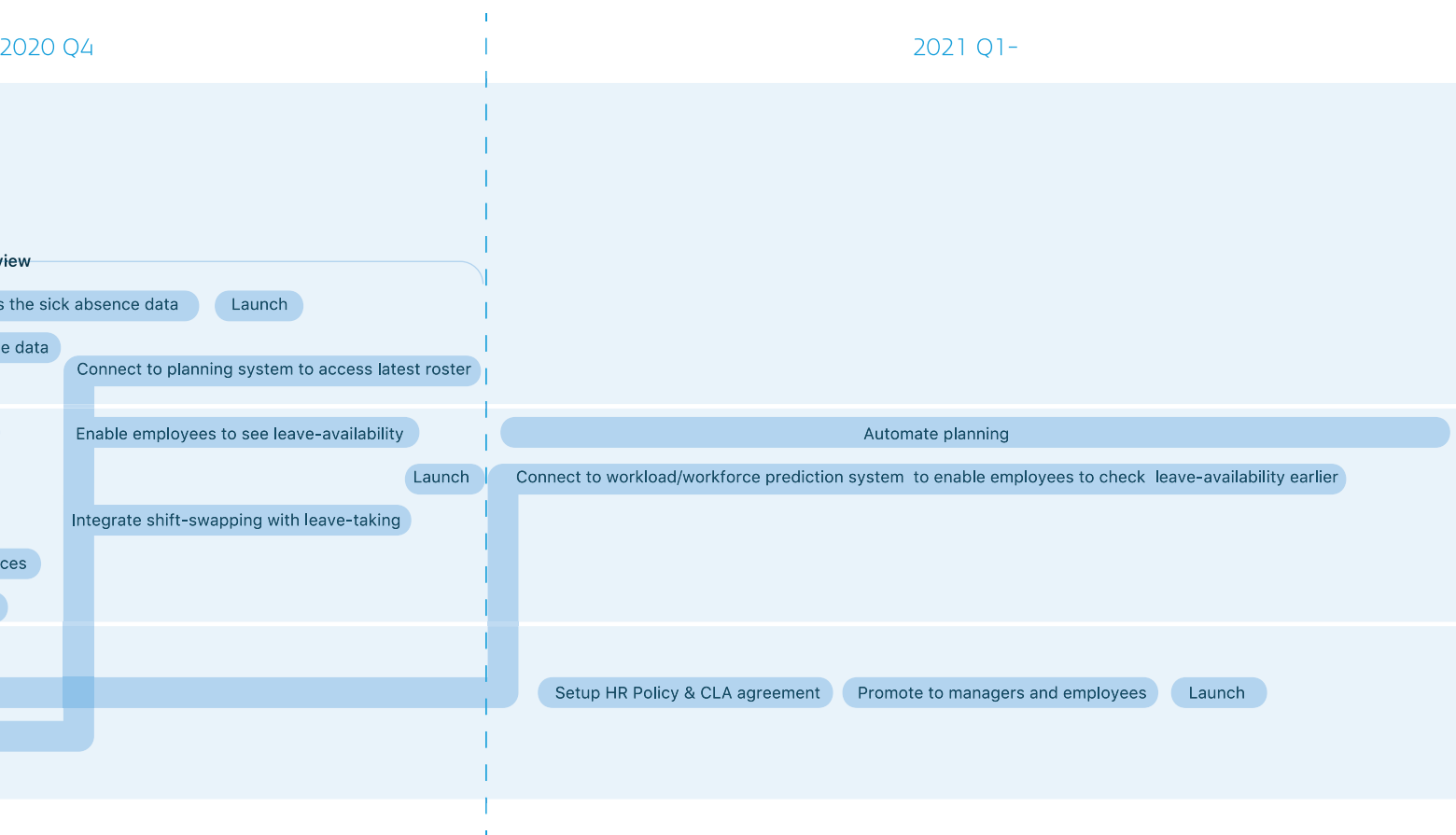
Meanwhile, it is expected that SAP will launch their product of leave-taking whereas a timeline is not yet clear. After they launch it, HR Digital can start to build leave-taking functions with SAP SuccessFactors time-off. Connecting the application with planning system, CLA agreements, agendas and KLM Health Services would be a major construction. This also requires the premise that the shift-swapping system is built and it is connected to planning system thereby the rosters would up-to-date. By the later half of 2020, employees should be able to check the leave availability of their department without the help of managers. Employees decide whether to take a leave or swap their shift at the same moment, suggesting an integrated single entry for both systems.



2021 Q1-

In the third period of time, the workload/workforce prediction systems should be accurate enough so that the leave availability can be decided not just days but weeks or even months before. With better prediction and with the prediction system connected to leave-availability checking application, employees can now know earlier whether they can take leave. Meanwhile, the planning system should start to be automated.

At this moment, the leave-taking and shift-swapping information are also much clearer. The policy, regulation and agreement about 'Manager leave' should start to be researched and negotiated. After everything has been set up, HR can start to promote it among managers and made known to employees; thereafter, they can launch the new service.



Rostering Improvement

Although 'rostering' is out of the HR responsibility and resources, it affects the leave-taking experience significantly. From the user research and stakeholder interviews, many leave-taking problems can be traced back to the unfit rosters which are generated by the unfriendly rostering system. Rostering desperate to be improved so that these root problems can be solved.

One of the possible solutions is self-rostering, which has been discussed for a long while within KLM. However, there are critics that it is unnecessary for employees to arrange their entire agenda. Having heard the voices from two sides, the following design is proposed as a side output of this study.

The basic principle of the concept is to enable employees to personalise their roster. What they can personalise is to select some specific time-slots when they prefer not to work or maybe certain dates when they would like to be off from work. While employees selecting the time-slot and the dates, they can also see how many employees have the same preferences, from which they will have an idea about the chances they could get what they want. This will greatly reduce the disappointment when people do not have their first preference. Furthermore, if there are too many employees selecting the same date when they want to be off which exceeds the amount of availability, the system will give them notifications. This way, the rostering system will become much more transparent and fair to employees.

After employees set up their preferences and submit it, the rostering system will generate rosters should fit everyone's preference better. The hassle of shift-swapping and leave-taking is expected to be reduced. This concept has been presented to one of the managers from the Future rostering team and is regarded has great potential to improve the current situation. Further development and research, as usual, is necessary for a full product.

1. once every six weeks the roster will be renew



"It's time to roster!"

2. Everytime you can reset your roster preference to have a higher chance to get your preferred roster

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Early Shift		✓	✓				✓
Day Shift	✓	✓	✓			✓	
Night Shift						✓	

- Prefer (maximum: 5 time-slot per week)
- Prefer not (maximum: 3 time-slot per week)

3. You can also select the time-slots you want to take off

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14 E&D&N	15
16	17	18	19	20 N	21	22
23	24	25	26	27	28	29 E&D
30	31					

- Must not (maximum: 10 time-slot every six weeks)
- E = Early shift
D = Day shift
N = Night shift

4. To see if you can high chance to get the time-slot they want, you can check the numbers of people who register the time-slot

20th July

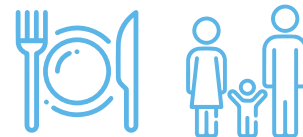
(register/maximum)

Early shift: 6/10
Day shift: 7/10
Night shift: 3/10

5. The system will also notify you when the amount of people who register are more than maximum. So you can either give it up or gamble on it.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
						1
2	3	4	5	6	7 E&D&N	8
9	10	11	12	13 N	14	15
16	17	18	19	20	21	22 E&D
23	24	25	26	27	28	29
30	31					

6. This way, you can have a more predictable roster and you can plan your private life easier and happier.



Other Recommendations

Apart from the recommendations for leave-taking and rostering, the author would like to take the chance to provide two more recommendations for KLM.

User-centered design

In KLM, many projects are still lead by business and engineering thinking people, who tend to generate solutions based on 'what I can provide' instead of 'what users want'. Such a way of thinking might accelerate the process of generating the products, but has less chance of leading to a sustainable result. Lack of long-term vision, users could receive excess amount of tools whereas none of the tool is satisfying. Design thinking and user-centered design mentality should be adopted by KLM when leading and managing a project for future development.

Sharing and cooperation

Another observation from the research is that information sharing between stakeholders are insufficient. Many stakeholders are doing similar things or putting efforts to find the answers for the same problems without noticing the others. For instance, in an attempt of sending questionnaires to KLM employees internally, there was no template to follow nor a standard GDPR-proof statement ready to be reused. According to the responsible staff, this is apparently not the first time someone needs these information yet people are just spending time looking for the same answer repeatedly.

This problem is even worse after a person who is of responsibility left the position. In Inflight Services, a manager support tool was left as an orphan and no one is able to maintain the

application for debugging and future upgrading. Another example is that many previous research results have no platform for sharing knowledge across the entire company. A lot of time and resources spent are not efficiently contributing. A repository for KLM research projects could be a good solution for this issue.

8.3 Reflection

The first thing I learned from the project is to research a topic of huge scope in a short amount of time. To work more than just being efficient, I tried to look for general patterns instead of the fact of details. It was not easy, especially during the process of transforming information into knowledge; I can hardly defend my findings with quantitative data as I cannot obtain them through questionnaire. Besides, I have to identify what is indeed a general pattern and what is rather of an occasional case. Facing such a challenge, I have learned to be daring in creating structures and turning information into knowledge by my own interpretation. It turned out well in the end; digging from such a big scope, the research results received unanticipated compliments from the clients and stakeholders.

However, I also learned how important scoping is. In the beginning I tried to make everyone satisfied but without thoughtful consideration of the initial goal. I have learned that I should always hold onto the initial agreement of the assignment as well as the goal, to be clear about 'what I was hired for'.

The biggest difficulty of the project is about communication. My clients are from central HR, they created this project and hope to bring benefit to all the departments in general. Receiving this mindset, very few department feels the ownership

of the project, leading to an inactive attitude to cooperate with the research. Consequently, it was sometimes difficult to get the resources I need. Instead of communicating through emails, I have found the power of meeting people in person, even if it is just a short coffee talk. I have become able to convey my ideas within a short amount of time so that people in KLM can see the values of this project and started to provide their indispensable help.

There is an old saying in business 'Employees are a company's greatest Asset.' I found it is so true through my graduation project. In this project, I held more than 40 meetings and interviews. Everytime I talked to people in KLM, a massive amount of knowledge and wisdom was revealed. Many people have already thought of the problems and had some ideas, but they do not have the time to link all the knowledge and create something out of it. Therefore, as a design researcher, I found my value is to connect everything and create a full picture for everyone, the answers would then just pop up. In my opinion, this is an important key to improving the service of a company.

During the process of graduation project, I found myself becoming much more confident in communications. In the beginning, I was very scared of writing emails, holding meetings and doing presentations. Initially, I had to practice a lot to make sure I would not be too nervous during the meetings or presentations. But after a while, this was no longer a problem. I started to feel confident and be less stressed. I consider this as an achievement since I had never had during my master studies. I also becomes bolder about trying new things. When designing the toolkit, I was very excited but nervous at the same time because I had never done this before. The overwhelming positive feedback from all the

participants gave me the confidence that I would have more courage to do what I believe in the future.

And of course I still have a lot to improve, especially my writing and storytelling skills. This project is only the ending of my studies but the starting point of my career. I am really thankful to have the opportunity of doing this assignment and all the growing along the way. It was truly a precious journey for me to walk through with the clients and my mentors.

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Glossary

Absence: any event for which an employee fails to comply with the scheduled work time

Absence entitlement: the amount of paid time off that an employee is entitled to take for each type of absence

Absence taking: the amount of time off that an employee takes.

Absenteeism: a situation in which people are not at work when they should be

Absenteeism and Healthcare Support: a new product in Manager Dashboard created by the author. It provides managers the information about absence management and healthcare support

Absenteeism Dashboard: a new product in Manager Dashboard created by the author. It shows absenteeism data and employment statistics

Agreement: a negotiated and typically legally binding arrangement between parties as to a course of action

ATM manager: Arbeids Tijd Management (ATM) means labour time management in English. ATM manager is the one who is responsible for labour time related issues, such as CLA agreement, the regulations in the Netherlands, and the ways of rostering and leave-taking

Booklet: a small book that contains evocative assignments and exercises.

Cabin crew: the members of an aircraft crew who attend to passengers

Cards: pieces of cardboard that each contains a small amount of information

Cargo: a division in KLM that is responsible for transporting goods

Cognitive Ergonomics: a division of ergonomics (or human factors). It is a discipline and practices that aim to ensure 'appropriate interaction

between work, product and environment, and human needs, capabilities and limitations'

Contextmapping: a design research approach that emphasizes user involvement through generative techniques

Collective Labour Agreement (CAO): collectieve arbeidsovereenkomst in Dutch, the agreements between one or more employers and one or more trade unions about the labour conditions for all employees

Company Doctor: a medical professional who work with the company to access the medical status of the employees in long-term sickness

Co-creation: brings different parties together in order to jointly produce a mutually valued outcome.

Culture Lead: the one who help the responsible department to change the culture and the way of working in accordance with the goal of HR

Demi: an email form system employees use to take leave in KLM

Design Principle: the fundamental pieces of advice for you to make easy-to-use, pleasurable designs

Digital UX Guide: A guideline of KLM UI

Emergency Leave: In the Netherlands, an employee can take emergency leave when he/she suddenly and unexpectedly need to take time off, for example when the water mains in his or her house burst or his or her child becomes ill.

Employee Attendance Overview: a new product in Manager Dashboard created by the author. It provides presence/absence status of each day with which a manager of a big team can have an overview about the workforce of today very quick

Employee Engagement: the nature of the relationship between an organization and its employees

Employee Leave: a type of leave that employees are legally entitled and can arrange by employees themselves

Employee Morale: job satisfaction, outlook, and feelings of well-being an employee has within a workplace setting

Engineering & Maintenance (E&M): a division in KLM that is responsible for the engineering and maintenance of aircrafts

Esther: a leave-swapping system in KLM

Female Rate: the percentage of females in a group of people

Flex worker: the worker from outsourcing company (uitzendbureau) who operate under flexible working contracts

Focus: the central part of the scope of a study

Full-time equivalent (FTE): the equivalent employees working full-time

Future Rostering Team: the team that develop the new rostering systems in KLM. They design and implement digital tools

Gender Ratio: the ratio of males to females in a group of people

Global Payroll: the management of an organization's entire payroll function for all locations via one system.

Ground Operations: The staff control the functioning of (a machine, process, or system) on the ground

Ground Services: a division in KLM that is responsible for check-in, loading and refuelling aircrafts

Headcount: a total number of people employed

High Performance Organisation (HPO): An action KLM took to drive managers and employees to improve their performance and to make the organization more efficient

Holiday Planning System: a system for the units in

which employees work in shifts to plan holidays for everyone in KLM

HR Analytics: the team who is responsible for analysing the data in KLM

HR Digital Base: the team who is responsible for transforming HR services from manual-service to self-service

Human Resource (HR): the department of a business that deals with staffing, employee compensation and benefits.

Inflight Services: a division in KLM that is responsible for the cabin area during an aircraft flight

Interview: a research technique in which the researcher discusses a topic with a participant

Kick-off: the start of the project

KLM Compass: a guideline for KLM employees to achieve the ambition and vision of 'moving your world by creating memorable experience'

KLM Health Services: a subsidiary of KLM NV that provides healthcare to KLM employees, passengers, etc.

KLM HR Digital Studio: a department in KLM that is responsible for centralising and digitising the HR Services

KLM HR Shared Services: a department in KLM that is responsible for providing personnel services, including contracts, salaries and time and attendance related issues, to all employees in KLM

KLM Leave: a type of leave that is entitled and arranged by KLM

Leave-taking: be absent from work for a period of time, while maintaining the status of employee

Leave-availability: whether an employee can take leave or not. It usually depends on whether the workforce is sufficient to complete the workload or not

Leave Balance: the amount of leave hours that remains in the leave account

Leave-taking Self-service: a new concept created by the author. It is to empower the employees to process most of the leave-taking procedures by themselves with the help of linked-systems

Long-term Sickness: sickness more than six weeks

Maintenance and Planning of Shifts (MPS): a system for leave registration in KLM

Maternity Leave: in the Netherlands, when an employee gets pregnant, he/she is entitled to 16 weeks of maternity leave (zwangerschapsverlof).

Manager Dashboard: a new concept created by the author. It is a dashboard provided for managers to supervise leave-taking and absenteeism

Manager Leave: a new concept created by the author, means a leave that can be granted by managers, and the purpose is to provide leaves to justifiable reasons of which do not fall into any of the entitled leave

Ministry of Social Affairs and Employment of the Netherlands (Rijksoverheid): the Dutch ministry responsible for social affairs, employment, relations between employers and employees, social security, trade unions and emancipation.

MyKLM (my.klm.com): the internal KLM employee website that was launched recently

MyKLM (myklm.com): the internal KLM employee website commonly used by KLM employees

MyRoster: an application workers use to check their own agenda and the agenda of their colleagues' in KLM

Participatory session: the session that is focused on audience involvement around a specific topic

Policy: a statement of intent, implemented as a procedure or protocol

Prototype: an artifact expressing a conceptual design that is used in evaluating the idea with users or technologies

Purser: an officer on a ship who keeps the

accounts, especially the head steward on a passenger vessel

Recruiting: finding, selecting and convincing people to participate in a research activity

Reflection: the process of thinking about an idea, or a part of one's life

Regulation: an action or process of regulating or being regulated.

Reintegration office: a unit in a company who is responsible for advising managers and supervising the entire process.

Roadmap: a flexible planning technique to support strategic and long-range planning

SAP: a German multinational software corporation that makes enterprise software to manage business operations and customer relations

SAP Analytics Cloud: a software as a service (SaaS) business intelligence (BI) platform designed by SAP that provides all analytics capabilities to all users in one product.

Scenario: a story of how people perform a part of their lives or an interaction with a product or service

Scope: the range of a topic that fits within the aim of a study

Self-service: an arrangement by which customers themselves collect the services that they want to buy or use

Self-steering: execute tasks independently and have autonomy with respect to jobs and personal situations

Self-rostering: a concept in KLM that emphasise employees arranging rosters themselves

Sensitising: raising someone's awareness about factors concerning a topic

Sensitising booklet: a booklet that helps participants to have reflection on the topic before the interview. It usually contains few assignments and exercises.

Service Design: a design discipline that focus on services provided to customers

Session: a group meeting with a specific task or purpose

Shift-replacement Service: is a unique mechanism by which employees can takeover the shifts from their colleagues with the consent of both sides, provided in Passenger Services

Short-term Sickness: sickness longer than six weeks

Sick Absence: absence because of illness

Sick Leave: a leave of absence granted because of illness

Social Ecological Framework: a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviors

Special Leave: in the Netherlands, an employee can take leave for the situations covered by the Work and Care Act.

Stakeholder: anyone who has a stake in a certain process or thing

Stakeholder map: a visual representation of a stakeholder analysis, organizing those people according to the key criteria with which you will be managing them during the project

Supervising: observe and direct the execution of (a task or activity) or the work of (someone)

Supervision: the action of supervising someone or something.

Target Group: a group of customers that a business aims its marketing efforts and resources

Teaming: team up a group of people from a massive amount of people and empower them as a self-steering team

Team Lead: a leader of a team, also called first line manager in KLM

Toolkit: a set of materials to support the making of an expressive artifact

Unit Manager: a manager that is responsible for the performance and development of the whole unit in KLM

Usability: the ease of use and learnability of a product

User research: a research focuses on understanding user behaviors, needs, and motivations through observation techniques, task analysis, and other feedback methodologies

Value: the criteria a person uses to determine if things are desirable or not

Vision: an idea of how the future world could be

Wet Arbeid en Zorg (WAZ): Work and Care Act in English, a rule in the Netherlands that regulates hours of work, weekly rest and paid leave to create a balance between work and act

Wet Verbetering Poortwachter (WV): The law that regulates employers and employees to together deal with long-term sickness and to ensure recovery as soon as possible.

Workforce: the people engaged in or available for work in a company or department

Workload: the amount of work to be done by someone or something

Workshop: a group of people works out a sequence of assignment

Work and Care Act (WAZ): Wet Arbeid en Zorg in Dutch, a rule in the Netherlands that regulates hours of work, weekly rest and paid leave to create a balance between work and act

WWWWWH (5W1H): What, Who, When, Where, Why and How, the questions whose answers are considered basic in information gathering or problem solving

