# The effect of different events of voluntary employee turnover on a productivity level of a B2B customer service team

What is the effect of different events of voluntary employee turnover on the productivity level of a B2B customer service team?

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# Abstract

This quantitative study aims to discover the differences between the effect of voluntary Employee turnover events such as on-boarding of a new employee, parental leave, notice period, or off-boarding, on productivity of a Business-to-business customer service team and how this is affected by an employee's experience in the company. The study is conducted based on the data retrieved from the company that operates in the dairy (processed cheese) field in Vorarlberg, Austria.

The study examines a dataset containing the number of canceled invoices versus issued invoices, which is used for productivity measurement. Additionally, dataset on voluntary employee turnover is used. Both datasets contain records for the period of thirteen years from January 2010 to December 2022.

The sample for this study consists of all Business-to-business customer service employees including employees who voluntarily left the company during the previously mentioned period. The independent variables for this study are the events of voluntary employee turnover including on-boarding of a new employee, parental leave, notice period, or off-boarding, also experience of a departing (parental leave or off-boarding) employee, while the dependent variable is a productivity level of a Business-to-business customer service team and individual team members.

The study utilizes company records and human resources data to identify and categorize employees who have left the company on a voluntary basis within the specified period. Which was done by identifying employees who voluntarily terminated their employment contracts. It is important to note that to comply with GDPR regulations, the names of the employees were exchanged with unique identification numbers (ID from 1 to 76).

The findings of this study contribute to the understanding of the relationship between voluntary employee turnover and productivity level in Business-to-business customer service of the specific field of business in Vorarlberg, Austria.

Keywords in English:

Voluntary Employee Turnover, Business-To-Business Customer Service Team, Productivity Level, Transaction Data Analysis, Employee Experience.

# Preface/Acknowledgement

In my career in customer service across different industries, I have had a unique perspective on the flaws within companies. Working in this field and studying management academically, I have become deeply connected to the topic. I am motivated to contribute to the research in this area, with a focus on improving employees' well-being and overall customer satisfaction.

This thesis is the culmination of my experiences and aspirations. I hope that the insights and recommendations presented here will provide practical guidance and contribute to the enhancement of customer service practices. I am grateful to everyone who has supported me on this journey and remain committed to making a positive impact in the field.

I am thankful to the company that provided me with access to the data necessary for conducting this research. The cooperation and support I was given played a significant role in the successful completion of my master's thesis, and I am thankful for their commitment to fostering academic collaboration and their dedication to advancing knowledge in the field. Their contribution has been indispensable, and I am truly appreciative of the opportunity they have provided.

Additionally, I would like to emphasize that while I am passionate about the topic and can relate to the difficulties customer service employees face, the objectivity of the study is also highly important to me. I believe that only objective research can bring sufficient results.

# Table of Contents

# List of Figures

# List of Tables

## List of Abbreviations and Symbols

| | |
|---|---|
| B2B | Business-to-Business |
| COVID-19 | Coronavirus Disease 2019 |
| ET | Employee Turnover |
| KPI | Key Performance Indicator |
| OECD | Organization for Economic Co-operation and Development |
| VUCA | Volatile, uncertain, complex, and ambiguous |

# 1 Introduction

Employee turnover (ET) is a common problem in companies worldwide, impacting various areas of their business, including the questions of how productive they are and how well they serve their customers. In Business-to-Business (B2B) settings, where keeping customers happy is of high importance, it's crucial to know how ET affects the productivity of a B2B customer service team.

To provide a comprehensive and logical framework, the introduction is divided into five sections, making it easier to navigate the study and understand it.

## 1.1 Current Labor Landscape in the Study Context

Overall, the reviewed resources suggest that ET is an important issue for companies, particularly in the current labor market environment.

However, even though the relationship between ET and Productivity of a team is well-established, there is still much to learn about it. This relationship is complex and requires further research for a better understanding of the details of this dynamic.

Multiple studies have investigated the effects of ET on organizational outcomes, such as productivity, customer satisfaction, and profitability. For example, some researchers have found that high ET can lead to decreased productivity (De Winne et al., 2019a; Levine et al., 2005; Saher et al., 2015); increased costs associated with recruiting (2022 Annual Recruitment Marketing Benchmark Report) and training new employees (Onigori, 2007). Others have suggested that moderate levels of turnover may be beneficial for companies, as they can bring in fresh ideas and new perspectives (Moon, 2017).

Moreover, in the last decades, the global labor market has been facing a shortage of workers, particularly in Organization for Economic Co-operation and Development (OECD) countries, due to an aging workforce and declining population of working age (Doudeijns & Dumont, 2003). This trend has been magnified by the Coronavirus Disease 2019 (COVID-19) pandemic, resulting in emerging labor shortages in different countries (Causa et al., 2022), which brought the situation to the point where the demand for labor has reached new highs. Meanwhile the supply of the workforce has not grown, resulting in a gap of 3.8 million unfilled job openings in the USA alone, the largest in 20 years (2022 Annual Recruitment Marketing Benchmark Report).

Even though there is a strong tendency of labor shortage described above, we live in volatile, uncertain, complex, and ambiguous (VUCA) environment and therefore should watch out for possible changes and monitor our current situation to be able to adjust company's strategy accordingly and therefore constantly advance academic knowledge.

## 1.2 Purpose and Objectives of the Study

In such an environment, the study aims to provide insights into the complex relationship between ET and productivity of a B2B customer service team.

The main objective of the study is to determine the impact of ET on the productivity of a B2B customer service team at different ET events: on-boarding (a new employee joins a company), parental leave (an employee leaves to care for their newborn or newly adopted child), notice period (the duration of time that an employee is required to provide advance notice before terminating an employment contract or resigning from a job), or off-boarding (process of managing an employee's departure from a company) of a team member. The term "parental leave" is used instead of "maternity leave" to ensure gender neutrality.

Specifically, the study aims to identify the differences in ET events influence on productivity of the B2B customer service team. Moreover, the study seeks to determine if this is in any way affected by the experience of the departing employee.

These objectives directly align with the research question and hypotheses of the study described further.

## 1.3 Research Question and Hypotheses to unravel the Effect of voluntary Employee turnover events on B2B Customer Service Team Productivity

Research Question: What is the effect of different events of voluntary ET in B2B customer service on a productivity level?

Hypothesis 1: The effect of voluntary ET varies at different events of an employee departure from a company including on-boarding of a new employee, parental leave, notice period, or off-boarding of an employee.

Hypothesis 2: The impact of voluntary ET on productivity may vary depending on the experience of the departing employee.

Now that the research question and hypotheses have been established, it is time to delve into the structure of the thesis in the next section.

## 1.4 Thesis Structure: a Roadmap of the Study

To thoroughly investigate the effect of ET on the productivity of a B2B customer service team, the study is organized as follows.

The introduction section provides background information, context, and importance of the study describing the current situation on the labor market in the light of the study. It is followed

by the purpose and objectives of the study together with the research question, and hypotheses to unravel the effect of ET on the productivity of a B2B customer service team.

Section 2 covers an overview of the theory and literature for ET and its causes; team performance and its measurement; previous research on the relationship between ET and B2B customer service productivity.

Section 3 outlines the methodology of the research: design and approach; data collection methods and sources; sample characteristics and sampling technique; operationalization of variables, and data analysis techniques.

Section 4 describes the results of the descriptive statistics, graphical analysis and correlations of the relationship between ET and the productivity of a B2B customer service team.

The discussion section interprets the results considering the research question and hypotheses, compares them with previous research and theoretical expectations, and provides implications for practice and policy. It also discusses the limitations of the study and suggests future research.

The conclusion section summarizes the main findings and contributions of the study, contributes to theory and practice, and provides concluding remarks and recommendations.

# 2  Theory and Literature review

This section examines the current stage of the theory and existing research related to the relationship between employee turnover and productivity. It starts by covering the topics of employee turnover and team productivity, then moves to reviewing the connections between both of them.

## 2.1  Overview of the Concept of Employee Turnover and its Causes

As mentioned in the introduction, while ET is a widely researched area, it is still being discussed about which data should be considered to measure it. In order to clarify the approach chosen for the current study, the following section 2.1.1 will provide a definition of the terms used.

Speaking of the ET events, it is necessary to describe each of them in more details, which is done in section 2.1.2.

Section 2.1.3 delves into the implications of ET for a team and/or a company, offering valuable insights that contribute to a better understanding of its importance. This allows to gain a comprehensive perspective on how ET can impact the functioning and success of a team and/or a company.

### 2.1.1  Understanding Employee Turnover: Definition and Types

Some studies identify ET as a replacement cycle when a position becomes vacant, whether by the employee's own choice or not, a company needs to recruit and provide training to a new employee. (Onigori, 2007, p. 49). Another studies split ET into two parts, such as voluntary and involuntary ET, where voluntary turnover refers to the situation where an employee decides to end the employment relationship, while involuntary turnover refers to the situation where an employer decides to terminate the employment relationship. (Dess & Shaw, 2001, p. 446).

The distinction between voluntary and involuntary ET plays a significant role. Depending on whether a study considers both voluntary and involuntary turnover or not, significant differences may arise. Using the total turnover may weaken the observed correlation between ET and team productivity. (Hancock et al., 2013, p. 582).

Moreover, there are also contradictions that show the necessity of further researching the influence of ET on the productivity level, whether it is about total, voluntary, or involuntary ET. For example, a study that was conducted in the US federal government has highlighted that even though voluntary turnover means a loss of key employees, from some perspective it

could also be beneficial for a company. The findings of the study present evidence that contradicts the notion that voluntary turnover has a negative effect on productivity, suggesting instead that it could also have a positive impact. (Moon, 2017, p. 14).

Therefore, further clarification of the relationship between voluntary ET and productivity is supposed to bring a significant input for social science and business.

### 2.1.2  Definition of Specific Employee Turnover Events

ET is a broad term that refers to the process of employees entering and exiting a company, and there is a need to discuss each event separately. This section aims to provide an understanding of the various ET events involved in the ET process. Through an examination of each event, this study seeks to shed light on their individual characteristics, significance, and potential impact on productivity and/or overall dynamics.

**On-boarding**, also known as organizational socialization, is a crucial process that facilitates the transition of new employees from being external to becoming integrated members. It incorporates various activities aimed at equipping newly hired employees with the necessary knowledge, skills, and behaviors to thrive in their new organizational environment. On-boarding involves the participation of other employees, such as mentors, and can impact the productivity of team members involved in socialization and onboarding. While it requires additional time and attention, mentors play a vital role in helping newcomers learn about a company, providing guidance and support, and facilitating their integration into the social and political aspects of a company. This, in turn, contributes to newcomers feeling welcome and comfortable in their new environment. Therefore, the involvement of other employees, especially mentors, in the onboarding process can positively affect the productivity and adjustment of new team members. (Bauer & Erdogan, 2011, pp. 51–56)

**Parental leave** refers to a period of leave taken by a parent, in conjunction with the birth or adoption of a child. It is aimed at supporting child development and improving the well-being of parents. However, there are implications for the team and employers. While parental leave benefits parents and their children, it can impose costs on employers, including wage replacement and indirect expenses like training and recruitment. Research on the effects of parental leave on firms and coworkers is limited. However, a study in Denmark found that firms can compensate for the lost labor supply by adjusting, such as hiring temporary workers and increasing retention rates and work hours of existing employees. Therefore, further understanding of the impacts of parental leave on both households and workplaces is crucial for policy discussions and decision-making. (Brenøe et al., 2020, pp. 1–9)

**Notice period** is the time that an employee is obliged to give the employer before terminating an employment contract. It is a standard practice that allows both parties to plan and make

necessary arrangements for the transition and may vary depending on the employment contract, company policy, and local labor laws. The departing employee is expected to transfer their knowledge, responsibilities, and tasks to their colleagues or a replacement and therefore the remaining team members may need to take on additional tasks or redistribute the workload temporarily. This ensures continuity of work and minimizes disruptions within the team. This can lead to increased pressure and potentially affect productivity. On top of that, the departure of a team member can impact the morale and dynamics of the team. It may create uncertainty and anxiety among the remaining employees, especially if the departing member played a significant role within the team (What Is a Notice Period?).

**Off-boarding** is the process of transitioning an employee out of a company when they leave. It involves ensuring a positive final impression, knowledge transfer, gathering feedback for improvement, and protecting the firm's reputation. It's important for companies to recognize the significance of offboarding and implement strategies to make it a thoughtful and positive process. This not only benefits the departing employee but also contributes to a strong company culture and reputation. The implications of off-boarding can vary based on the specific context and practices of each company. (McDonald, 2021)

### 2.1.3   The Impact of Employee Turnover: Implications to Consider

Now, moving from the contradictions in the current state of research of ET and different events of it to its implications, it is important to mention that exploration of the potential consequences that arise from this phenomenon is important as it provides valuable insights into the consequences ET carries.

There are many different areas of business that can suffer from ET implications. However, as the current study focuses on correlation between voluntary ET and B2B customer service team productivity, the below mentioned implications are only described from this point of view. It helps companies to narrow down the issue and understand why it is important to control and monitor ET in B2B customer service teams.

The first important implication to consider was indicated by a study conducted in the USA. The study findings suggest that higher job complexity is associated with higher costs of turnover implying that companies with more complex jobs may face greater financial implications when employees leave (Tracey & Hinkin, 2008, p. 19).

According to another study that has explored the influence of ET on productivity in a field that demands high level of knowledge from employees and used 48 months of turnover data from U.S. stores of a major retail chain, it is also important to remember that, If a company has a high turnover rate, it leads to a decrease in the overall level of accumulated experience. As a result, ET has a less significant influence on productivity since ET simply replaces inexperienced employees. (Ton & Huckman, 2008, p. 65).

At the same time, it is important to keep in mind that there are hidden/invisible costs (direct and indirect) of ET as determined by other sources. These costs are linked to various factors: recruiting and on-boarding new employees, the impact on team members closely connected to newly hired or to departing employees, and the necessity of filling the vacant position. Moreover, turnover incurs additional expenses, such as reduced productivity, decreased sales, and the time invested by management. (Onigori, 2007, p. 51).

On top of that, workplace morale is also one of the implications worth mentioning. High ET rates can lead to low employee morale and decreased motivation, which affect productivity. Overworked employees and newly hired employees struggling with job duties can result in low morale throughout a company. This, in turn, affects productivity and the ability to attract and retain top talent (Al-Suraihi et al., 2021, pp. 3–4). Which, as discussed earlier, can be tackled with a proper on-boarding procedure.

Thus, it is necessary to have an advanced method to estimate ET implications for the productivity of a team. It can provide more accurate expense projections. This approach should take into account various factors such as the productivity of newly hired employees during their initial weeks or months on the job, as well as the productivity of employees who have given notice during their notice period. (Employee Turnover & Retention | Factsheets).

The existing body of research from different countries clearly indicates the need for further exploration of the effect of voluntary ET in different areas and its influence on productivity, which will help to improve overall understanding of the process and its consequences.

There are several points why it is important to further research on the relation between turnover and productivity level (De Winne et al., 2019, p. 21):

- Firstly, results may differ whether you consider total, voluntary, or involuntary ET.
- Secondly, it can unravel significant differences between industries.
- Thirdly, national context also can be an important point due to different regulations or even cultural aspects.
- Lastly, current situation in the labor market could also play an important role as if there is a shortage for a certain occupation area it is more difficult and therefore more expensive to find a substitute employee.

## 2.2   Overview of the Concept of Team Productivity and its Measurement

Shifting the focus from ET and its implications to team productivity and its measurement, the section below offers an insightful overview of this concept. In order to understand the influence of ET on the productivity of a B2B customer service team, it is crucial to explore the various ways in which productivity can be measured.

### 2.2.1 Definition and Dimensions of Customer Service Productivity

Customer service productivity refers to the quality of service provided by a company to its customers. It includes various dimensions such as responsiveness, reliability, assurance, empathy, and tangibles (Parasuraman et al., 1985).

Responsiveness refers to the willingness of the service provider to help customers and provide prompt service. Reliability refers to the ability of the service provider to perform the promised service dependably and accurately. Assurance refers to the knowledge and courtesy of the service provider and their ability to inspire trust and confidence in customers. Empathy refers to the caring and individualized attention that the service provider gives to customers. Tangibles refer to the appearance of physical facilities, equipment, personnel, and communication materials used in service delivery. (Wilson et al., 2016, p. 77-78)

Reliability is one of the important dimensions of customer service productivity that refers to the ability of the provider to perform the promised service dependably and accurately and therefore is a key driver of customer satisfaction and loyalty. Most importantly, *"accuracy in billing, keeping records correctly, performing the service at the designated time"* (Parasuraman et al., 1985, pp. 46–47).

### 2.2.2 Measurement of Customer Service Productivity in B2B Settings

While measuring productivity may be unnecessary and even disruptive in certain fields, such as software development (Sadowski & Zimmermann, 2019, pp. 14–19), section 2.2.1 supports the conclusion that measuring B2B customer service productivity is crucial for establishing and sustaining strong client relationships. This highlights the context-specific nature of measuring productivity and emphasizes its significance in the customer service domain.

Depending on the focus needed, there are several options of analyzing a team's productivity level, for example:

- Operational data analysis – focuses on a broader view and examines metrics like resource allocation or equipment utilization (Operational Performance Analysis).

- Financial analysis – examines only financial statements and budgets (Analysing Financial Performance).

- Performance metrics analysis – focuses on measuring productivity based on set Key Performance Indicators (KPI).

- Transactional data analysis – process of examination and interpretation of data that was generated from transactions or business activities within a company (sales, purchases, financial transactions, customer interactions, etc).

The study focuses on analyzing transaction data from the company to be able to conduct an analysis of several areas like voluntary ET and productivity (based on financial documents),

but not in a broad way such as operational analysis and not in a limited context that KPI analysis brings. It is important to further explain the benefits transactional data analysis brings.

Analyzing transaction data is often more effective than other methods of measuring productivity because it provides objective and quantifiable metrics that can be used to track progress and identify areas for improvement. Here are a few reasons why analyzing transaction data is particularly effective in B2B settings:

1. Objective measurement: transaction data provides objective measurements, for example response times, resolution rates, or mistakes made while processing (example: ratio of canceled invoices to issued invoices). This information could be compared to benchmarks or industry standards to evaluate how well a company is performing in relation to its competitors or industry peers. (Dichev & Qian, 2022, p. 3)

2. Granular insights: transaction data provides detailed insights into customer behavior and preferences, allowing companies to identify patterns and trends that can inform future strategies (Dichev & Qian, 2022, p. 3). For example, companies can track which products or services are most frequently purchased and which customer segments are most likely to experience issues, enabling them to prioritize customer service efforts accordingly.

3. Proactive problem-solving: analyzing transaction data can help companies proactively identify and address issues before they become major problems (Dichev & Qian, 2022, p. 3). For example, if a company notices a spike in customer complaints related to a particular product or service, they can take steps to improve the quality or offer additional support to prevent further issues.

4. Continuous improvement: by analyzing transaction data over time, companies can track their progress and identify areas for continuous improvement. This can help them refine their customer service strategies, make data-driven decisions, and ultimately provide better service to their clients (Maisel & Cokins, 2014, p. 136).

Overall, analyzing transaction data can provide valuable insights into customer service productivity in B2B settings. By leveraging this data, companies can proactively identify and address issues, continuously improve their service offerings, and ultimately build stronger relationships with their clients. Which is also a big drive for the study set up in addition to the previously mentioned importance of correct and accurate billing.

### 2.2.3 Factors within a Company Influencing B2B Customer Service Team Productivity in connection with Voluntary Employee Turnover

It is quite clear that customer service productivity is influenced by a variety of factors and further exploration of B2B customer service productivity within a company leads the study back to ET. These two areas of research are closely interconnected. Here are some key examples:

- **Leadership** plays a critical role in shaping the culture and priorities of a company, including its approach to customer service. Leadership support was positively related to service quality and customer satisfaction in B2B service encounters (Pantouvakis & Patsiouras, 2016)

  Additionally, leadership plays a significant role in ET. If an employee is satisfied with their supervisor, they are more likely to stay with a company for a longer period of time (Vulpen, 2016).

- **Technology** can also play a key role in enhancing customer service productivity, particularly in B2B settings where customers may have complex needs. Modern technologies transform service delivery. Companies are experiencing a boom in technologies, leading to digitization and a shift towards digital interactions with customers. Workplaces are being virtualized, enhancing flexibility in where and when employees work, also exploring alternate sources for talent. These shifts are reshaping operating models, enabling companies to become customer-focused while leveraging data and analytics for business value (How the Fourth Industrial Revolution Transforms Customer Experience | McKinsey).

  At the same time the more advanced technology is the better it is for knowledge management, which is highly important in terms of ET. ET brings challenges for companies, resulting in the loss of knowledge and valuable skills. So it is crucial for companies to capture and retain vital knowledge, enhance decision-making, and maintain a competitive edge in a complex and volatile market (Becerra-Fernandez & Sabherwal, 2015, pp. 7–9). Therefore, promoting knowledge transfer within a company can mitigate the negative effects of ET on customer service quality.

- **Data analysis** plays a significant role in managing customer experience as well. By conducting surveys and analyzing customer feedback, companies can identify critical touch points and address areas of dissatisfaction. The use of data-driven insights enables companies to set goals, make informed decisions, and implement effective strategies to improve customer satisfaction and reduce defections. Data analysis plays a crucial role in driving organizational change and enhancing the overall customer experience (Understanding Customer Experience).

  From the ET perspective, data analysis could help companies to re-direct efforts to ensure a higher level of service.

## 2.3 Previous Research on the Relationship between Employee Turnover and B2B Customer Service team productivity

As can be seen in the previous part, ET and B2B Customer Service team productivity are connected through many different areas of business. Therefore, it is important to give an overview of the previously conducted research for the relationship between them.

### 2.3.1 Empirical Studies on the Relationship between Employee Turnover and the Team's Productivity

Previously conducted empirical research on the relationship between ET and Team productivity indicates that there is a negative impact of turnover on group performance. ET has a destructive effect on team's productivity. Teams with high ET are significantly less productive compared to teams without turnover, and this difference increased as teams gained experience (Argote et al., 1995, pp. 524–526).

Research that aimed to investigate the relationship between employee satisfaction, customer satisfaction, and their impact on the financial performance examined three direct relationships: employee satisfaction and customer satisfaction, customer satisfaction and financial performance, and employee satisfaction and financial performance. The findings suggested that there is a direct relationship between customer satisfaction and financial performance, as well as between customer satisfaction and employee satisfaction. However, the relationship between employee satisfaction and financial performance is mediated by customer satisfaction (Chi & Gursoy, 2009, pp. 249–252).

Another study reveals mixed findings as observed studies have reported significantly different correlation values. The reported correlations between ET rates and performance indicators such as customer satisfaction vary widely. This indicates that the relationship between turnover rates and performance indicators is not straightforward and can differ depending on various factors and contexts. As a result, the study suggests that a more nuanced conceptualization and measurement is needed to explain the variability in these relationships (Hausknecht & Holwerda, 2013, pp. 210–222).

Another study further emphasizes the negative impact of high ET on companies and underscores the importance of understanding the underlying reasons. Additionally, the study indicates a connection between technological advancement and productivity within the context of ET. Furthermore, the study acknowledges limitations in sampling and data collection, and recommends additional research to explore the proposed turnover model in different locations and dimensions, including generational or job position differences (Ketkaew et al., 2020, pp. 13–15).

### 2.3.2 Key Findings and Limitations of Previous Research

To sum up, previous research shows that ET negatively affects team's productivity, while there is a direct relationship between customer satisfaction and financial performance, mediated by employee satisfaction. However, the relationship between ET rates and performance indicators is complex and context-dependent, highlighting the need for further research and nuanced measurement.

However, it is important to note that the studies have some limitations, they often rely on self-reported measures of customer satisfaction, which may not always accurately reflect customer

perceptions. On top of that, the studies often focus on specific industries or contexts, which may limit their generalizability to other settings.

Despite these limitations, the studies provide important insights into the relationship between ET and the B2B team's productivity. By understanding this relationship, companies can take steps to improve B2B customer service team productivity during various events of ET.

# 3   Methodology

This section outlines the data collection process and analysis methods employed to investigate the factors influencing productivity of a B2B customer service team in a company. The study focuses on examining the impact of various voluntary ET events, such as on-boarding of a new employee, parental leave, notice period, or off-boarding of an employee, on productivity. Furthermore, the study aims to explore how the experience level of departing employees influences these factors. The data collection and analysis process incorporate the use of Excel data sets uploaded from the company's software, formula-based calculations, and pivot tables. The following methodology was employed.

## 3.1   Research Design and Approach

The research design for this study is quantitative in nature with a correlational approach to examine the relationship between the events of voluntary ET and productivity level in B2B customer service team with consideration of experience of voluntarily departed employees.

## 3.2   Data Collection Methods and Sources

The data for this study was collected from a B2B company for the employees of the B2B customer service team for a period of January 2010 – December 2022. The decision to conduct research within a single company is justified based on the following reasons.

The primary focus of this study is to investigate the effect of voluntary ET events on the productivity of a B2B customer service team. By selecting a single company that operates in the processed cheese industry in Vorarlberg, Austria, makes it more tangible to closely examine the dynamics and specific events of voluntary ET influencing productivity within a real-world context. This approach allows for a detailed analysis of the relationship between voluntary ET events and team productivity, providing valuable insights into the specific industry under investigation.

As the examined company in the processed cheese industry in Vorarlberg, Austria, provides unique access to comprehensive data on B2B customer service employees and their voluntary ET events, this rich dataset allows for an in-depth exploration of the phenomenon, including all of the mentioned earlier ET events. By utilizing this company's data, detailed and accurate information can be obtained to address the research objectives effectively.

Moreover, by focusing on a single company, a deep understanding of the specific organizational context, including its culture, policies, and practices related to ET and productivity can be gained. This detailed examination enables capturing of nuances and intricacies that may be missed in broader, multi-company studies. It allows for a holistic analysis of the interplay

between voluntary ET events and team productivity within a well-defined organizational setting.

On top of that, conducting research within a single company offers practical advantages in terms of data accessibility and cooperation from stakeholders. This approach ensures a focused and manageable scope, allowing for a thorough investigation of relevant factors that impact turnover and productivity. Moreover, it allows for easier coordination with key personnel within the company, facilitating data collection and potential collaborations for data analysis and interpretation.

While acknowledging the potential limitation of generalizability to a single company, this research contributes to the existing knowledge base by providing in-depth insights and practical implications specific to the processed cheese industry in Vorarlberg, Austria. The findings can serve as a foundation for future research, complementing broader studies that encompass multiple companies or industries.

It is important to note that while this study focuses on a single company, it should be viewed as a case study that provides valuable insights within a specific context. The results and conclusions drawn should be interpreted with caution, and further research is warranted to validate and extend the findings across different companies and industries.

## 3.3   Sample Characteristics and Sampling Techniques

### 3.3.1   Sample Characteristics: B2B Customer Service Employees in the Processed Cheese Industry of Vorarlberg, Austria

The sample includes B2B customer service employees working in the company that operates in processed cheese industry in Vorarlberg, Austria. These employees are directly involved in customer service tasks related to the production and distribution of processed cheese to other companies worldwide. The sample will focus on employees who have been employed within the specified timeframe of 01.01.2010 to 31.12.2022.

The sample is expected to include employees with different levels of experience. This will provide a diverse representation of the B2B customer service team.

### 3.3.2   Sampling Technique: Comprehensive Analysis of the B2B Customer Service Team

Due to the availability of a comprehensive dataset from the company, a census or complete enumeration approach was employed. All employees of B2B customer service within the specified timeframe were included in the analysis.

The use of a census approach eliminates the need for sample size determination and allows for the inclusion of all relevant individuals in the study. This ensures that no members of the population are excluded and increases the accuracy and representativeness of the findings. Additionally, the study can capture the full range of voluntary ET events and their impact on team productivity.

It is important to acknowledge that the census approach may limit the generalizability of the findings to other industries or geographic regions. However, the goal is to obtain detailed insights and practical implications relevant to this context.

The selected sampling technique ensures that all B2B customer service employees within the specified timeframe are included in the analysis, providing a comprehensive representation of the population of interest. This approach allows for an in-depth examination of the research objectives and facilitates accurate conclusions regarding the impact of voluntary ET on team productivity within the company that operates in processed cheese industry in Vorarlberg, Austria.

The sample for this study will consist of all B2B customer service employees of the company including those who have voluntarily left the company during the previously identified period (January 2010 – December 2022). The sampling technique used is purposive sampling, as the study is focused on a specific group of employees.

## 3.4 Operationalization of Variables

The data collection process involved two primary Excel datasets. The first dataset contained comprehensive employee information, including employee names, dates of parental leaves, on-boarding dates, and off-boarding dates. The second data set comprised information on the dates of invoice issuance and cancellation, along with the names of the employees responsible for these actions. To protect individual privacy and comply with GDPR regulations, an Excel formula was applied to anonymize employee names in both data sets. By anonymizing the data, confidentiality was maintained while enabling meaningful analysis.

In this study, the independent variable is voluntary ET, which will be operationalized as the number of employees who voluntarily left the company within a given period (January 2010 – December 2022).

The dependent variable is the productivity level in B2B customer service, which will be operationalized as the ratio of canceled invoices to created invoices.

By quantifying voluntary ET and measuring productivity through the ratio of canceled to created invoices, the study aims to examine the relationship between these variables and determine the impact of voluntary ET events on the productivity level in B2B customer service.

The detailed explanation of the above described steps are represented in the following sections 3.4.1, 3.4.2, 3.4.3.

### 3.4.1  Calculation of Notice Period

To establish the notice period date, the study incorporated the relevant provisions of Austrian law. By applying these legal guidelines, the anticipated date of an employee's departure could be determined. Subtracting the notice period from the date of off-boarding provided a clear indication of when an employee was required to announce their departure. This calculation formed an understanding of the timing of employee departures and their potential impact on productivity.

### 3.4.2  Pivot Table Analysis: Identification of Productivity Trends

To visualize and analyze the trends in invoice issuance and cancellation, a pivot table was utilized. The pivot table allowed for the aggregation and summarization of data, providing insights into the monthly frequency of invoice issuance and cancellation from January 2010 to December 2022.

### 3.4.3  Productivity Calculation

The study assessed productivity by calculating the ratio of canceled invoices to issued invoices. This ratio was expressed as a percentage. A higher percentage indicated an increase in productivity, while a lower percentage indicated a decrease in productivity level. By analyzing the productivity percentages alongside the corresponding voluntary ET events, such as employee on-boarding, parental leave, notice period, and off-boarding, the study aimed to identify the influence of these events on productivity trends.

## 3.5  Data Analysis Techniques

Now, as the data is ready for analysis the study further sought to compare how different voluntary ET events affected productivity within the B2B customer service team. Additionally, the study analyzed the experience levels of departing employees to explore any correlations between experience and productivity fluctuations.

The data analysis in this study followed a systematic approach to investigate the relationship between the voluntary ET events and the productivity of the B2B customer service team. The analysis proceeded in several steps to ensure a comprehensive examination of the data due to the complexity of datasets.

First, descriptive statistics were computed to summarize the key characteristics of the variables. Measures such as means, standard deviations, and ranges were used to provide an

overview of the data and facilitate comparisons between variables. Descriptive statistics helped in understanding the central tendencies and variabilities of the variables.

Graph analysis techniques were then employed to visualize the relationships between variables. The bar-charts with trend-lines were created to display the patterns and trends present in the data. These graphical representations provided a visual understanding of the associations between the variables. After examining the graphs, an additional point was identified for correlational analysis to further explore the relationship between variables.

Correlation analysis was conducted to assess the strength and direction of the relationships between the variables. Pearson correlation coefficients were calculated to examine the linear associations between the variables. The statistical significance of the correlations was determined using p-values. This analysis provided insights into the potential connections between the voluntary ET events and B2B customer service productivity.

The interpretation of correlation coefficients involved assessing the magnitude and direction of the relationships.

Throughout the data analysis process, the results were interpreted with care. The significance levels of the correlations played a critical role in determining the strength and reliability of the relationships. It was important to acknowledge the limitations of the study, including sample size.

By following this systematic approach, the study was able to comprehensively explore the relationships between the voluntary ET events and the productivity of the B2B customer service team. The structured analysis facilitated the extraction of meaningful insights and provided a deeper understanding of the factors influencing productivity.

# 4 Results

## 4.1 Descriptive Statistics

In this section, the results of the descriptive statistics analysis conducted on the datasets related to employee turnover and the productivity of a B2B customer service team are presented. These statistics provide a comprehensive understanding of the organizational lifecycle and serve as a basis for further analysis and investigation of the relationship between voluntary ET events and B2B customer service team (team) productivity.

### 4.1.1 Analyzing Employee Turnover Dataset received from the Company

The dataset encompasses information about 49 employees, each uniquely identified by a numeric identifier ranging from 1 to 76 to comply with GDPR and exclude personal data.

The examination of on-boarding dates demonstrates a wide range of entry points for employees. The earliest recorded on-boarding date is June 1, 2000, while the most recent is November 1, 2022.

Regarding parental leave, the dataset reveals that the first parental leave start dates range from April 9, 2018, to May 9, 2021. The corresponding end dates span from October 1, 2018, to January 3, 2023.

Examining the employees' years of experience at the time of their first parental leave, the data indicates a minimum of roughly 5 years and a maximum of just below 15 years. On average, employees possess approximately 9 years of experience, with a standard deviation of 3.5 years.

While the dataset includes only one record of a second parental leave, it remains noteworthy. The sole instance of a second parental leave commenced on August 23, 2020, and concluded on June 28, 2021. The employee undertaking the second parental leave had accrued 13 years of experience at that time.

Moving to off-boarding, the dataset captures off-boarding dates for 25 employees. The earliest recorded off-boarding date is April 30, 2013, while the most recent is May 31, 2023.

Moreover, the analysis of years of experience at the time of off-boarding for the 25 employees reveals a spectrum of professional backgrounds. Minimum experience at off-boarding stands at just several months (0.2 year), indicating employees who departed early in their careers. The maximum experience reaches 23 years, reflecting employees with extensive organizational experience. On average, employees possess approximately 3 years of experience at the time of off-boarding, with a standard deviation of just above 4.5.

Finally, the dataset contains information about notice date for 25 off-boarded employees. The dates in this dataset range from the minimum date of 30.01.2013 to the maximum date of 19.04.2023. The standard deviation for notice period in days reflects the extent of variation in the notice periods around the mean. In this case, the standard deviation is almost 27 days, suggesting that the notice periods vary by approximately that amount from the mean value of nearly 59 days.

The data demonstrates the diverse experiences and timelines associated with these aspects, providing a comprehensive understanding of the organizational lifecycle.

Table 1 Descriptive statistics for Employee turnover events of the B2B customer service team

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Date of on-boarding | 49 | 01.06.2000 | 01.11.2022 | 09.03.2016 | |
| Start date of 1st parental leave | 7 | 09.04.2018 | 09.05.2021 | 14.07.2019 | |
| End date of 1st parental leave | 7 | 01.10.2018 | 03.01.2023 | 21.02.2021 | |
| Expirience in years, 1st parental leave | 7 | 4.96 | 14.87 | 8.94 | 3.28 |
| Start date of 2nd parental leave | 1 | 23.08.2020 | 23.08.2020 | 23.08.2020 | |
| End date of 2nd parental leave | 1 | 28.06.2021 | 28.06.2021 | 28.06.2021 | |
| Expirience in years, 2nd parental leave | 1 | 12.59 | 12.59 | 12.59 | |
| Date of off-boarding | 25 | 30.04.2013 | 31.05.2023 | 02.11.2018 | |
| Expirience in years, off-boarding | 25 | 0.20 | 23.00 | 3.05 | 4.63 |
| Date of notice | 25 | 30.01.2013 | 19.04.2023 | 04.09.2018 | |
| Notice period in days | 25 | 42 | 150 | 58.80 | 26.94 |

### 4.1.2 Analyzing Productivity Trends based on Dataset received from the Company

The provided in Appendix 1, Table 20, page 55 data presents descriptive statistics for the productivity values of the team from January 2010 to December 2022. Each month represents a separate dependent variable. This data offers insights into the productivity of the team over the given timeframe.

Throughout the observation period, the productivity levels varied, as indicated by the range of minimum and maximum values. The lowest recorded productivity value registered is -3.00 (-300%), while the highest productivity value reached 1.00 (100%).

On average, the team demonstrated consistently high productivity, with mean values ranging from 0.625 to 0.995. These values suggest a strong overall performance.

The standard deviation values for different months range from 0.008 to 1.203, indicating the variability of individual productivity data points. Smaller standard deviations suggest less variability, while larger standard deviations suggest greater variability in performance.

The dataset also highlights fluctuations in the team size, as evidenced by the varying number of data points available for each month. This sample size ranges from 6 to 17, reflecting

changes in the composition of the team over time. Here it is important to mention that the larger the sample size, the more representative the statistics are likely to be.

Due to the occurrence of only three isolated events involving three different employees, each with extreme negative productivity values, it was necessary to exclude these values from the dataset and substitute them with 0% productivity level instead. This decision was made to preserve the integrity and accuracy of the study's findings. By removing these outliers, the analysis can focus on the majority of the data points and avoid any undue influence on the results of the study. Further descriptive statistics analysis was conducted for the months in which values were updated.

As can be seen in Table 2 the output changed significantly, for September 2013 the average productivity also increased from 0.625 to 0.898, and the standard deviation decreased from 1.203 to 0.299. For October 2021 the average productivity increased from 0.801 to 0.868, and the standard deviation remained relatively stable at 0.315 in comparison to the previous 0.538. Lastly, for the period of January 2022, the average productivity increased from 0.818 to 0.849, and the standard deviation slightly decreased from 0.429 to 0.334. Therefore, it can be concluded that the decision to remove those single events was helpful in order to get results with higher reliability.

Table 2 Updated values for isolated events of productivity drop

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Sep'13 | 11 | -3.00 | 1.00 | 0.625 | 1.203 |
| Sep'13 update | 11 | 0.00 | 1.00 | 0.898 | 0.299 |
| Oct'21 | 15 | -1.00 | 1.00 | 0.801 | 0.538 |
| Oct'21 update | 15 | 0.00 | 1.00 | 0.868 | 0.315 |
| Jan'22 | 16 | -0.50 | 1.00 | 0.818 | 0.429 |
| Jan'22 update | 16 | 0.00 | 1.00 | 0.849 | 0.334 |

Overall, the data provides a comprehensive picture of the productivity trends and variations within the team, shedding light on their productivity over the analyzed period.

## 4.2 Graphical Analysis of the Datasets: When Employee Turnover Events meet Productivity of the B2B Customer Service Team

### 4.2.1 Analyzing B2B Customer Team Productivity

Looking at the mean team productivity over the years, it remains consistently high, there is no need to display values below 70% for clarity and better visualization. Thus, in Figure 1 the values are presented with the amended view, where only values of 70% and above are shown.

However, the figures provided in the appendix show the productivity values ranging from 0 to 100% for a more detailed analysis of individual productivity data points.

Trend of the mean for monthly productivity of a B2B customer service team, 2010-2022
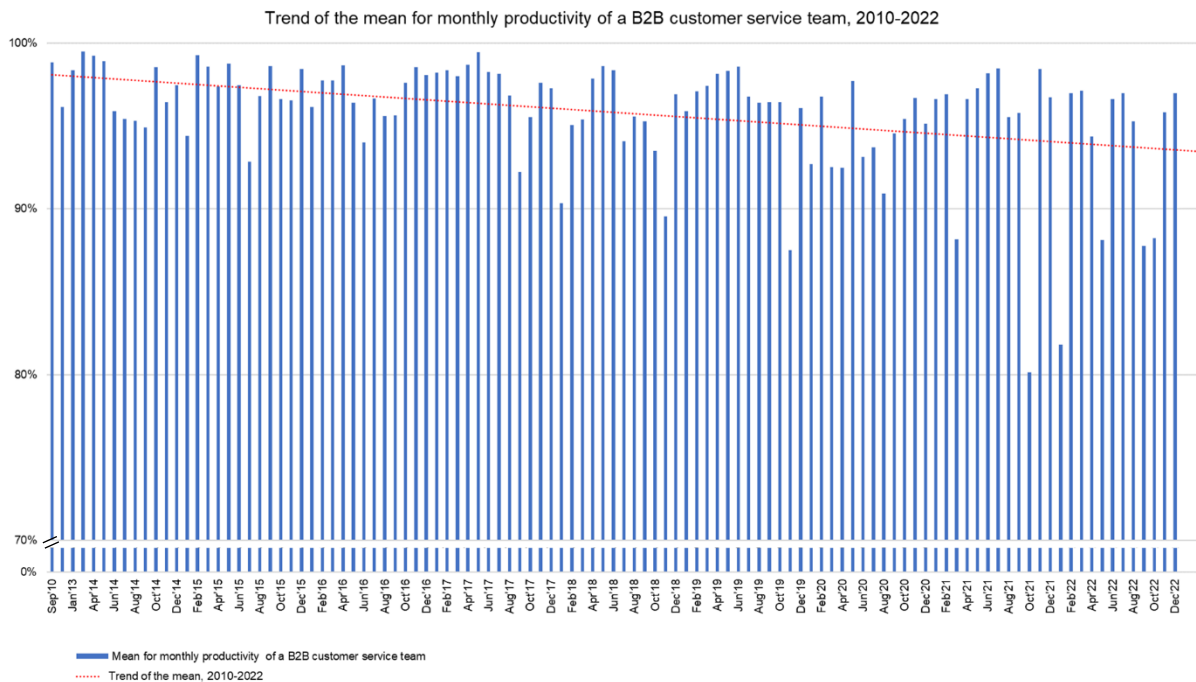
**Figure 1 Trend of the mean for monthly productivity of the B2B customer service team with the amended view, 2010-2022**

Analyzing the productivity trends over time in Figure 1 and Appendix 2, Figure 2 it is evident that there is a downward trend in the mean monthly productivity. This trend could potentially be attributed to the impact of the two COVID-19-affected years, 2020 and 2021.

However, upon closer examination of the period before COVID-19 (2010-2019) Appendix 2, Figure 3, and COVID-19 (2020-2021) years Appendix 2, Figure 4, it is noteworthy that the trend exhibits a strong downward trend for the period before COVID-19 years and a slight upward trajectory for COVID-19 years, despite the observed high team productivity fluctuation among employees during this period. This suggests that although there were initial disruptions caused by the pandemic, the productivity levels gradually recovered and even showed signs of improvement.

Furthermore, the data for the subsequent year, 2022, indicates a continuation of the upward trend in productivity, Appendix 2, Figure 5. This suggests that the company successfully adapted to the challenges posed by the pandemic and implemented measures to enhance productivity levels. It is important to note that these findings are based on the available data and should be interpreted with caution.

Overall, the findings underscore the resilience and adaptability of the company during challenging times.

Moreover, there is a lack of noticeable seasonal trends affecting productivity. The team's performance does not seem to be influenced by particular months or seasons, suggesting that external factors such as holidays do not significantly impact productivity.

### 4.2.2 Closer Look on the Productivity of the Individual Employees versus the B2B Customer Service Team productivity

When analyzing the average productivity (mean for monthly productivity) of the team versus the productivity of individual employees (ID), Appendix 2, Figure 6, Figure 7, Figure 8, Figure 9, Figure 10, Figure 11, Figure 12, Figure 13, Figure 14, Figure 15, Figure 16, Figure 17, Figure 18, several trends can be observed.

Firstly, occasional drops in productivity can be identified, which may be attributed to internal or external events within the team or specific employees. However, since these drops are isolated incidents and do not occur frequently, they are considered to have a minimal impact on the current study.

Secondly, another trend is observed: the greater the number of events (on-boarding of a new employee, parental leave, notice period, or off-boarding of an employee), the more the mean team productivity fluctuates. This implies that when the team faces a higher volume of voluntary ET events, there is an increase in productivity variations among team members.

By incorporating these findings into the thesis, it can be concluded that the number of events is a significant factor to consider and therefore should also be tested in the next part with correlation analysis.

On top of that, the years 2020-2021, marked by the COVID-19 pandemic and the voluntary ET events, brought a significant level of turbulence in team productivity, Figure 16 and Figure 17. During this period, there was a noticeable increase in fluctuation among most team members, leading to a decline in the mean monthly productivity of the team. However, despite the substantial fluctuation, there is an upward trend observed (Figure 4), indicating that the company managed to stabilize and improve productivity to some extent after the initial decline.

Furthermore, in 2022, the level of fluctuation remained relatively high, Figure 18. However, upon comparing the graph illustrating the trend of the mean monthly productivity of the B2B customer service team in 2022 (Figure 5), it becomes evident that the productivity situation has shown signs of improvement and shifted towards a more favorable position.

By incorporating these observations into the thesis, it can be concluded that the turbulent period of the COVID-19 years together with voluntary ET events had a significant impact on team productivity. This supports the earlier observation that a higher number of events might correspond to increased turbulence.

Consequently, it is recommended that the company closely monitors and controls manageable voluntary ET events to mitigate turbulence and maintain a more stable productivity level.

## 4.3 Correlations between Employee Turnover Events and B2B Customer Service Team Productivity

Now, moving on to the correlation analysis that are aimed at identifying the voluntary ET events that have the greatest impact on team turbulence and how it is being impacted by experience of the departing employees.

The analysis investigates the relationship between voluntary ET events and fluctuations in team productivity starting from experience of the departing employees, followed by voluntary ET events, and finalized by the number of the voluntary ET events. By quantifying this association, it can be pinpointed which voluntary ET events are highly correlated with increased turbulence in team productivity.

### 4.3.1 The Experience of the Employees throughout the Employee Turnover Events compared to the B2B Customer Service Team Productivity

A crucial aspect that will help to test one of the two hypotheses is the impact of employee experience during the voluntary ET events on the average productivity of the B2B customer service team. It is important to assess whether employee experience aligns with the observed team productivity decrease.

It has to be mentioned that it was crucial to transform the monthly productivity data into yearly and compare them with the average experience because the dataset contains missing values that cannot be substituted within the scope of this study. As a sidenote, missing values in the dataset are connected to the fact that most of the employees were not employed throughout the studied period.

This approach ensures that the complete picture of productivity and experience within the team is captured, despite the presence of missing monthly values in the productivity dataset.

Table 3 presents the year of departure of employees and their average experience within the company for both off-boarding and parental leave, providing data for further analysis. By comparing this data with the fluctuations in yearly productivity during the corresponding years, a comprehensive evaluation can be conducted.

To facilitate this analysis, yearly means for productivity were computed, and descriptive statistics are presented in Table 4. The table provides descriptive statistics for variables across the earlier defined period from 2010 to 2022. The variables mean value ranged from 0.91 to 0.98, with a standard deviation ranging from 0.02 to 0.22.

Table 3 Average experience of departed employees (off-boarding, parental leave)

| ID | Year of departure | Average expirience of off-boarded employees | ID | Year of departure | Average expirience of employees departing for parental leave |
|---|---|---|---|---|---|
| 74 | 2014 | 5 | | | |
| 5 | | | | | |
| 57 | 2015 | 6 | | | |
| 52 | | | | | |
| 14 | 2016 | 2,75 | | no events | |
| 21 | | | | | |
| 24 | | | | | |
| 2 | | | | | |
| 46 | 2017 | 1 | | | |
| 50 | 2018 | 1 | 27 | 2018 | 15 |
| 18 | 2019 | 1,48 | 33 | 2019 | 5,50 |
| 11 | | | | | |
| 47 | | | 39 | | |
| 13 | | | | | |
| 71 | | | 75 | | |
| 42 | 2020 | 1,5 | 44 | 2020 | 7 |
| 7 | | | | | |
| 26 | 2021 | 1 | 41 | 2021 | 9 |

Table 4 Descriptive statistics for yearly B2B Customer service team productivity

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| 2010 | 8 | 0.90 | 1.00 | 0.97 | 0.04 |
| 2011 | 9 | 0.91 | 1.00 | 0.98 | 0.03 |
| 2012 | 11 | 0.93 | 1.00 | 0.98 | 0.03 |
| 2013 | 12 | 0.71 | 1.00 | 0.95 | 0.08 |
| 2014 | 14 | 0.82 | 1.00 | 0.97 | 0.05 |
| 2015 | 16 | 0.91 | 1.00 | 0.97 | 0.03 |
| 2016 | 17 | 0.85 | 1.00 | 0.97 | 0.04 |
| 2017 | 16 | 0.91 | 1.00 | 0.98 | 0.02 |
| 2018 | 19 | 0.00 | 1.00 | 0.91 | 0.22 |
| 2019 | 18 | 0.86 | 1.00 | 0.97 | 0.04 |
| 2020 | 20 | 0.72 | 1.00 | 0.93 | 0.08 |
| 2021 | 18 | 0.77 | 1.00 | 0.96 | 0.06 |
| 2022 | 22 | 0.50 | 1.00 | 0.92 | 0.12 |

### 4.3.1.1 Correlation between the experience of the Off-boarded employees and the Standard Deviation of the Yearly B2B Customer Service Team Productivity

The correlation analysis between the average experience of the off-boarded employees and the standard deviation of the yearly productivity of the team results, Table 5, indicate a weak negative relationship (r = -0.351). However, this relationship is not statistically significant (p = 0.393).

Given the limited sample size and, therefore, non-significant result, it is recommended to gather more data to obtain a more comprehensive understanding of the potential influence of departing employee experience on the standard deviation of team productivity. Additional data may provide a clearer picture of any underlying patterns or associations.

Table 5 Average Experience of off-boarded employees compared to the Standard deviation of yearly B2B customer service team productivity

| Correlations | | Average Experience of off-boarded employees | Standard deviation of the productivity |
|---|---|---|---|
| AverageExperience of off-boarded employees | Pearson Correlation | 1 | -0.351 |
| | Sig. (2-tailed) | | 0.393 |
| | N | 8 | 8 |
| Standard deviation of the productivity | Pearson Correlation | -0.351 | 1 |
| | Sig. (2-tailed) | 0.393 | |
| | N | 8 | 13 |

### 4.3.1.2 Correlation between the Experience of the Off-boarded employees and the Yearly B2B Customer Service Team Productivity

The correlation analysis between the average experience of the off-boarded employees and the mean yearly productivity of the B2B customer service team results, Table 6, indicate a weak positive relationship (r = 0.376). The correlation coefficient suggests that there is a tendency for higher average experience among off-boarded employees to be associated with slightly higher mean yearly productivity of the team.

However, this relationship is not statistically significant (p = 0.359) and due to the lack of statistical significance, it is unclear whether this relationship is meaningful or simply due to chance.

Table 6 Average Experience of off-boarded employees compared to the mean yearly of the B2B customer service team productivity

| Correlations | | Average Experience of off-boarded employees | Mean yearly productivity |
|---|---|---|---|
| AverageExperience of off-boarded employees | Pearson Correlation | 1 | 0.376 |
| | Sig. (2-tailed) | | 0.359 |
| | N | 8 | 8 |
| Mean yearly productivity | Pearson Correlation | 0.376 | 1 |
| | Sig. (2-tailed) | 0.359 | |
| | N | 8 | 13 |

### 4.3.1.3 Summary for the Correlations between the Experience of the Off-boarded Employees with Yearly B2B Customer Service Team Productivity

In summary, it is impossible to draw conclusions about the influence of experience of off-boarding employees on productivity. The lack of statistical significance suggests that the observed relationships may be due to random variation rather than a true association.

To obtain a more comprehensive understanding of the potential influence of employee experience on team productivity, it is recommended to gather more data. A larger sample size would provide a more robust analysis and increase the chances of detecting meaningful rela-

tionships, if they exist. Additional data could reveal clearer patterns or associations and provide more reliable insights into the relationship between departing employee experience and team productivity.

However, the trend of these correlation results highlights a potential area for further research. As mentioned in section 2.1.2, when employees leave a company, they are expected to transfer their knowledge to those remaining in the company and to the newly on-boarded employees who replace them. This knowledge transfer process may explain the observed trend of team productivity growth whenever a more experienced employee departs. Investigating the extent and effectiveness of knowledge transfer during voluntary ET events could provide valuable insights into the relationship between employee experience, knowledge sharing, and team productivity.

This can be supported by conducting an additional correlation analysis to examine the relationship between the experience of last year's off-boarded employees and team productivity. The results of the correlation analysis demonstrate a stronger correlation coefficient of r = 0.572 between the average experience of last year's off-boarded employees and the mean yearly team productivity, Table 7, compared to r = 0.376, Table 6, between the average experience of off-boarded employees and mean yearly productivity. However, it's important to remember that results of correlations are not statistically significant (p > 0.05) due to the small sample size.

Table 7 Average experience of last year's off-boarded employees compared to the mean yearly B2B customer service team productivity

| Correlations | | Average Experience of last year off-boarded employees | Mean yearly productivity |
|---|---|---|---|
| Average Experience of last year off-boarded employees | Pearson Correlation | 1 | 0.572 |
| | Sig. (2-tailed) | | 0.139 |
| | N | 8 | 8 |
| Mean yearly productivity | Pearson Correlation | 0.572 | 1 |
| | Sig. (2-tailed) | 0.139 | |
| | N | 8 | 13 |

#### 4.3.1.4 Correlation between the experience of the Employees Departing for the Parental Leave and the Standard Deviation of the Yearly B2B Customer Service Team Productivity

The correlation analysis between the average experience of the employees departing for the parental leave and the standard deviation of the yearly team productivity, Table 8, reveals a strong positive relationship (r = 0.949, p = 0.051). This means that there is a tendency for higher average experience among employees who go on parental leave to be associated with higher variability in productivity.

However, the non-significant p-value and the small sample size of 4 again suggest the need for additional research with a larger sample size to obtain more conclusive findings.

Table 8 Average Experience of employees departing for parental leave compared to the Standard deviation of yearly B2B customer service team productivity

| Correlations | | Average Experience of employees departing for parental leave | Standard deviation of the productivity |
|---|---|---|---|
| AverageExperience of employees departing for parental leave | Pearson Correlation | 1 | 0.949 |
| | Sig. (2-tailed) | | 0.051 |
| | N | 4 | 4 |
| Standard deviation of the productivity | Pearson Correlation | 0.949 | 1 |
| | Sig. (2-tailed) | 0.051 | |
| | N | 4 | 13 |

### 4.3.1.5 Correlation between the Experience of the Employees Departing for the Parental Leave and the Yearly B2B Customer Service Team Productivity

The correlation analysis between the average experience of the employees departing for the parental leave and the mean yearly productivity of the team, Table 9, revealed a significant negative relationship (r = -0.773). This suggests that as the average experience of employees leaving for parental leave increases, the mean yearly productivity tends to decrease. However, it is important to note the lack of statistical significance (p = 0.227).

Table 9 Average Experience of employees departing for parental leave compared to the mean yearly B2B customer service team productivity

| Correlations | | Average Experience of employees departing for parental leave | Mean yearly productivity |
|---|---|---|---|
| AverageExperience of employees departing for parental leave | Pearson Correlation | 1 | -0.773 |
| | Sig. (2-tailed) | | 0.227 |
| | N | 4 | 4 |
| Mean yearly productivity | Pearson Correlation | -0.773 | 1 |
| | Sig. (2-tailed) | 0.227 | |
| | N | 4 | 13 |

### 4.3.1.6 Summary for the Correlations of the Experience of the Employees Departing for the Parental Leave with Consideration of the Results For Experience of the Off-Boarded Employees

Comparing the correlation results between employees departing for parental leave and employees who voluntarily off-boarded, there are notable differences in the findings.

For employees departing from the company for parental leave, higher average experience among departing employees is associated with greater variability in team productivity and with a negative relationship with mean yearly team productivity. For employees who off-boarded there is an opposite pic. The differences in the correlation results between these two groups of employees may be attributed to several factors.

Firstly, the nature of the departures. Knowledge transfer process may vary between employees departing for parental leave and those who off-board, potentially influencing the relationship between experience and productivity differently in each case.

On top of that, comparing the average experiences of both groups, it is observed that the average experience of employees departing for parental leave tends to be higher compared to the average experience of off-boarding employees. This disparity in average experience can have an influence on the correlation outcomes as well.

However, it is impossible to either confirm or reject these assumptions due to the lack of data. Both correlation analyses have a small sample size.

To gain a deeper understanding of the differences in the correlation results, further research with larger sample size and a more diverse range of employee departures is needed. Additionally, qualitative investigations and in-depth interviews could shed light on the specific factors influencing the relationship between experience and productivity for each group.

### 4.3.2 The Effect of Employee Turnover Events on the Yearly B2B Customer Service Team Productivity

#### 4.3.2.1 Correlation between the Number of On-boarded Employees and the Yearly B2B Customer Service Team Productivity

The correlation analysis between the number of on-boarded employees and the Standard deviation of yearly team productivity results, Table 10, indicate a moderate positive relationship (r = 0.512). The p-value associated with this correlation is 0.074, which suggests a trend towards statistical significance but falls just short of the conventional threshold ($p < 0.05$).

This positive correlation implies that as the number of on-boarded employees increases, the standard deviation of productivity also tends to increase. However, due to the non-significant p-value and the limited sample size of 13, it is necessary to interpret these findings with caution.

Table 10 Number of on-boarded employees compared to the Standard deviation of yearly B2B customer service team productivity

| Correlations | | Number of on-boarded employees | Standard deviation of the productivity |
|---|---|---|---|
| Number of on-boarded employees | Pearson Correlation | 1 | 0.512 |
| | Sig. (2-tailed) | | 0.074 |
| | N | 13 | 13 |
| Standard deviation of the productivity | Pearson Correlation | 0.512 | 1 |
| | Sig. (2-tailed) | 0.074 | |
| | N | 13 | 13 |

Further correlation analysis results, Table 11, reveal a significant negative relationship between the number of on-boarded employees and mean yearly productivity (r = -0.656, p =

0.015). The negative correlation suggests that as the number of on-boarded employees increases, the mean yearly productivity tends to decrease.

The significant p-value (p = 0.015) indicates that this correlation is unlikely to have occurred by chance alone. The results mean that there is a strong statistical indication of a relationship between these variables for the given company.

This may be attributed to various factors, such as the time and resources required to on-board new employees, potential disruptions to team dynamics, and the learning curve associated with new roles. On top of that, this can indicate certain tendencies in knowledge sharing mentioned in section 4.3.1.3.

Table 11 Number of on-boarded employees compared to the mean yearly B2B customer service team productivity

| Correlations | | | |
|---|---|---|---|
| | | Number of on-boarded employees | Mean yearly productivity |
| Number of on-boarded employees | Pearson Correlation | 1 | -.656[*] |
| | Sig. (2-tailed) | | 0.015 |
| | N | 13 | 13 |
| Mean yearly productivity | Pearson Correlation | -.656[*] | 1 |
| | Sig. (2-tailed) | 0.015 | |
| | N | 13 | 13 |
| *. Correlation is significant at the 0.05 level (2-tailed). | | | |

### 4.3.2.2 Correlation between the Number of Employees Departing for Parental Leave and the Yearly B2B Customer Service Team Productivity

Going to another voluntary ET event, the correlation analysis between the number of employees departing for parental leave and the Standard deviation of yearly team productivity of the B2B customer service team results, Table 12, show a weak negative relationship between the number of employees departed for parental leave and the standard deviation of team productivity (r = -0.210). Based on these findings, it does not appear that the number of employees departed for parental leave has a significant impact on the variability of productivity.

However, this correlation is not statistically significant (p = 0.588) and suggests that the observed correlation may have occurred by chance and does not provide strong evidence of a relationship between the variables.

To draw more conclusive insights and determine the potential influence of employees departing for parental leave on team productivity, further research with a larger sample size is recommended.

Table 12 Number of employees departed for parental leave compared to the Standard deviation of yearly productivity of the B2B customer service team

| Correlations | | Number of employees departed for parental leave | Standard deviation of the productivity |
|---|---|---|---|
| Number of employees departed for parental leave | Pearson Correlation | 1 | -0.210 |
| | Sig. (2-tailed) | | 0.588 |
| | N | 9 | 9 |
| Standard deviation of the productivity | Pearson Correlation | -0.210 | 1 |
| | Sig. (2-tailed) | 0.588 | |
| | N | 9 | 13 |

The correlation analysis between the variables "Number of employees departed for parental leave" and "Mean yearly team productivity", Table 13, indicates a positive relationship, although it is weak and not statistically significant. The Pearson correlation coefficient is 0.288, and the p-value is 0.453, suggesting that there is no strong evidence of a significant relationship between the number of employees who have taken parental leave and the mean team yearly productivity of the team.

This implies that the number of employees departing for parental leave does not have a substantial impact on the average productivity of the team and further research with a larger sample size is necessary to gain a more comprehensive understanding of the potential relationship between employee parental leave and mean yearly team productivity.

Table 13 Number of employees departed for parental leave compared to the mean yearly B2B customer service team productivity

| Correlations | | Number of employees departed for parental leave | Mean yearly productivity |
|---|---|---|---|
| Number of employees departed for parental leave | Pearson Correlation | 1 | 0.288 |
| | Sig. (2-tailed) | | 0.453 |
| | N | 9 | 9 |
| Mean yearly productivity | Pearson Correlation | 0.288 | 1 |
| | Sig. (2-tailed) | 0.453 | |
| | N | 9 | 13 |

### 4.3.2.3 Correlation between the Number of Employees on their Notice Period and the Yearly B2B Customer Service Team Productivity

Moving to the analysis of the correlation between the number of employees on their notice period and the yearly productivity of the team, results, Table 14, indicate a negative relationship, although this correlation is not statistically significant. The Pearson correlation coefficient is -0.381, and the p-value is 0.312. This suggests that there is no strong evidence to support a significant relationship between the number of employees on their notice period and the variability of productivity within the team.

When considering this result in connection with the correlation between "Average Experience of off-boarded employees", Table 5, (off-boarded employees have only a minor difference in experience from the notice period to the actual departure, averaging just below 59 days) and

"Standard deviation of productivity", which also shows a negative relationship, a similar pattern can be observed. Both correlations suggest a potential trend of decreased variability in productivity as the number of employees on their notice period or the average experience of off-boarded employees increases. However, due to the lack of statistical significance, these relationships may be influenced by other factors or simply due to chance.

Table 14 Number of employees on their notice period compared to the Standard deviation of yearly B2B customer service team productivity

| Correlations | | Number of employees on their notice period | Standard deviation of the productivity |
|---|---|---|---|
| Number of employees on their notice period | Pearson Correlation | 1 | -0.381 |
| | Sig. (2-tailed) | | 0.312 |
| | N | 9 | 9 |
| Standard deviation of the productivity | Pearson Correlation | -0.381 | 1 |
| | Sig. (2-tailed) | 0.312 | |
| | N | 9 | 13 |

Further correlation analysis, Table 15, shows that there is a moderate positive relationship (r = 0.459) between the number of employees on their notice period and mean yearly productivity. However, this correlation is not statistically significant (p = 0.214).

When considering this result in relation to the correlation between the average experience of off-boarded employees and mean yearly productivity, Table 6, both correlations suggest a positive association between employee factors and productivity. These findings indicate that there might be some degree of influence from employees on their notice period on the mean yearly team productivity.

However, due to the lack of statistical significance, it is important to interpret these correlations with caution. Further research with a larger sample size would be valuable to obtain more conclusive insights into the relationship between these variables and productivity.

Table 15 Number of employees on their notice period compared to the mean yearly B2B customer service team productivity

| Correlations | | Number of employees on their notice period | Mean yearly productivity |
|---|---|---|---|
| Number of employees on their notice period | Pearson Correlation | 1 | 0.459 |
| | Sig. (2-tailed) | | 0.214 |
| | N | 9 | 9 |
| Mean yearly productivity | Pearson Correlation | 0.459 | 1 |
| | Sig. (2-tailed) | 0.214 | |
| | N | 9 | 13 |

### 4.3.2.4 Correlation between the Number of Off-boarded Employees and the Yearly B2B Customer Service Team Productivity

The correlation analysis, Table 16, reveals a moderate negative relationship (-0.446) between the number of off-boarded employees and the standard deviation of productivity. However, this correlation is not statistically significant (p = 0.268).

Considering this result in relation to the correlation between the average experience of off-boarded employees and the standard deviation of yearly team productivity, it can be observed that both correlations suggest a negative association between these variables. However, none of the correlations reach statistical significance.

These findings imply that there might be a tendency for a higher number of off-boarded employees and greater average experience of off-boarded employees to be associated with lower variability in productivity which can be connected to the knowledge transfer, as mentioned earlier in section 4.3.1.3. However, to draw more definitive statistically significant conclusions, further research with a larger sample size is recommended.

Table 16 Number of off-boarded employees compared to the Standard deviation of yearly B2B customer service team productivity

| Correlations | | Number of off-boarded employees | Standard deviation of the productivity |
|---|---|---|---|
| Number of off-boarded employees | Pearson Correlation | 1 | -0.446 |
| | Sig. (2-tailed) | | 0.268 |
| | N | 8 | 8 |
| Standard deviation of the productivity | Pearson Correlation | -0.446 | 1 |
| | Sig. (2-tailed) | 0.268 | |
| | N | 8 | 13 |

The following correlation analysis between the number of off-boarded employees compared to the mean yearly team productivity, Table 17, shows a moderate positive relationship (r = 0.448). However, this correlation is also not statistically significant (p = 0.266).

Considering this result in relation to the correlation between the average experience of off-boarded employees and the mean yearly team productivity, there is similar positive association between these variables.

These findings suggest a potential tendency for a higher number of off-boarded employees and greater average experience of off-boarded employees to be associated with higher mean yearly team productivity. Once more, due to the lack of statistical significance, definitive conclusions about the strength or direction of these associations cannot be drawn.

Further research with a larger sample size is recommended to explore the relationship between the number of off-boarded employees and their impact on mean yearly team productivity.

Table 17 Number of off-boarded employees compared to the mean yearly B2B customer service team productivity

| Correlations | | Number of off-boarded employees | Mean yearly productivity |
|---|---|---|---|
| Number of off-boarded employees | Pearson Correlation | 1 | 0.448 |
| | Sig. (2-tailed) | | 0.266 |
| | N | 8 | 8 |
| Mean yearly productivity | Pearson Correlation | 0.448 | 1 |
| | Sig. (2-tailed) | 0.266 | |
| | N | 8 | 13 |

## 4.3.2.5 Correlation between the Number of Voluntary Employee Turnover Events and Yearly B2B Customer Service Team Productivity

The observed tendency on the graph indicates a possible relationship between the number of voluntary ET events and the yearly productivity of the B2B customer service team. However, based on the correlation analysis results, there is no significant relationship between the number of voluntary ET events and the standard deviation of productivity ($r = 0.013$, $p = 0.965$). This suggests that the number of voluntary ET events does not have a strong influence on the variability of productivity within the team, Table 18. Similarly, the correlation between the number of voluntary ET events and mean yearly productivity is also not significant ($r = -0.063$, $p = 0.838$), Table 19. This implies that the number of voluntary ET events does not have a substantial impact on the overall average productivity of the team.

Considering both sets of correlations, it can be concluded that the number of ET events does not appear to be influential in determining the team productivity levels or variability within the team. Other factors, such as employee skills, workload, or management practices, may have a greater impact on the team's productivity.

However, further analysis or exploration with a larger dataset is necessary as the results are not statistically significant.

Table 18 Number of ET events compared to the Standard deviation of yearly B2B customer service team productivity

| Correlations | | Number of ET events | Standard deviation of the productivity |
|---|---|---|---|
| Number of ET events | Pearson Correlation | 1 | 0.013 |
| | Sig. (2-tailed) | | 0.965 |
| | N | 13 | 13 |
| Standard deviation of the productivity | Pearson Correlation | 0.013 | 1 |
| | Sig. (2-tailed) | 0.965 | |
| | N | 13 | 13 |

Table 19 Number of ET events compared to the mean yearly B2B customer service team productivity

| Correlations | | Number of ET events | Mean yearly productivity |
|---|---|---|---|
| Number of ET events | Pearson Correlation | 1 | -0.063 |
| | Sig. (2-tailed) | | 0.838 |
| | N | 13 | 13 |
| Mean yearly productivity | Pearson Correlation | -0.063 | 1 |
| | Sig. (2-tailed) | 0.838 | |
| | N | 13 | 13 |

# 5   Discussion of the Findings

Moving forward to the discussion section, it is important to address the findings for both the specific company and for advancing knowledge on the relationship between voluntary ET events and team productivity in the specific field of business (processed cheese) in Vorarlberg, Austria.

## 5.1   Discussing the Effect of Various Voluntary Employee Turnover Events on B2B Customer Service Team Productivity: Hypothesis 1

In this section, the discussion focuses on the effect of various events of voluntary ET on team productivity in the B2B customer service context. Hypothesis 1 proposed that the effect of voluntary ET would vary across these events.

Now, let's delve into the analysis of the findings related to Hypothesis 1 and explore the implications for productivity within the B2B customer service team.

The results of most of the correlations analysis are not statistically significant (except for on-boarding compared with the mean yearly team productivity, section 4.3.2.1). Even though these results should be interpreted with caution, they demonstrate probable support for Hypothesis 1, indicating the trend that the effect of voluntary ET varies at different events. Each event of voluntary ET showed distinct relationships with team productivity. However, to confirm or reject these trends further analysis with a larger dataset is needed.

The number of on-boarded employees exhibited a positive correlation with team productivity, suggesting that the on-boarding process may introduce initial challenges and adjustments for the team, resulting in increased variability in team productivity and the decreased team productivity. This finding aligns with previous research that emphasizes the need for adequate on-boarding processes to integrate new employees effectively (Bauer & Erdogan, 2011). Companies should invest in comprehensive on-boarding programs to reduce the potential negative impact of this event on team productivity and ensure a smooth transition for new employees.

Regarding parental leave, it is important to look at the results together with results for off-boarded employees. Here it should be noted that the average experience of employees departing for parental leave tended to be higher compared to the average experience of off-boarding employees. This implies that for this dataset employees taking parental leave might have already accumulated more substantial knowledge and skills within the company than off-boarded employees. Moreover, it connects Hypothesis 1 and Hypothesis 2 by demonstrating the probable influence of the departing employee experience.

The correlation analysis for the number of employees departing for parental leave compared with team productivity did not reveal a significant relationship. This could be attributed to the

temporary nature of parental leave, during which other team members might compensate for the absence and ensure that team productivity levels are maintained. A further area for research could be the exploration of the specific mechanisms through which parental leave affects team productivity and knowledge transfer within the team and compare if it differs from off-boarding knowledge transfer procedures.

The next point for analysis was the notice period. It is interesting to note that the analysis did not reveal a significant relationship between the notice period and team productivity. This finding suggests that the notice period itself does not directly impact productivity levels. However, it is essential to consider the broader context of off-boarding and knowledge transfer when interpreting these results.

The notice period serves as a transitional phase during which companies have the opportunity to plan for the departure of an employee and manage the transfer of their knowledge and responsibilities (What Is a Notice Period?). While the notice period itself may not directly affect productivity, the actions taken during this period can play a crucial role in facilitating knowledge transfer and minimizing any disruptions. That should also be considered together with the results for off-boarding employees discussed further.

Further analysis indicates that off-boarding leads to increased productivity and decreased variability, thus, suggests that the departure of employees may not necessarily disrupt team dynamics and knowledge sharing as previously mentioned. Instead, it implies that the process of off-boarding could facilitate knowledge transfer and potentially contribute to productivity gains. Which aligns with the highlighted in the literature review suggestion that voluntary turnover could also have a positive impact on the company (Moon, 2017). Here, as mentioned above, it is important to look at the identified trend with consideration of the findings for employees departing for parental leave. Which further leads us to discussion of Hypothesis 2, section 5.2 as it is connected to the influence of experience level of departing employees.

In light of these findings, it is reasonable to conclude that companies should focus on knowledge transfer and effective communication consistently, not just during the departure of employees. The emphasis on knowledge transfer should be an ongoing effort to ensure that knowledge is shared, preserved, and leveraged within a team, ultimately benefiting overall productivity and reducing variability of team productivity.

To gain a more comprehensive understanding, it is important to explore the optimal balance between off-boarding, knowledge transfer, and productivity. Additionally, investigating the specific conditions under which off-boarding positively or negatively impacts productivity would provide valuable insights for companies.

Companies should be prepared to address the possible team productivity decline by implementing strategies to facilitate knowledge transfer, enhance communication, and support the remaining team members during voluntary ET events.

## 5.2 Discussing The Impact of Voluntary Employee Turnover on Productivity May Vary Depending on the Experience of the Departing Employee: Hypothesis 2

Discussion of the findings related to Hypothesis 1 in section 5.1 provided insights related to Hypothesis 2, which suggests that the impact of voluntary ET events on productivity may vary depending on the experience of the departing employee.

It is necessary to begin discussion with stating the fact that the results of the analysis are not statistically significant and therefore further discussion should only be considered as explanation of the identified trends that could not be confirmed or rejected within current study.

The correlation analysis revealed associations between the average experience of departing employees and both the standard deviation and mean yearly productivity. For employees departing for parental leave, a higher average experience was associated with higher variability in productivity of the team and a negative relationship with mean yearly productivity. This finding suggests that the departure of more experienced employees for parental leave may result in a temporary decrease in productivity, as their absence creates a gap in knowledge and expertise within the team. Companies should consider implementing strategies to mitigate this effect, such as knowledge transfer programs or temporary replacements, to ensure a smooth transition and minimize the impact on productivity.

Conversely, the average experience of off-boarding employees showed a positive relationship with both productivity measures. This finding suggests that the departure of highly experienced employees may have an impact on productivity, as their knowledge and skills are deeply embedded within the company. Companies should keep proactively capturing and transferring the knowledge of these departing employees to mitigate the potential negative effects on productivity. Implementing knowledge-sharing mechanisms, mentorship programs, or documentation processes can help facilitate knowledge transfer and minimize productivity disruptions during off-boarding.

## 5.3 Implications of the Study Results

The trends of the datasets identified by this study suggest important implications for companies, particularly in the areas of knowledge transfer, leadership, culture, and technology. On top of that, the study identifies areas for future research in case these trends will be confirmed by the studies with larger sample size that will allow to provide statistically significant results.

Current findings should be interpreted with caution and serve as framework for further research and exploration.

### 5.3.1 Knowledge Transfer

The findings of this study shed light on the possible role of knowledge transfer during different events of voluntary ET and its potential influence on productivity levels. It was observed that the average experience of employees departing for parental leave tended to be higher compared to the average experience of off-boarding employees. The nature of departures and the knowledge transfer process may vary between employees departing for parental leave and those who off-board, potentially influencing the relationship between experience and productivity differently.

Further discussing knowledge transfer, although the analysis did not reveal a direct relationship between the notice period and productivity, it emphasizes the importance of actions taken during this period to facilitate knowledge transfer and minimize disruptions. The notice period provides an opportunity for companies to plan for the departure of an employee and manage the transfer of their knowledge and responsibilities.

Similarly, off-boarding, the process of transitioning an employee out of a company, was found to potentially facilitate knowledge transfer and contribute to productivity gains. Companies should recognize the significance of off-boarding and implement strategies to make it a thoughtful and positive process. This includes capturing and transferring the departing employee's knowledge, implementing knowledge-sharing mechanisms, mentorship programs, or documentation processes. By ensuring a smooth transition and preserving valuable knowledge, companies can mitigate potential negative effects on productivity.

Effective knowledge transfer is critical during voluntary ET events to maintain productivity levels and ensure the continuity of operations. Companies should adopt strategies to capture explicit knowledge possessed by departing employees. This can include documenting standard operating procedures, conducting exit interviews, encouraging mentorship and coaching, and leveraging technology-based platforms for knowledge sharing. Which would help to reduce team productivity drop during on-boarding of an employee (Hanne Haave & Kaloudis, 2020).

### 5.3.2 Leadership and Culture of Knowledge Transfer

Speaking about knowledge transfer culture in the company, it is important to mention leadership behavior. It plays a critical role in shaping the culture and priorities of a company, including its approach to customer service (Pantouvakis & Patsiouras, 2016). Therefore, considering the section 5.3.1 it is important to remember that it should be up to leaders to create the positive environment for the knowledge transfer.

Leadership's commitment to knowledge transfer can be demonstrated in several ways. They can allocate resources and time for training and mentoring programs that facilitate the transfer of knowledge from experienced employees to others. Additionally, leaders can actively participate in knowledge-sharing activities themselves, setting an example for others to follow.

Furthermore, leaders can ensure that the workload is appropriately redistributed among the remaining team members during the transition period. They can monitor the workload distribution, identify potential bottlenecks, and make necessary adjustments to minimize disruptions and maintain productivity.

Which further leads discussion to how these can be tracked in the most efficient and effective way and raises the question of technological advancement and the strategic implementation of appropriate technologies.

### 5.3.3  Technological Advancement for Better Productivity

Technological development can streamline processes, enhance collaboration, and support knowledge sharing, thereby positively influencing team productivity. Technology plays a significant role in enhancing customer service productivity and facilitating knowledge transfer. Advancements in technology have transformed service delivery, particularly in B2B settings where customers often have complex needs. Modern technologies enable companies to become more customer-focused, leverage data and analytics for business value, and explore alternate sources for talent. (How the Fourth Industrial Revolution Transforms Customer Experience | McKinsey)

From the perspective of employee turnover, advanced technology can facilitate knowledge management and mitigate the negative effects of voluntary ET events on customer service productivity (Becerra-Fernandez & Sabherwal, 2015, pp. 7–9).

By adopting technology that enables efficient knowledge sharing, documentation, and collaboration, companies can ensure that valuable knowledge and skills are captured, retained, and easily accessible to employees. Additionally, data analysis can help companies identify critical touchpoints and make informed decisions to improve productivity levels, ultimately mitigating the impact of voluntary ET events on B2B customer service team productivity.

### 5.3.4  Conclusion and Limitations

The findings of this study support the notion that the effect of voluntary ET on productivity varies at different events and depends on the different level of experience of a B2B customer service employee. However, due to the lack of statistical significance in most correlations, further research with a larger sample size is required to obtain more conclusive findings which further leads us to the limitations of this study.

The first and main limitation of the study is the sample size. However, as discussed in the section 3.2, collecting data from one company offers practical advantages in terms of data accessibility and cooperation from stakeholders.

The following limitation of the study is that it provides only one perspective on the relationship between voluntary ET events and team productivity. There may be other factors and circumstances that can influence the outcomes. It is possible that if the number of departing employees reaches a certain threshold, team productivity could indeed decline. However, such wide research would not be possible within the scope of the current study due to limited resources.

Additionally, future analyses should consider the influence of leadership and technologies on productivity during voluntary ET events within the B2B customer service sector.

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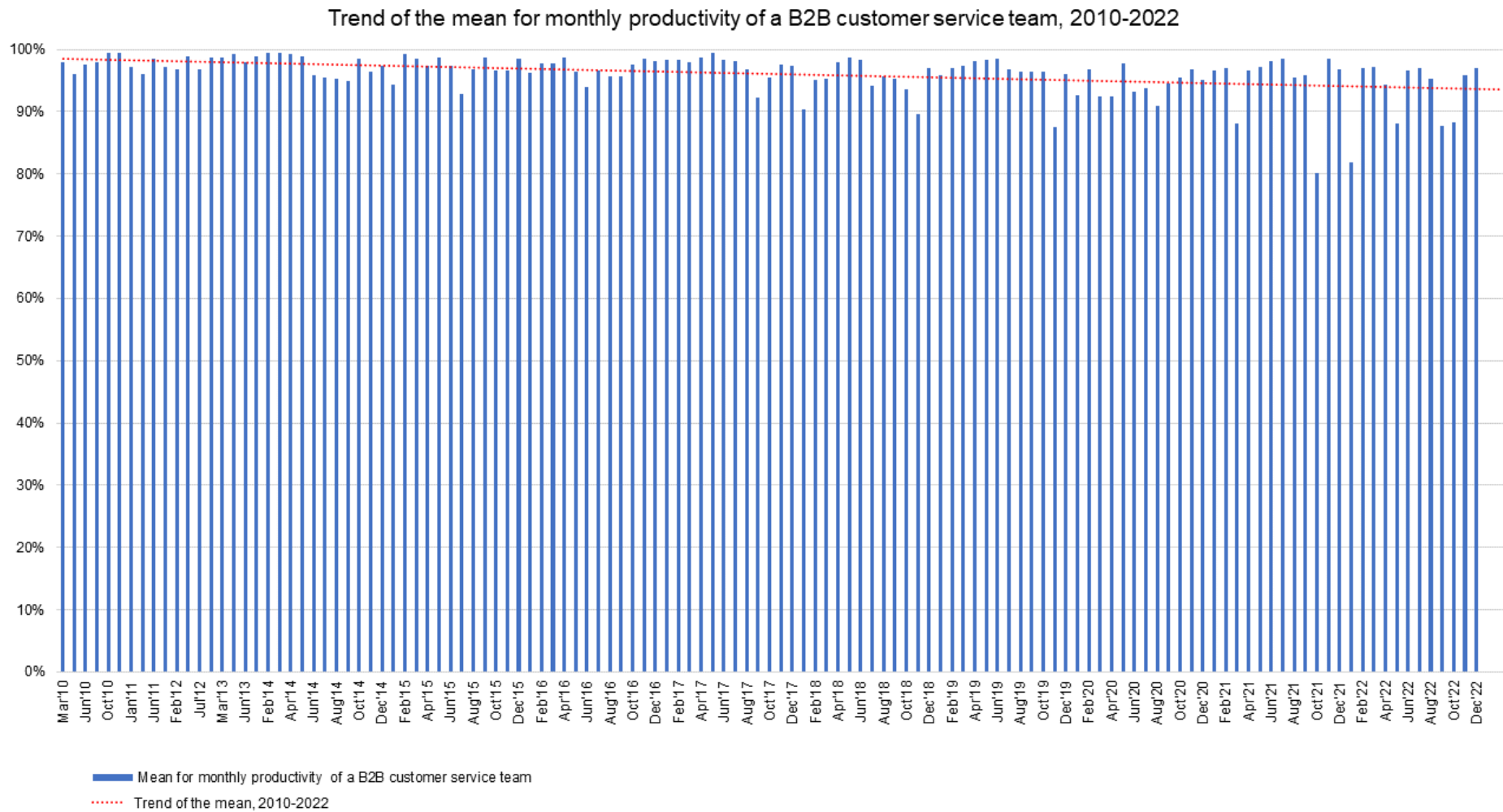
# Appendix 1

Table 20. Descriptive statistics for monthly Productivity of the B2B Customer service team

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation | | N | Minimum | Maximum | Mean | Std. Deviation | | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan'10 | 6 | 0.90 | 1.00 | 0.977 | 0.041 | May'14 | 11 | 0.94 | 1.00 | 0.989 | 0.019 | Sep'18 | 14 | 0.72 | 1.00 | 0.953 | 0.074 |
| Feb'10 | 6 | 0.90 | 1.00 | 0.983 | 0.041 | Jun'14 | 12 | 0.76 | 1.00 | 0.959 | 0.081 | Oct'18 | 14 | 0.78 | 1.00 | 0.935 | 0.081 |
| Mar'10 | 7 | 0.88 | 1.00 | 0.980 | 0.045 | Jul'14 | 12 | 0.77 | 1.00 | 0.954 | 0.086 | Nov'18 | 13 | 0.50 | 1.00 | 0.895 | 0.133 |
| Apr'10 | 7 | 0.77 | 1.00 | 0.957 | 0.085 | Aug'14 | 12 | 0.72 | 1.00 | 0.953 | 0.096 | Dec'18 | 12 | 0.89 | 1.00 | 0.969 | 0.040 |
| May'10 | 7 | 0.85 | 1.00 | 0.960 | 0.063 | Sep'14 | 12 | 0.50 | 1.00 | 0.949 | 0.142 | Jan'19 | 12 | 0.74 | 1.00 | 0.959 | 0.075 |
| Jun'10 | 7 | 0.85 | 1.00 | 0.976 | 0.056 | Oct'14 | 13 | 0.94 | 1.00 | 0.985 | 0.023 | Feb'19 | 12 | 0.89 | 1.00 | 0.971 | 0.040 |
| Jul'10 | 7 | 0.93 | 1.00 | 0.980 | 0.029 | Nov'14 | 11 | 0.82 | 1.00 | 0.965 | 0.063 | Mar'19 | 12 | 0.92 | 1.00 | 0.974 | 0.027 |
| Aug'10 | 7 | 0.80 | 1.00 | 0.967 | 0.075 | Dec'14 | 11 | 0.79 | 1.00 | 0.975 | 0.062 | Apr'19 | 12 | 0.92 | 1.00 | 0.982 | 0.024 |
| Sep'10 | 7 | 0.95 | 1.00 | 0.989 | 0.020 | Jan'15 | 10 | 0.62 | 1.00 | 0.944 | 0.119 | May'19 | 12 | 0.94 | 1.00 | 0.983 | 0.021 |
| Oct'10 | 8 | 0.95 | 1.00 | 0.994 | 0.018 | Feb'15 | 11 | 0.98 | 1.00 | 0.993 | 0.009 | Jun'19 | 12 | 0.95 | 1.00 | 0.986 | 0.017 |
| Nov'10 | 8 | 0.96 | 1.00 | 0.995 | 0.014 | Mar'15 | 12 | 0.93 | 1.00 | 0.986 | 0.022 | Jul'19 | 13 | 0.88 | 1.00 | 0.968 | 0.039 |
| Dec'10 | 8 | 0.60 | 1.00 | 0.914 | 0.162 | Apr'15 | 13 | 0.91 | 1.00 | 0.974 | 0.029 | Aug'19 | 10 | 0.86 | 1.00 | 0.964 | 0.047 |
| Jan'11 | 8 | 0.86 | 1.00 | 0.971 | 0.051 | May'15 | 13 | 0.96 | 1.00 | 0.988 | 0.014 | Sep'19 | 11 | 0.90 | 1.00 | 0.965 | 0.038 |
| Feb'11 | 8 | 0.93 | 1.00 | 0.990 | 0.024 | Jun'15 | 13 | 0.85 | 1.00 | 0.975 | 0.046 | Oct'19 | 13 | 0.89 | 1.00 | 0.965 | 0.037 |
| Mar'11 | 7 | 0.78 | 1.00 | 0.961 | 0.081 | Jul'15 | 13 | 0.73 | 1.00 | 0.928 | 0.103 | Nov'19 | 12 | 0.00 | 1.00 | 0.875 | 0.281 |
| Apr'11 | 8 | 0.92 | 1.00 | 0.988 | 0.028 | Aug'15 | 11 | 0.89 | 1.00 | 0.968 | 0.044 | Dec'19 | 11 | 0.84 | 1.00 | 0.961 | 0.046 |
| May'11 | 7 | 0.90 | 1.00 | 0.971 | 0.040 | Sep'15 | 11 | 0.95 | 1.00 | 0.986 | 0.016 | Jan'20 | 14 | 0.61 | 1.00 | 0.927 | 0.111 |
| Jun'11 | 7 | 0.95 | 1.00 | 0.984 | 0.021 | Oct'15 | 13 | 0.90 | 1.00 | 0.966 | 0.037 | Feb'20 | 13 | 0.83 | 1.00 | 0.968 | 0.052 |
| Jul'11 | 7 | 0.88 | 1.00 | 0.971 | 0.050 | Nov'15 | 13 | 0.85 | 1.00 | 0.965 | 0.052 | Mar'20 | 15 | 0.54 | 1.00 | 0.925 | 0.128 |
| Aug'11 | 8 | 0.91 | 1.00 | 0.979 | 0.039 | Dec'15 | 13 | 0.93 | 1.00 | 0.985 | 0.021 | Apr'20 | 16 | 0.38 | 1.00 | 0.925 | 0.158 |
| Sep'11 | 7 | 0.70 | 1.00 | 0.939 | 0.110 | Jan'16 | 13 | 0.77 | 1.00 | 0.962 | 0.063 | May'20 | 14 | 0.87 | 1.00 | 0.977 | 0.039 |
| Oct'11 | 7 | 0.93 | 1.00 | 0.986 | 0.026 | Feb'16 | 13 | 0.90 | 1.00 | 0.978 | 0.030 | Jun'20 | 13 | 0.50 | 1.00 | 0.932 | 0.134 |
| Nov'11 | 7 | 0.91 | 1.00 | 0.984 | 0.034 | Mar'16 | 13 | 0.90 | 1.00 | 0.978 | 0.034 | Jul'20 | 14 | 0.46 | 1.00 | 0.937 | 0.140 |
| Dec'11 | 9 | 0.80 | 1.00 | 0.967 | 0.067 | Apr'16 | 17 | 0.89 | 1.00 | 0.986 | 0.027 | Aug'20 | 14 | 0.05 | 1.00 | 0.909 | 0.249 |
| Jan'12 | 10 | 0.86 | 1.00 | 0.975 | 0.047 | May'16 | 15 | 0.55 | 1.00 | 0.964 | 0.115 | Sep'20 | 13 | 0.73 | 1.00 | 0.945 | 0.091 |
| Feb'12 | 10 | 0.85 | 1.00 | 0.968 | 0.051 | Jun'16 | 15 | 0.78 | 1.00 | 0.940 | 0.069 | Oct'20 | 14 | 0.71 | 1.00 | 0.954 | 0.075 |
| Mar'12 | 10 | 0.91 | 1.00 | 0.979 | 0.034 | Jul'16 | 15 | 0.79 | 1.00 | 0.967 | 0.061 | Nov'20 | 14 | 0.89 | 1.00 | 0.967 | 0.038 |
| Apr'12 | 10 | 0.91 | 1.00 | 0.989 | 0.028 | Aug'16 | 15 | 0.69 | 1.00 | 0.956 | 0.084 | Dec'20 | 14 | 0.81 | 1.00 | 0.951 | 0.067 |
| May'12 | 10 | 0.89 | 1.00 | 0.980 | 0.036 | Sep'16 | 14 | 0.80 | 1.00 | 0.956 | 0.060 | Jan'21 | 13 | 0.88 | 1.00 | 0.966 | 0.041 |
| Jun'12 | 10 | 0.91 | 1.00 | 0.988 | 0.028 | Oct'16 | 13 | 0.87 | 1.00 | 0.976 | 0.041 | Feb'21 | 14 | 0.88 | 1.00 | 0.969 | 0.039 |
| Jul'12 | 10 | 0.74 | 1.00 | 0.969 | 0.081 | Nov'16 | 13 | 0.95 | 1.00 | 0.985 | 0.017 | Mar'21 | 14 | 0.00 | 1.00 | 0.881 | 0.275 |
| Aug'12 | 10 | 0.91 | 1.00 | 0.975 | 0.035 | Dec'16 | 13 | 0.90 | 1.00 | 0.981 | 0.029 | Apr'21 | 14 | 0.76 | 1.00 | 0.966 | 0.070 |
| Sep'12 | 10 | 0.93 | 1.00 | 0.987 | 0.022 | Jan'17 | 13 | 0.93 | 1.00 | 0.982 | 0.025 | May'21 | 15 | 0.77 | 1.00 | 0.973 | 0.063 |
| Oct'12 | 10 | 0.98 | 1.00 | 0.992 | 0.009 | Feb'17 | 14 | 0.95 | 1.00 | 0.984 | 0.020 | Jun'21 | 15 | 0.91 | 1.00 | 0.982 | 0.029 |
| Nov'12 | 10 | 0.92 | 1.00 | 0.985 | 0.026 | Apr'17 | 13 | 0.93 | 1.00 | 0.987 | 0.020 | Jul'21 | 15 | 0.89 | 1.00 | 0.985 | 0.029 |
| Dec'12 | 11 | 0.94 | 1.00 | 0.986 | 0.022 | May'17 | 13 | 0.97 | 1.00 | 0.995 | 0.011 | Aug'21 | 15 | 0.70 | 1.00 | 0.955 | 0.092 |
| Jan'13 | 11 | 0.92 | 1.00 | 0.984 | 0.028 | Jun'17 | 12 | 0.91 | 1.00 | 0.983 | 0.028 | Sep'21 | 15 | 0.75 | 1.00 | 0.958 | 0.075 |
| Feb'13 | 11 | 0.40 | 1.00 | 0.934 | 0.178 | Jul'17 | 14 | 0.91 | 1.00 | 0.981 | 0.025 | Oct'21 | 15 | -1.00 | 1.00 | 0.801 | 0.538 |
| Mar'13 | 11 | 0.94 | 1.00 | 0.986 | 0.020 | Aug'17 | 13 | 0.78 | 1.00 | 0.968 | 0.059 | Nov'21 | 14 | 0.88 | 1.00 | 0.984 | 0.034 |
| Apr'13 | 11 | 0.95 | 1.00 | 0.992 | 0.015 | Sep'17 | 13 | 0.20 | 1.00 | 0.922 | 0.218 | Dec'21 | 15 | 0.84 | 1.00 | 0.967 | 0.049 |
| May'13 | 11 | 0.93 | 1.00 | 0.991 | 0.022 | Oct'17 | 13 | 0.78 | 1.00 | 0.955 | 0.069 | Jan'22 | 16 | -0.50 | 1.00 | 0.818 | 0.429 |
| Jun'13 | 10 | 0.93 | 1.00 | 0.979 | 0.027 | Nov'17 | 13 | 0.92 | 1.00 | 0.976 | 0.030 | Feb'22 | 17 | 0.75 | 1.00 | 0.970 | 0.068 |
| Jul'13 | 11 | 0.88 | 1.00 | 0.974 | 0.042 | Dec'17 | 14 | 0.83 | 1.00 | 0.973 | 0.047 | Mar'22 | 16 | 0.81 | 1.00 | 0.971 | 0.055 |
| Aug'13 | 10 | 0.95 | 1.00 | 0.988 | 0.018 | Jan'18 | 14 | 0.00 | 1.00 | 0.904 | 0.262 | Apr'22 | 16 | 0.50 | 1.00 | 0.944 | 0.125 |
| Sep'13 | 11 | -3.00 | 1.00 | 0.625 | 1.203 | Feb'18 | 13 | 0.56 | 1.00 | 0.951 | 0.120 | May'22 | 16 | 0.31 | 1.00 | 0.881 | 0.202 |
| Oct'13 | 10 | 0.96 | 1.00 | 0.990 | 0.015 | Mar'18 | 13 | 0.56 | 1.00 | 0.954 | 0.120 | Jun'22 | 16 | 0.68 | 1.00 | 0.966 | 0.079 |
| Nov'13 | 12 | 0.00 | 1.00 | 0.865 | 0.283 | Apr'18 | 14 | 0.89 | 1.00 | 0.979 | 0.034 | Jul'22 | 16 | 0.79 | 1.00 | 0.970 | 0.059 |
| Dec'13 | 11 | 0.85 | 1.00 | 0.953 | 0.062 | May'18 | 13 | 0.94 | 1.00 | 0.986 | 0.019 | Aug'22 | 17 | 0.58 | 1.00 | 0.953 | 0.101 |
| Jan'14 | 12 | 0.85 | 1.00 | 0.972 | 0.050 | Jun'18 | 13 | 0.91 | 1.00 | 0.984 | 0.026 | Sep'22 | 17 | 0.33 | 1.00 | 0.878 | 0.191 |
| Feb'14 | 12 | 0.96 | 1.00 | 0.995 | 0.012 | Jul'18 | 12 | 0.76 | 1.00 | 0.941 | 0.088 | Oct'22 | 18 | 0.00 | 1.00 | 0.882 | 0.270 |
| Mar'14 | 12 | 0.98 | 1.00 | 0.995 | 0.008 | Aug'18 | 12 | 0.86 | 1.00 | 0.956 | 0.049 | Nov'22 | 19 | 0.63 | 1.00 | 0.958 | 0.093 |
| Apr'14 | 12 | 0.96 | 1.00 | 0.993 | 0.012 | | | | | | | Dec'22 | 18 | 0.70 | 1.00 | 0.970 | 0.070 |

## Appendix 2



Figure 2. Trend of the mean for monthly productivity of a B2B customer service team, 2010-2022
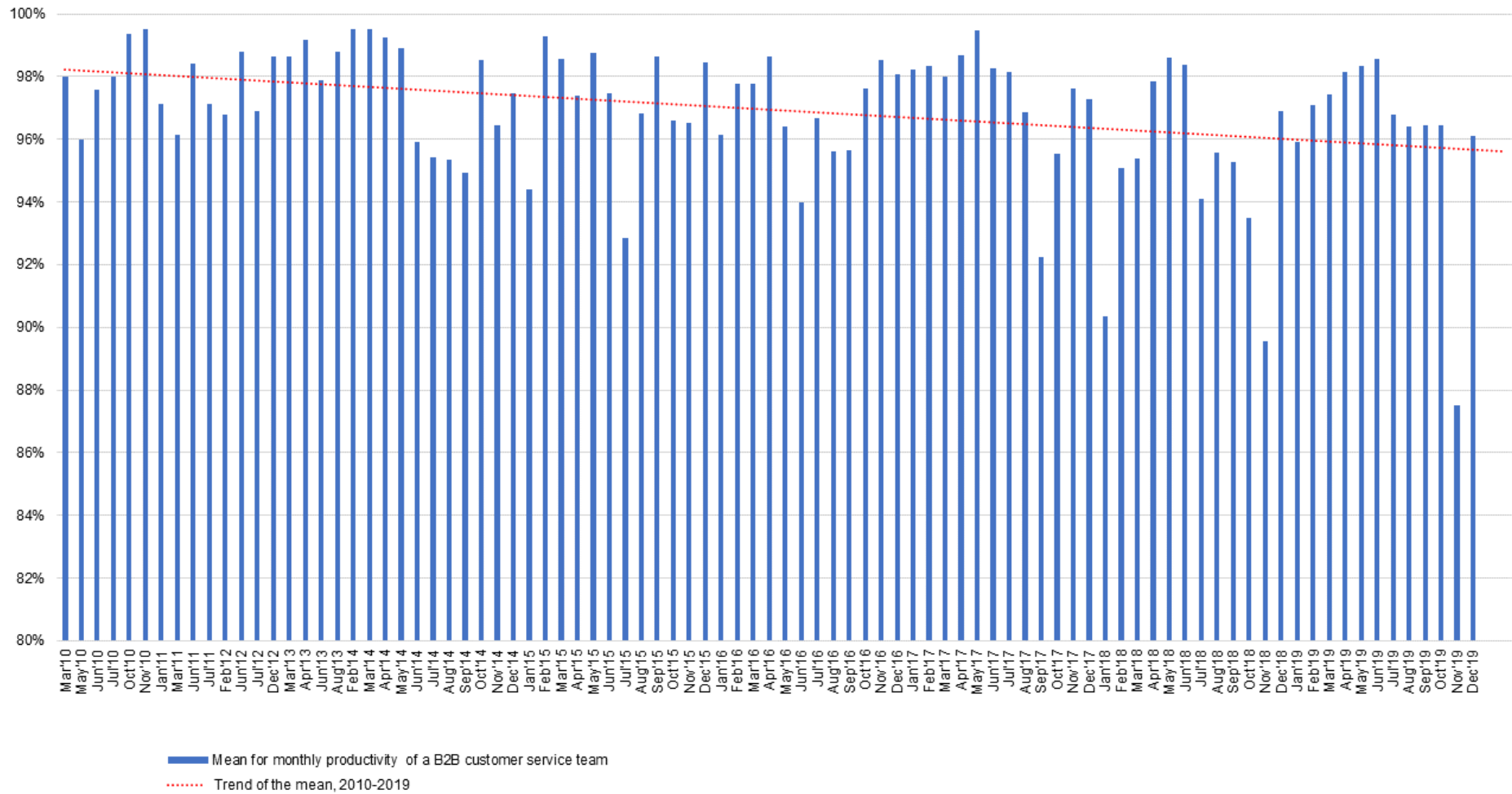
Figure 3. Trend of the mean for monthly productivity of a B2B customer service team, 2010-2019
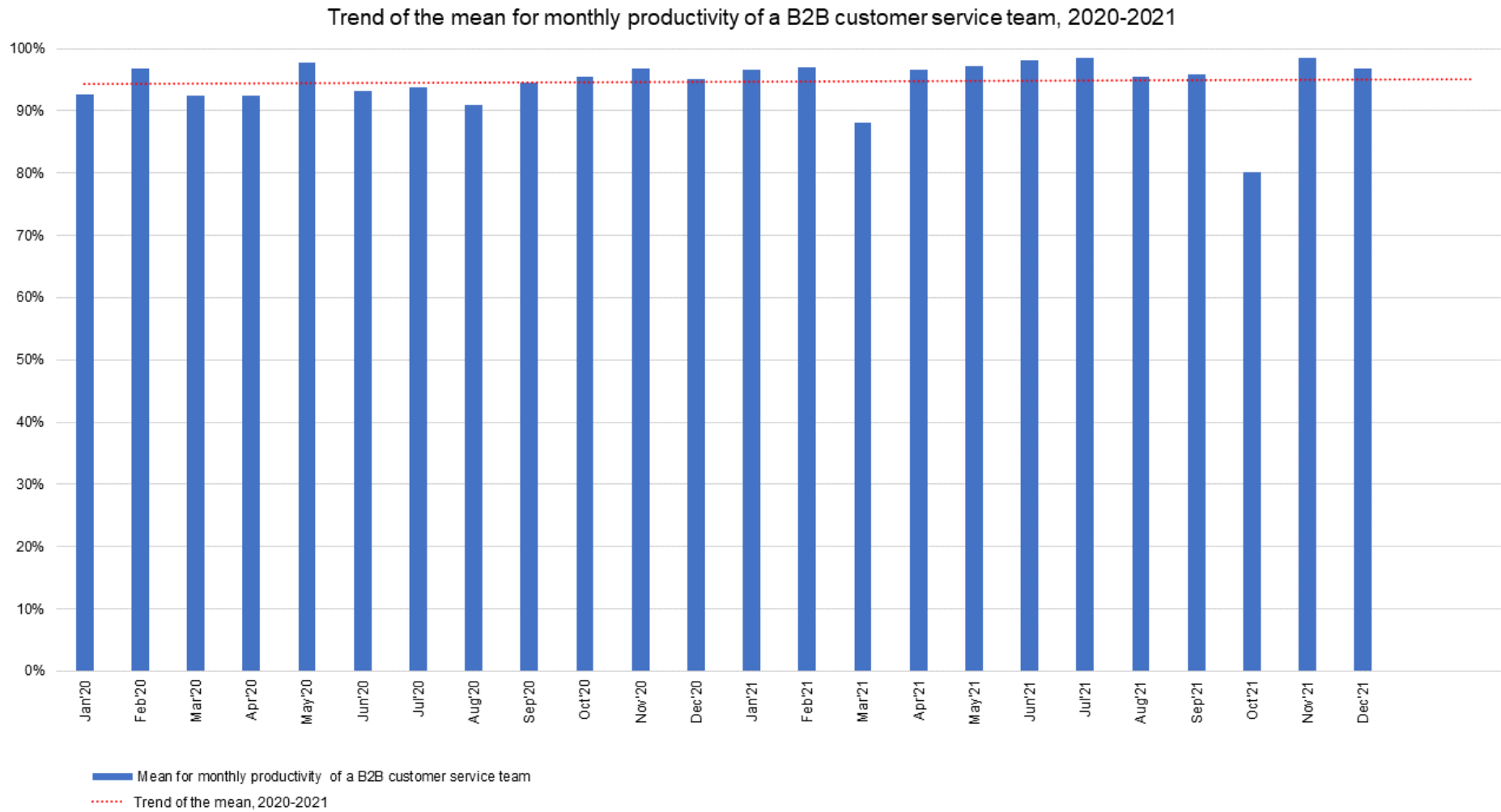
Figure 4. Trend of the mean for monthly productivity of a B2B customer service team, 2020-2021
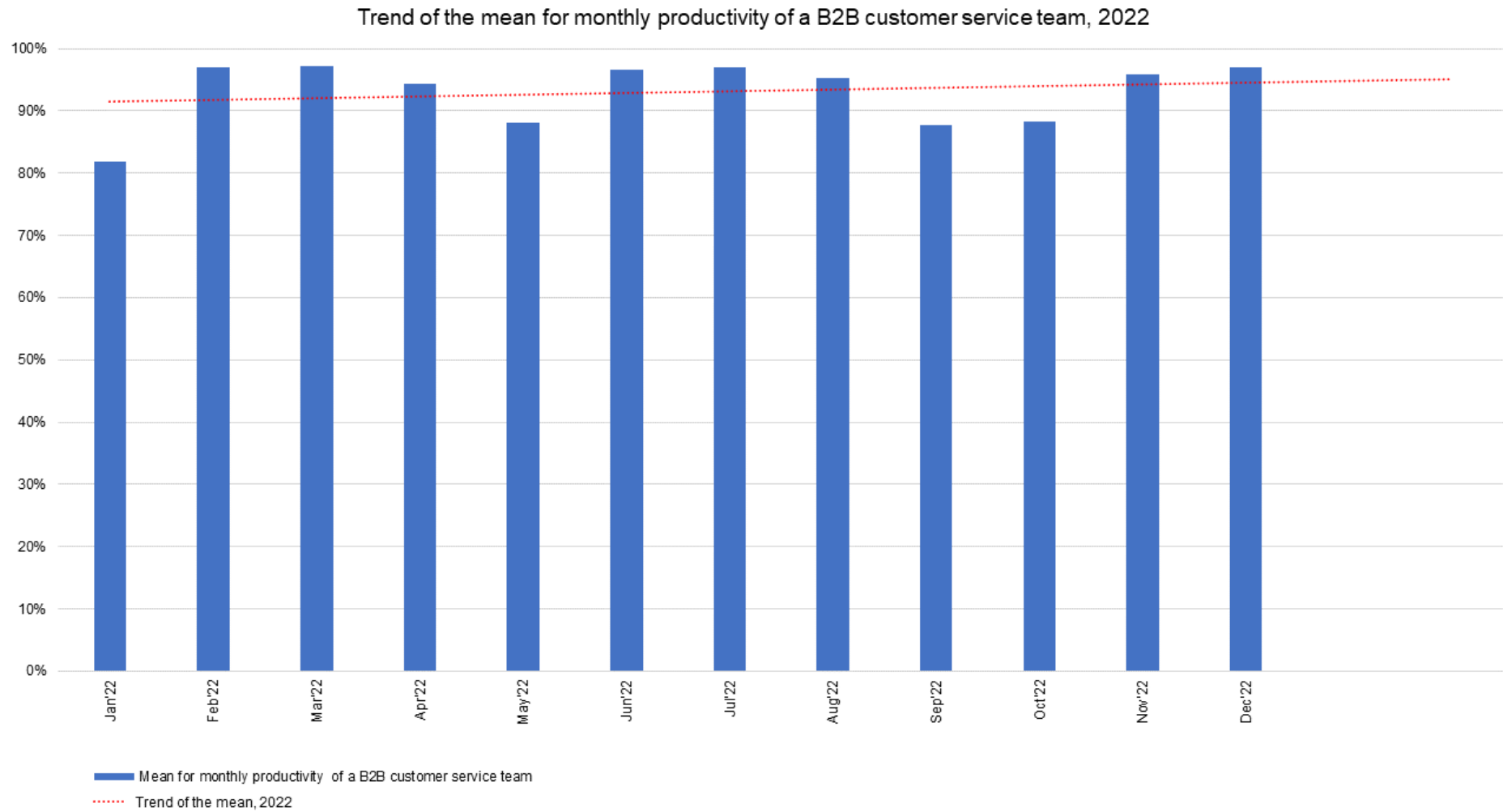
Figure 5. Trend of the mean for monthly productivity of a B2B customer service team, 2022

Figure 6. Mean for team productivity versus productivity of individual employees, 2010

Figure 7. Mean for team productivity versus productivity of individual employees, 2011

Figure 8. Mean for team productivity versus productivity of individual employees, 2012

Figure 9. Mean for team productivity versus productivity of individual employees, 2013

Figure 10. Mean for team productivity versus productivity of individual employees, 2014
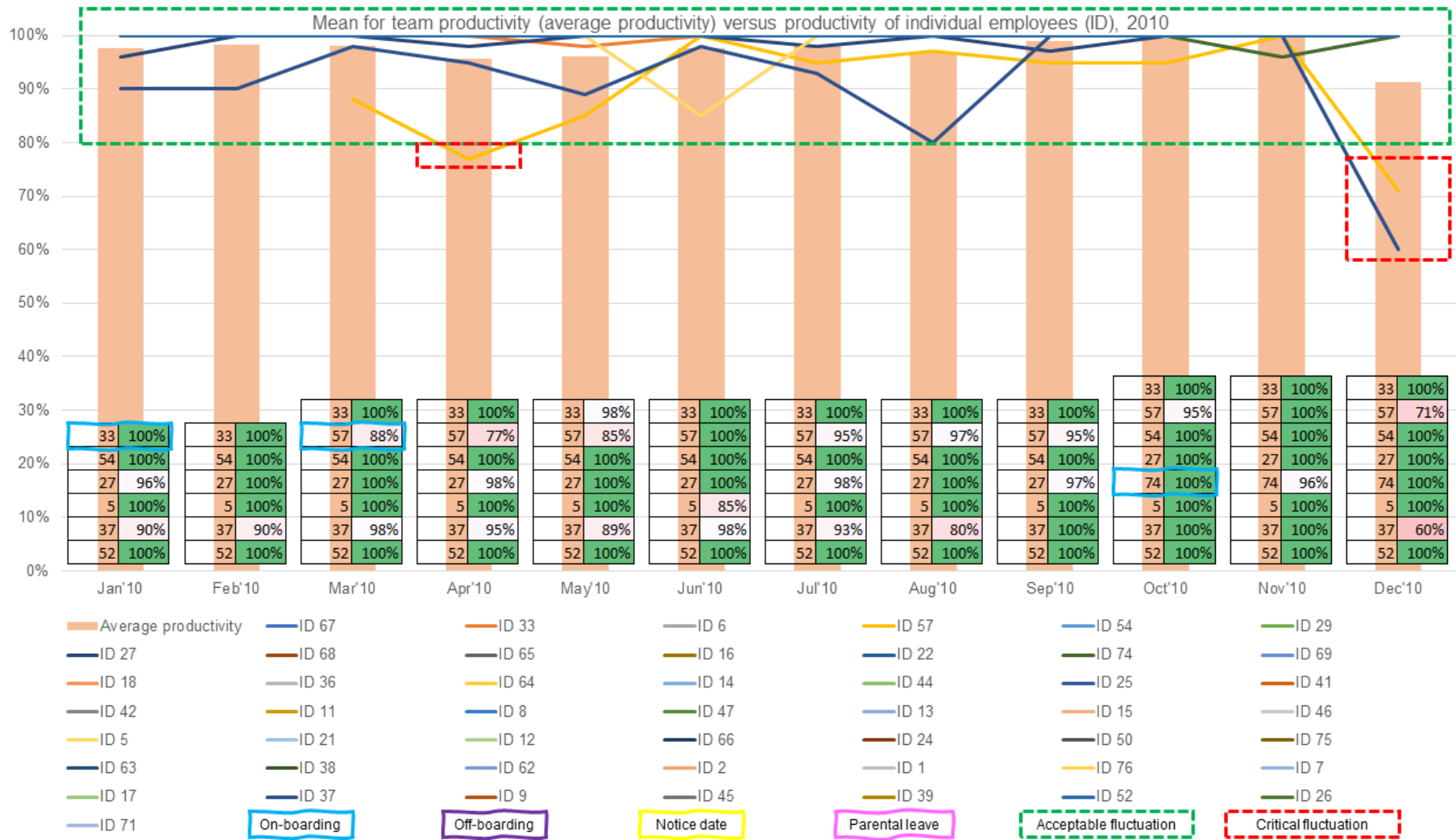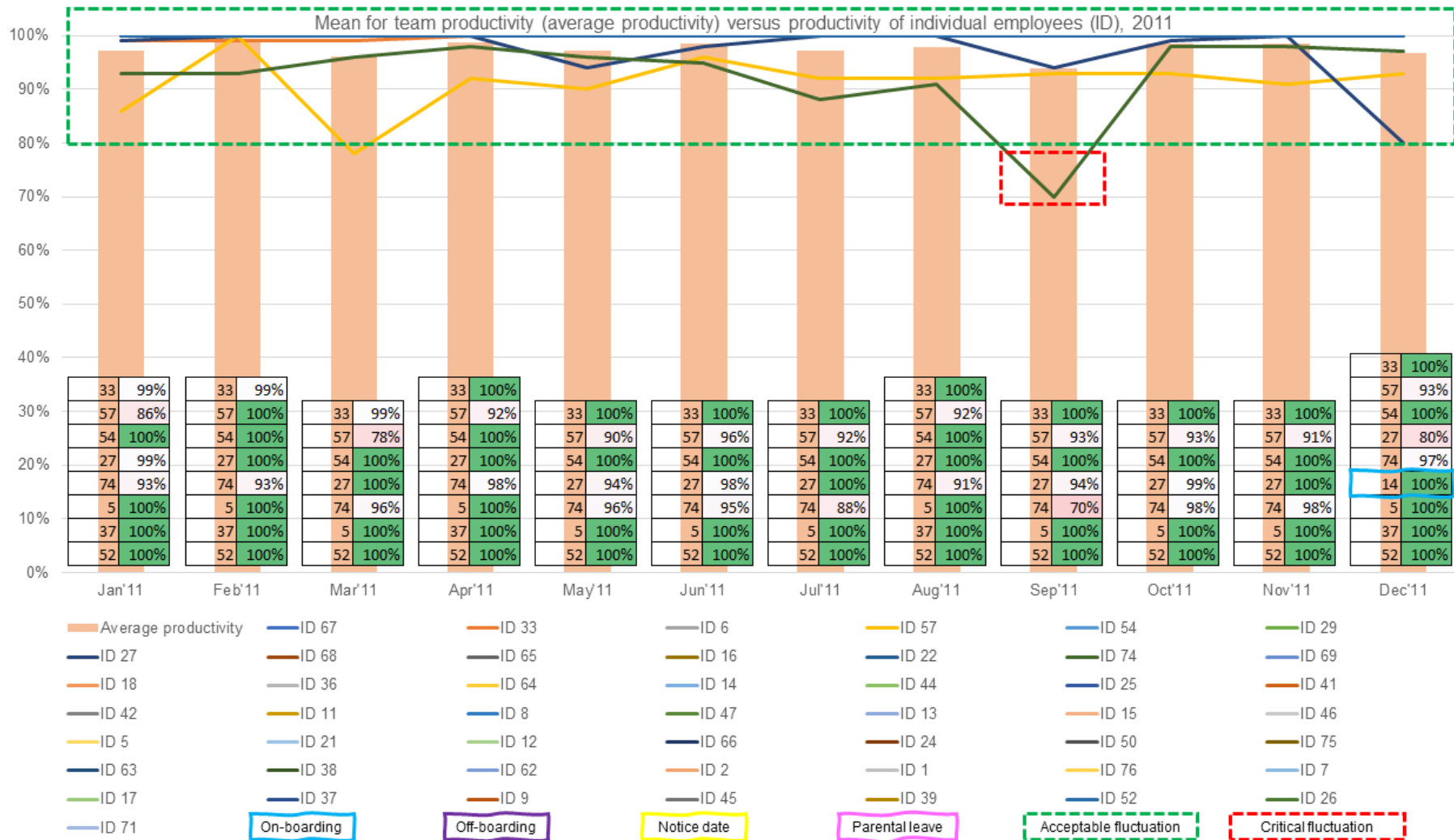
Figure 11. Mean for team productivity versus productivity of individual employees, 2015

Figure 12. Mean for team productivity versus productivity of individual employees, 2016
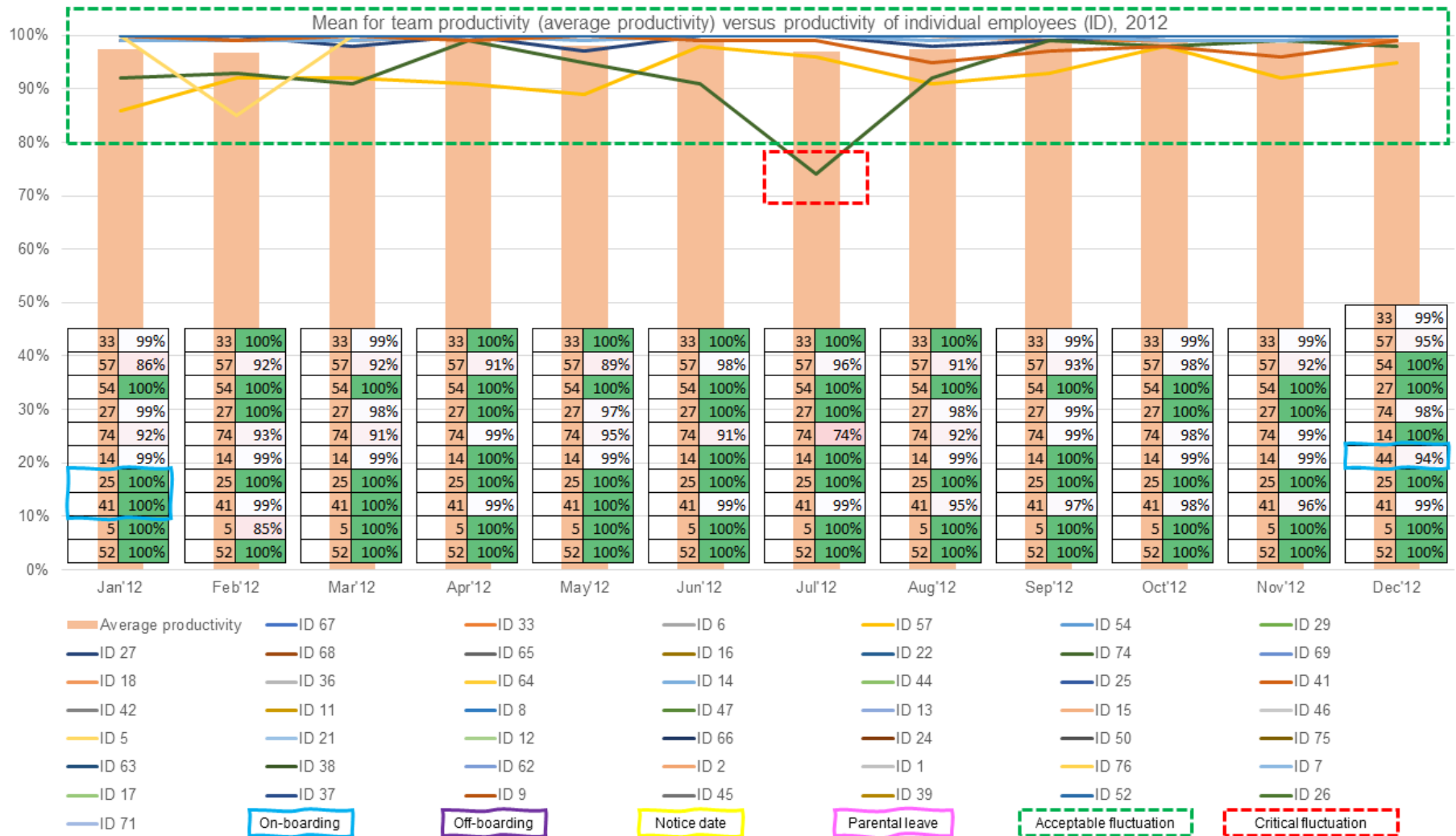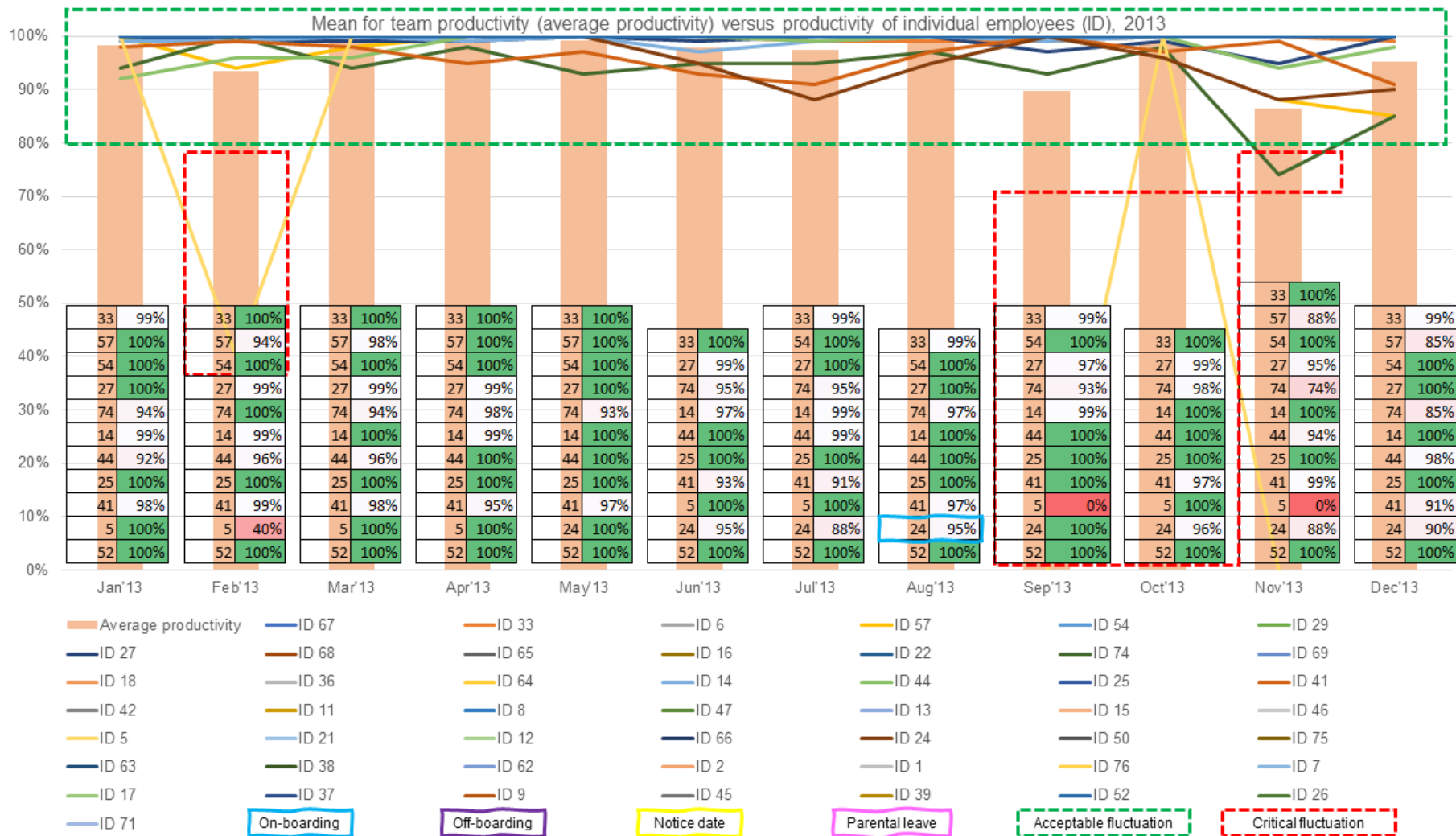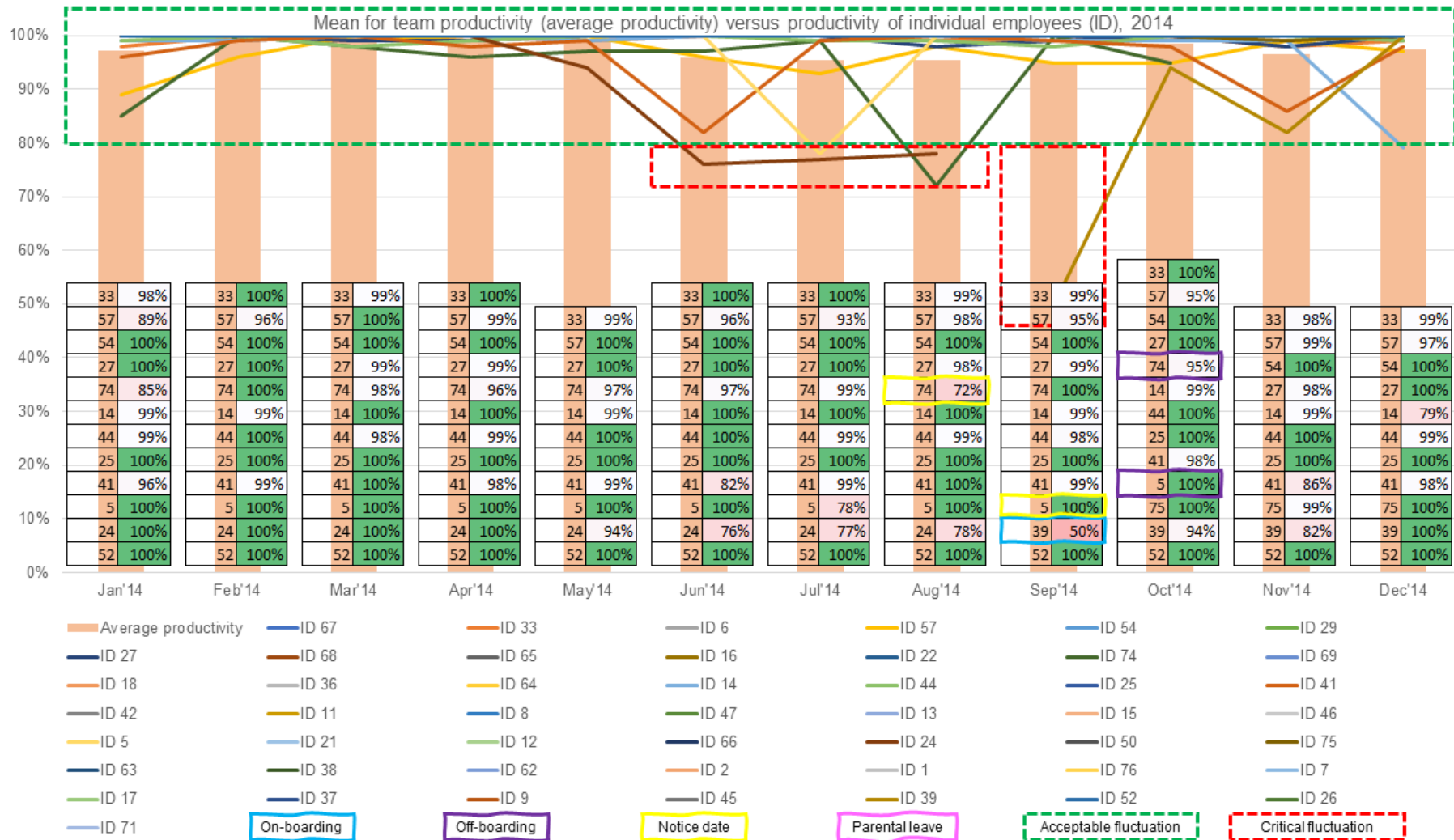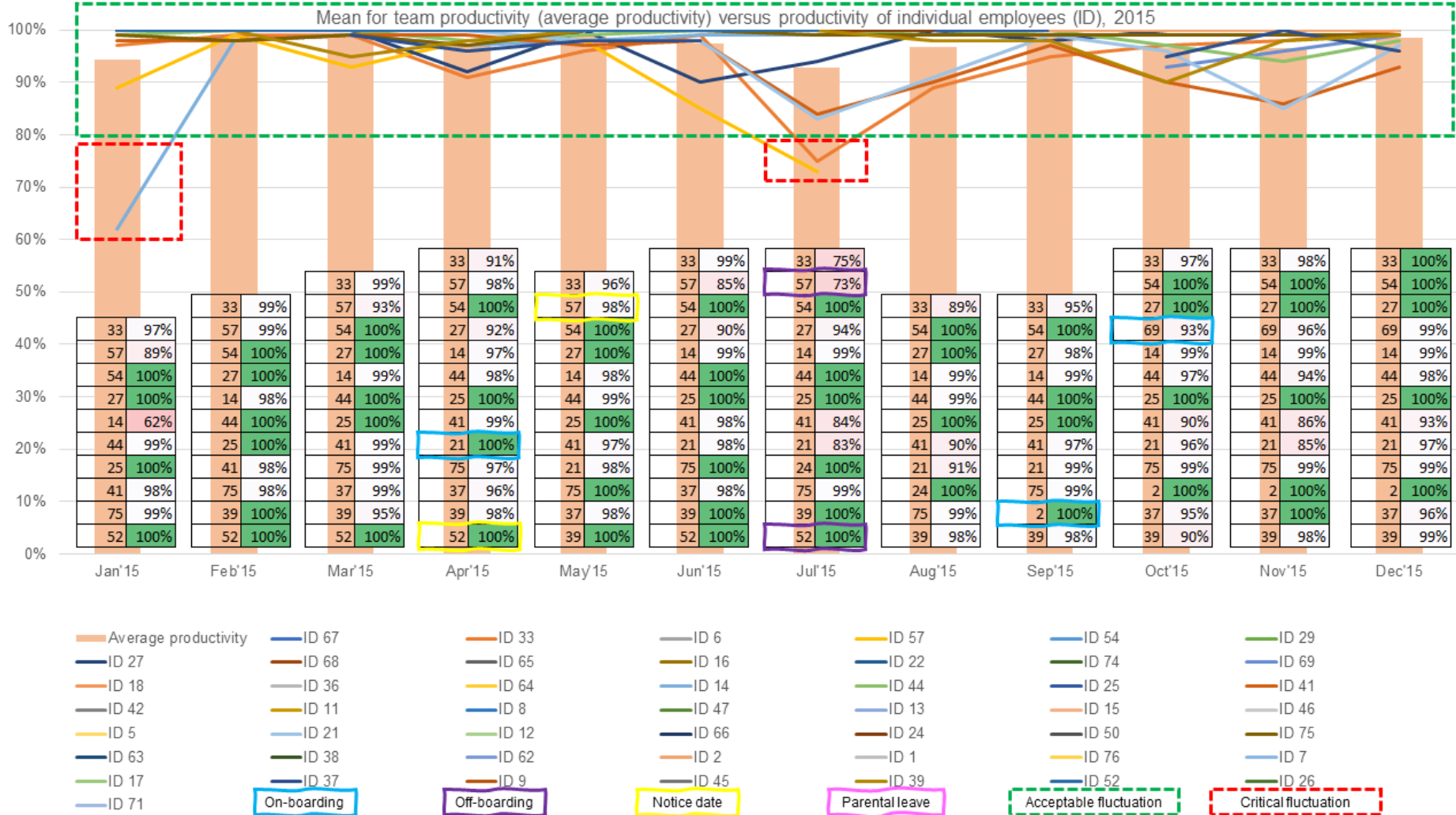
Mean for team productivity (average productivity) versus productivity of individual employees (ID), 2017

| ID | Jan'17 | ID | Feb'17 | ID | Mar'17 | ID | Apr'17 | ID | May'17 | ID | Jun'17 | ID | Jul'17 | ID | Aug'17 | ID | Sep'17 | ID | Oct'17 | ID | Nov'17 | ID | Dec'17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 33 | 96% | | | | | | | | | 33 | 98% | | | | | | | | | 33 | 99% |
| 33 | 95% | 54 | 100% | 33 | 100% | 33 | 98% | 33 | 100% | | | 54 | 100% | 33 | 98% | 33 | 95% | 33 | 100% | 33 | 97% | 54 | 100% |
| 54 | 100% | 27 | 100% | 54 | 100% | 54 | 100% | 54 | 100% | 33 | 97% | 27 | 95% | 27 | 95% | 54 | 100% | 54 | 100% | 54 | 100% | 27 | 92% |
| 27 | 100% | 65 | 98% | 27 | 100% | 27 | 100% | 27 | 100% | 54 | 100% | 65 | 98% | 65 | 98% | 27 | 100% | 27 | 88% | 27 | 100% | 65 | 96% |
| 69 | 100% | 69 | 96% | 65 | 98% | 65 | 99% | 65 | 97% | 27 | 100% | 69 | 91% | 69 | 96% | 65 | 20% | 65 | 98% | 65 | 98% | 69 | 100% |
| 44 | 99% | 44 | 100% | 69 | 95% | 69 | 100% | 69 | 100% | 65 | 99% | 44 | 100% | 44 | 100% | 69 | 97% | 69 | 100% | 69 | 97% | 44 | 100% |
| 25 | 100% | 25 | 100% | 44 | 83% | 44 | 99% | 44 | 99% | 69 | 100% | 25 | 100% | 25 | 100% | 44 | 100% | 44 | 100% | 44 | 100% | 25 | 100% |
| 41 | 94% | 41 | 95% | 25 | 100% | 25 | 100% | 25 | 100% | 44 | 98% | 41 | 97% | 41 | 96% | 25 | 100% | 25 | 100% | 25 | 100% | 41 | 100% |
| 13 | 99% | 13 | 95% | 41 | 100% | 41 | 93% | 41 | 100% | 25 | 100% | 8 | 100% | 8 | 100% | 41 | 100% | 41 | 100% | 41 | 92% | 8 | 83% |
| 15 | 93% | 15 | 98% | 13 | 99% | 13 | 99% | 13 | 97% | 41 | 91% | 13 | 99% | 13 | 98% | 8 | 100% | 8 | 88% | 8 | 100% | 13 | 96% |
| 46 | 98% | 46 | 100% | 15 | 98% | 15 | 98% | | | 13 | 95% | 15 | 99% | 15 | 78% | 13 | 97% | 13 | 96% | 13 | 95% | 15 | 98% |
| 75 | 99% | 75 | 100% | 75 | 100% | 75 | 100% | 75 | 100% | 15 | 99% | 75 | 99% | 75 | 100% | 15 | 95% | 15 | 94% | 15 | 92% | 50 | 100% |
| 37 | 100% | 37 | 100% | 37 | 100% | 37 | 100% | 37 | 100% | 75 | 100% | 37 | 100% | | | 75 | 99% | 75 | 100% | 75 | 98% | 75 | 98% |
| 39 | 100% | 39 | 99% | 39 | 100% | 39 | 97% | 39 | 100% | 39 | 100% | 39 | 98% | 39 | 97% | 39 | 96% | 39 | 78% | 39 | 100% | 39 | 100% |

Legend: Average productivity, ID 67, ID 33, ID 6, ID 57, ID 54, ID 29, ID 27, ID 68, ID 65, ID 16, ID 22, ID 74, ID 69, ID 18, ID 36, ID 64, ID 14, ID 44, ID 25, ID 41, ID 42, ID 11, ID 8, ID 47, ID 13, ID 15, ID 46, ID 5, ID 21, ID 12, ID 66, ID 24, ID 50, ID 75, ID 63, ID 38, ID 62, ID 2, ID 1, ID 76, ID 7, ID 17, ID 37, ID 9, ID 45, ID 39, ID 52, ID 26, ID 71

On-boarding, Off-boarding, Notice date, Parental leave, Acceptable fluctuation, Critical fluctuation

Figure 13. Mean for team productivity versus productivity of individual employees, 2017

67

Figure 14. Mean for team productivity versus productivity of individual employees, 2018

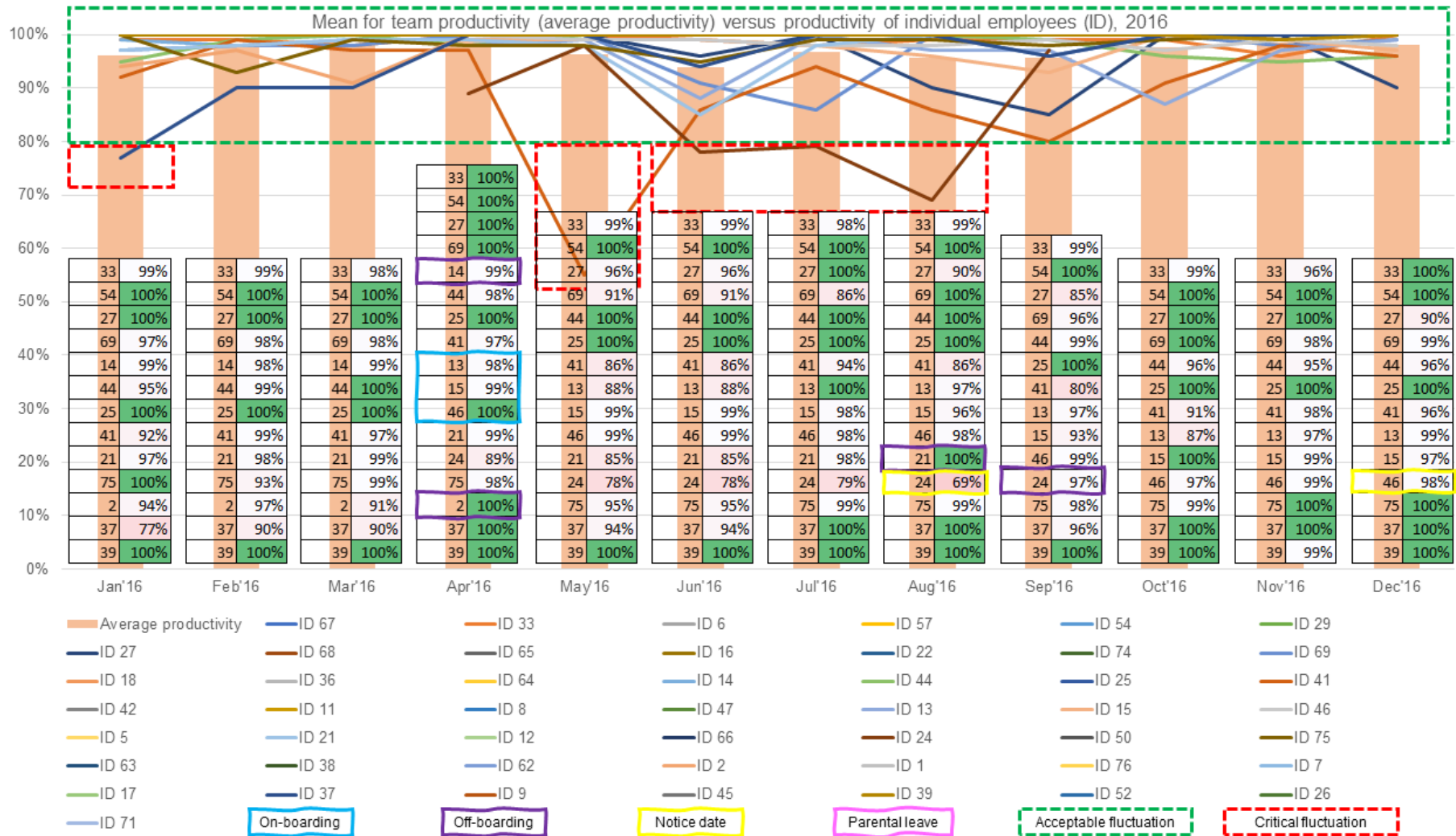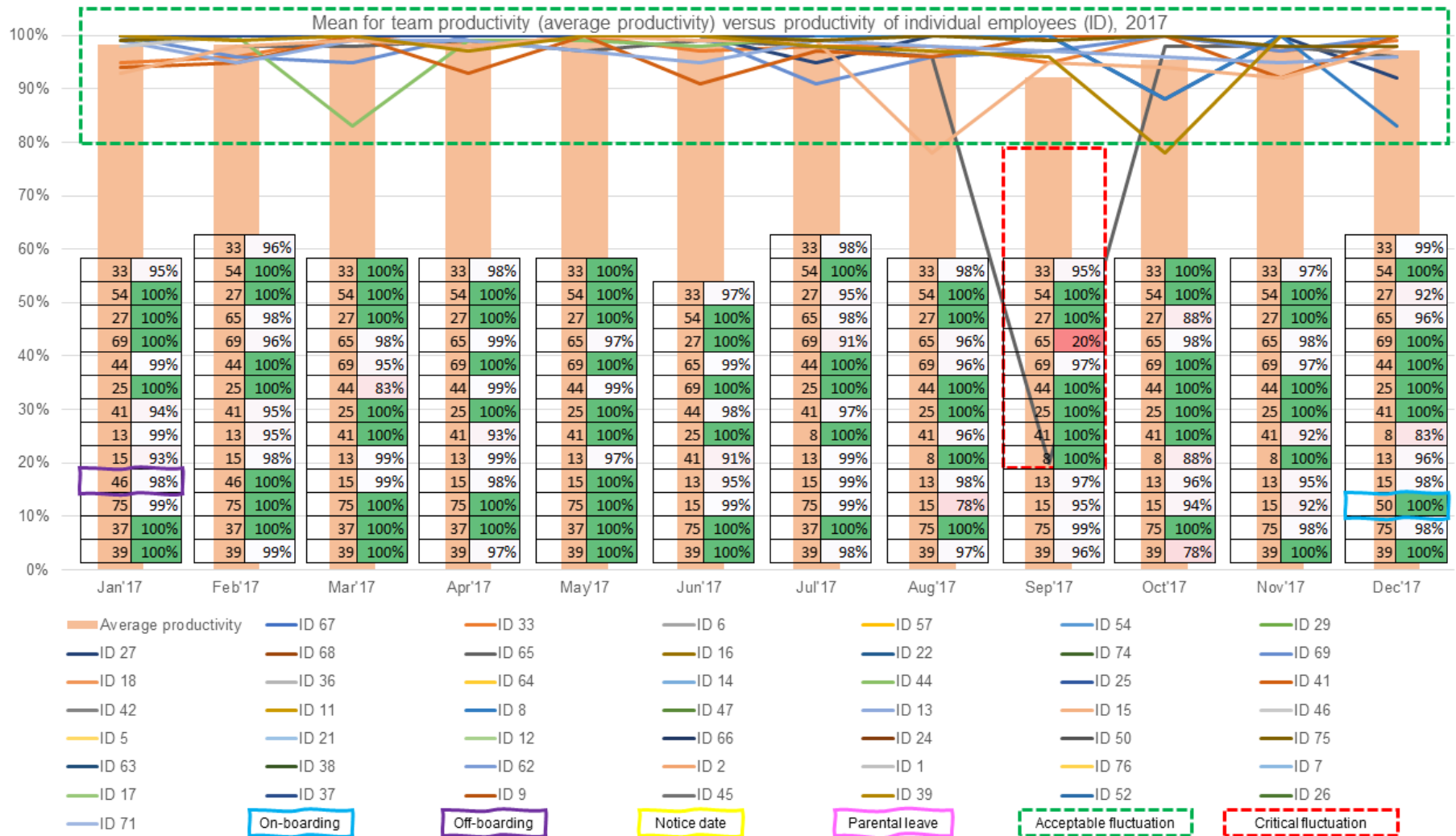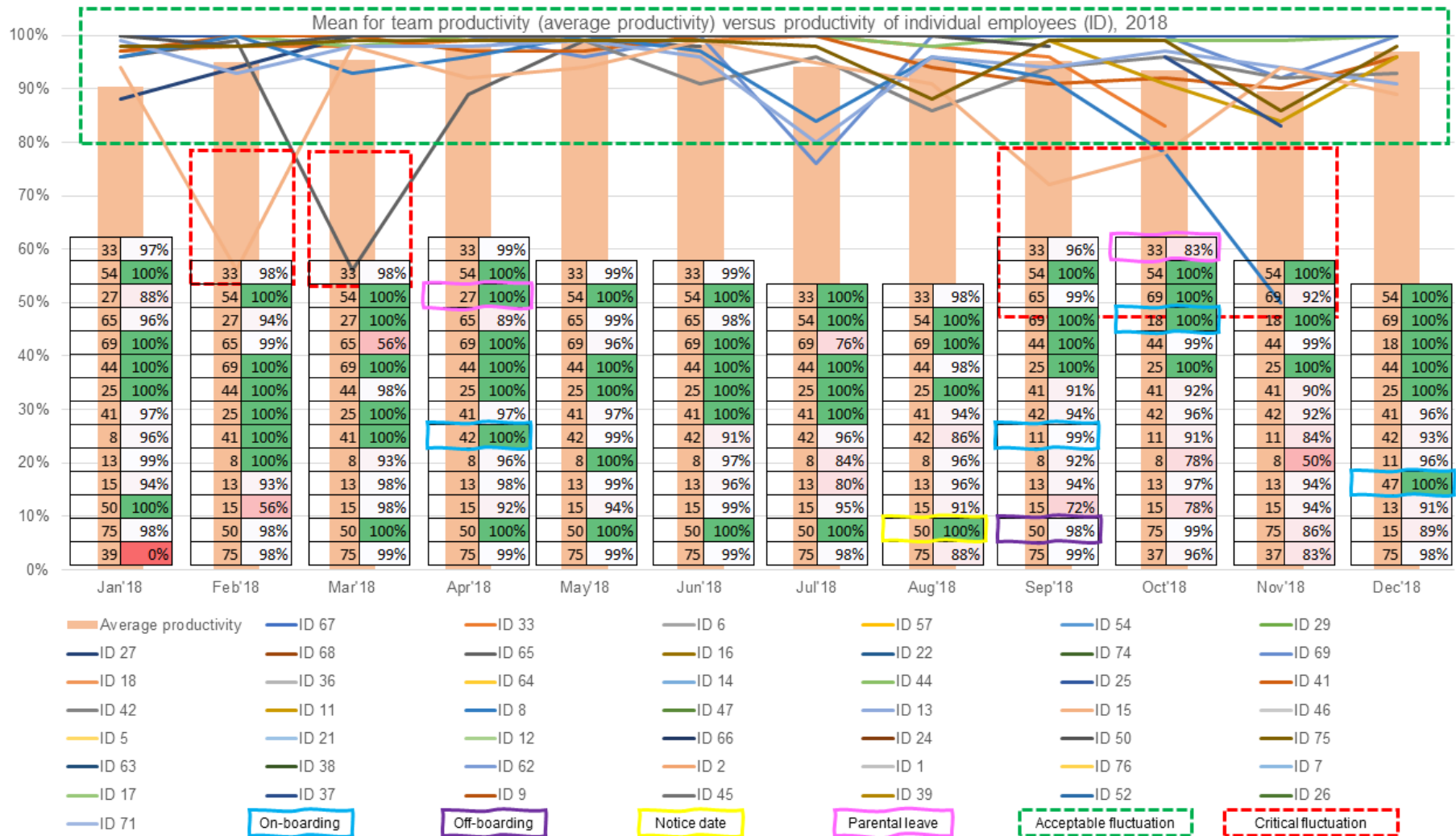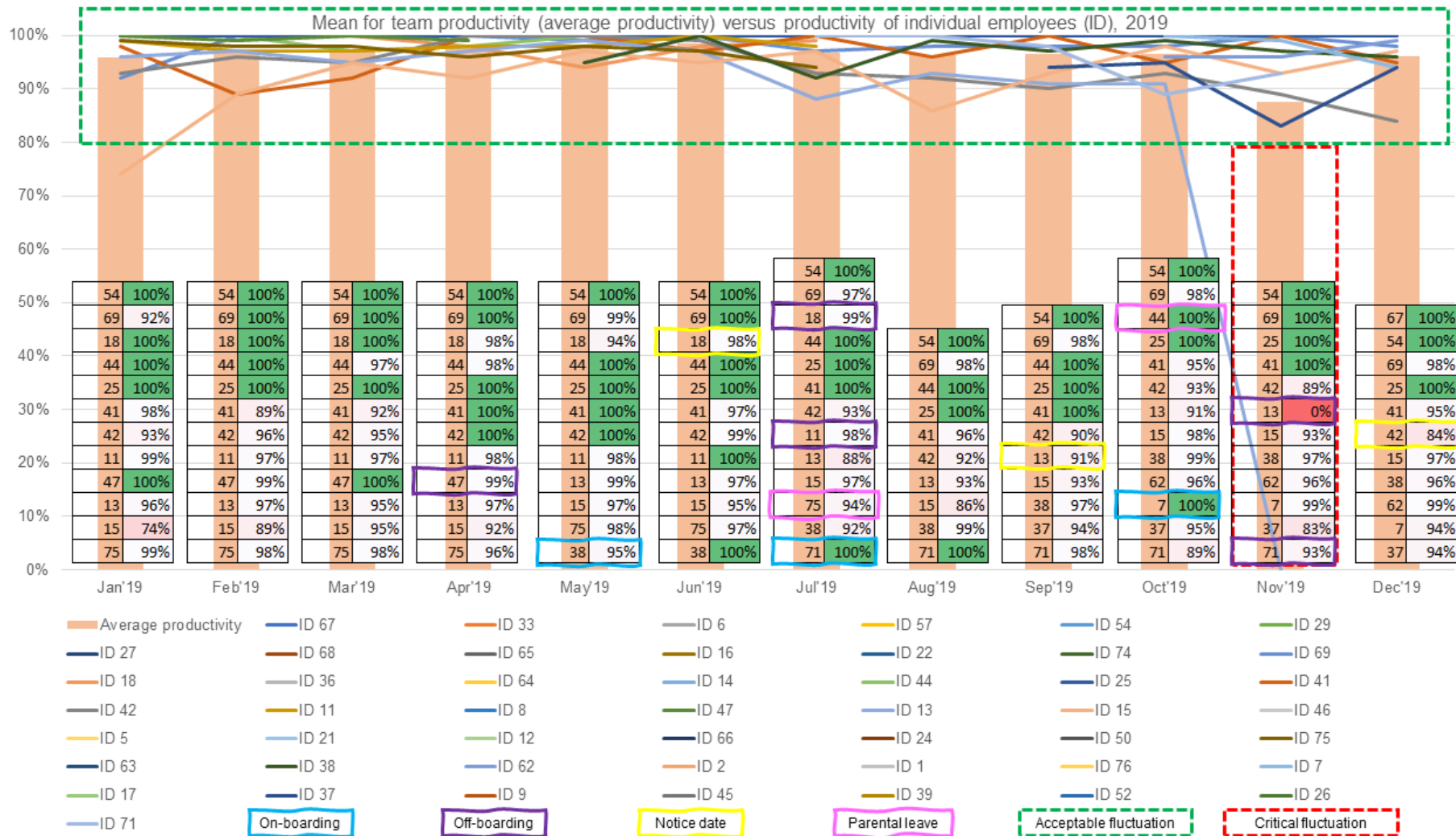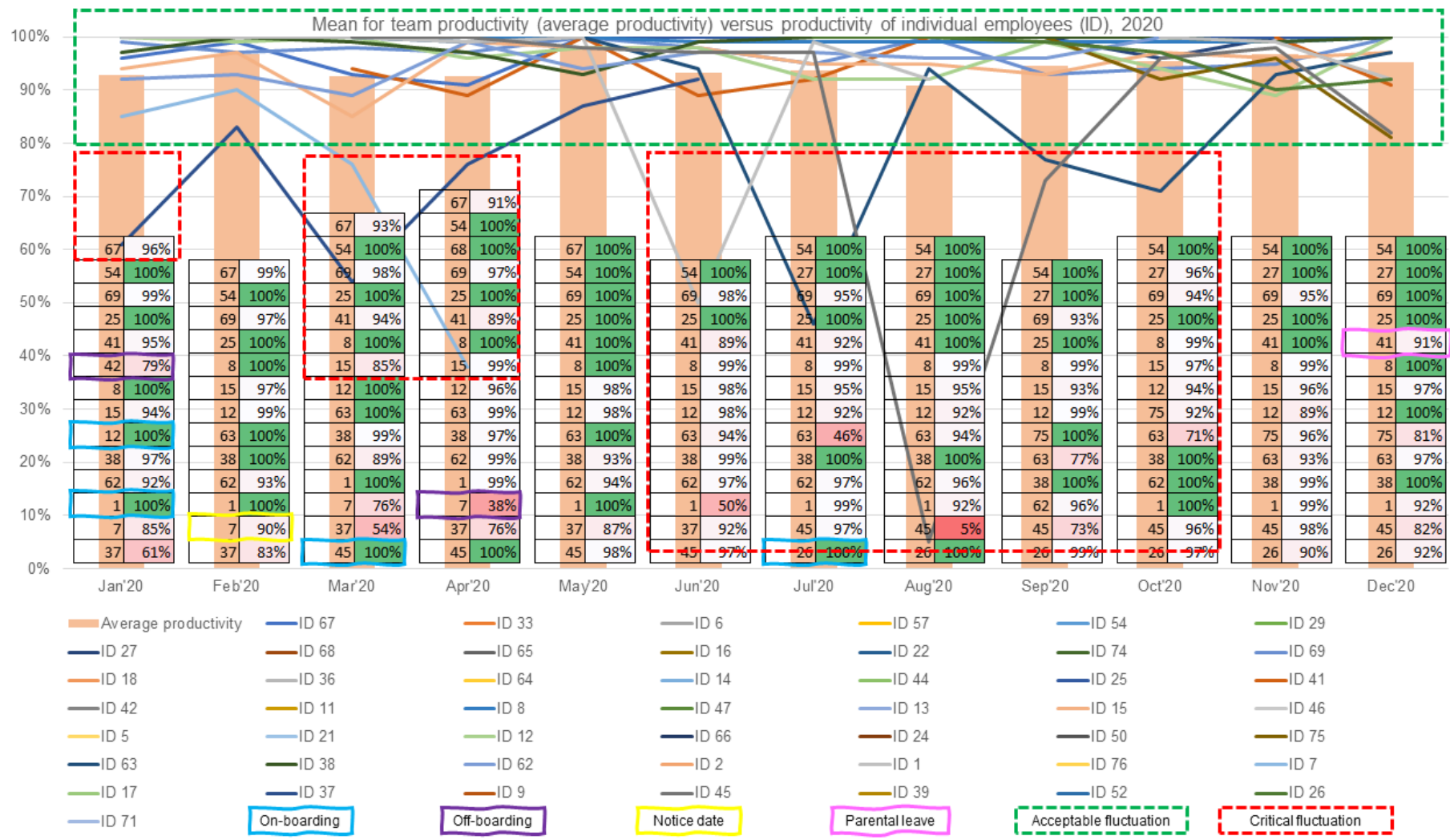Figure 15. Mean for team productivity versus productivity of individual employees, 2019

Figure 16. Mean for team productivity versus productivity of individual employees, 2020
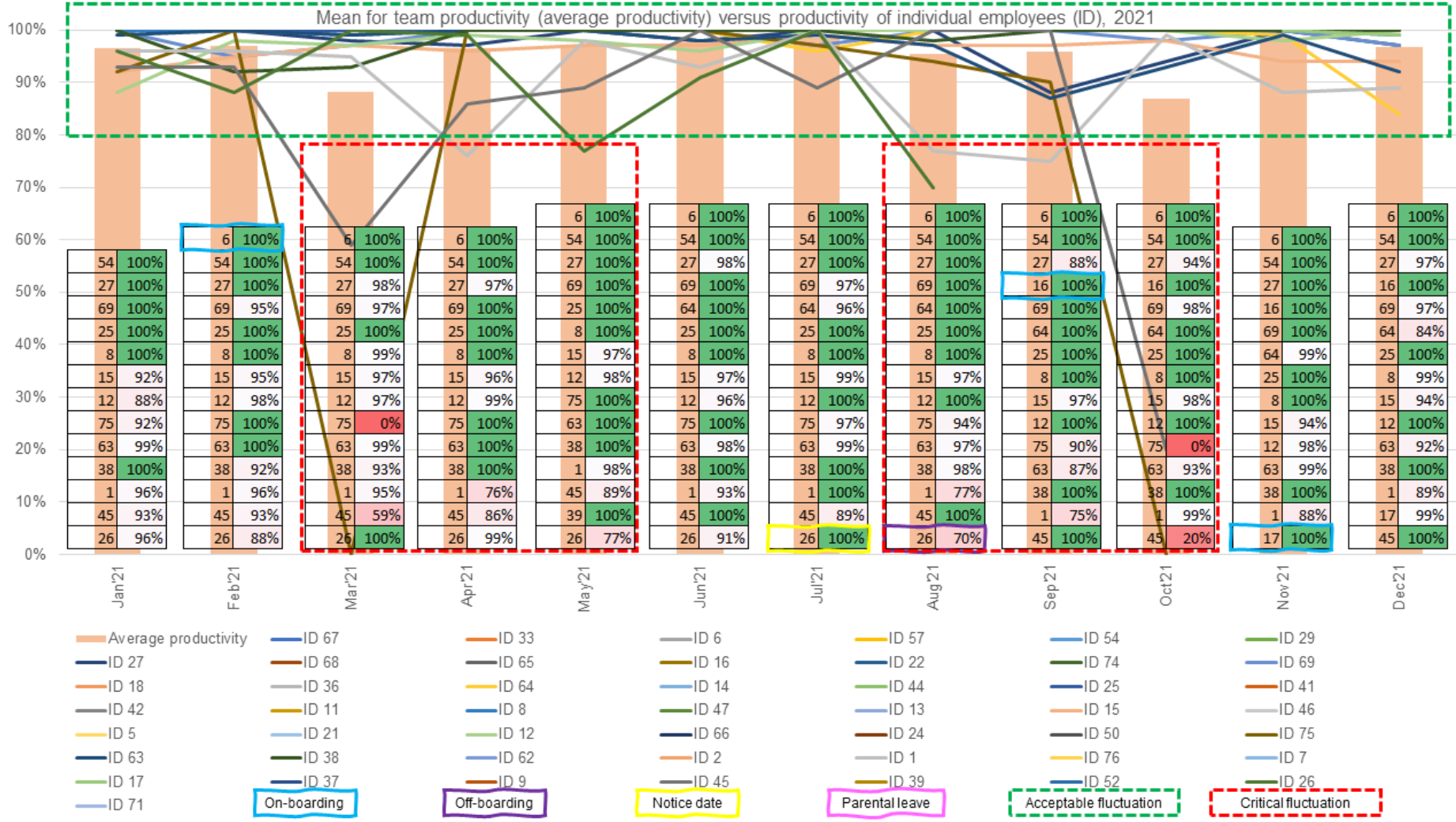
Figure 17. Mean for team productivity versus productivity of individual employees, 2021
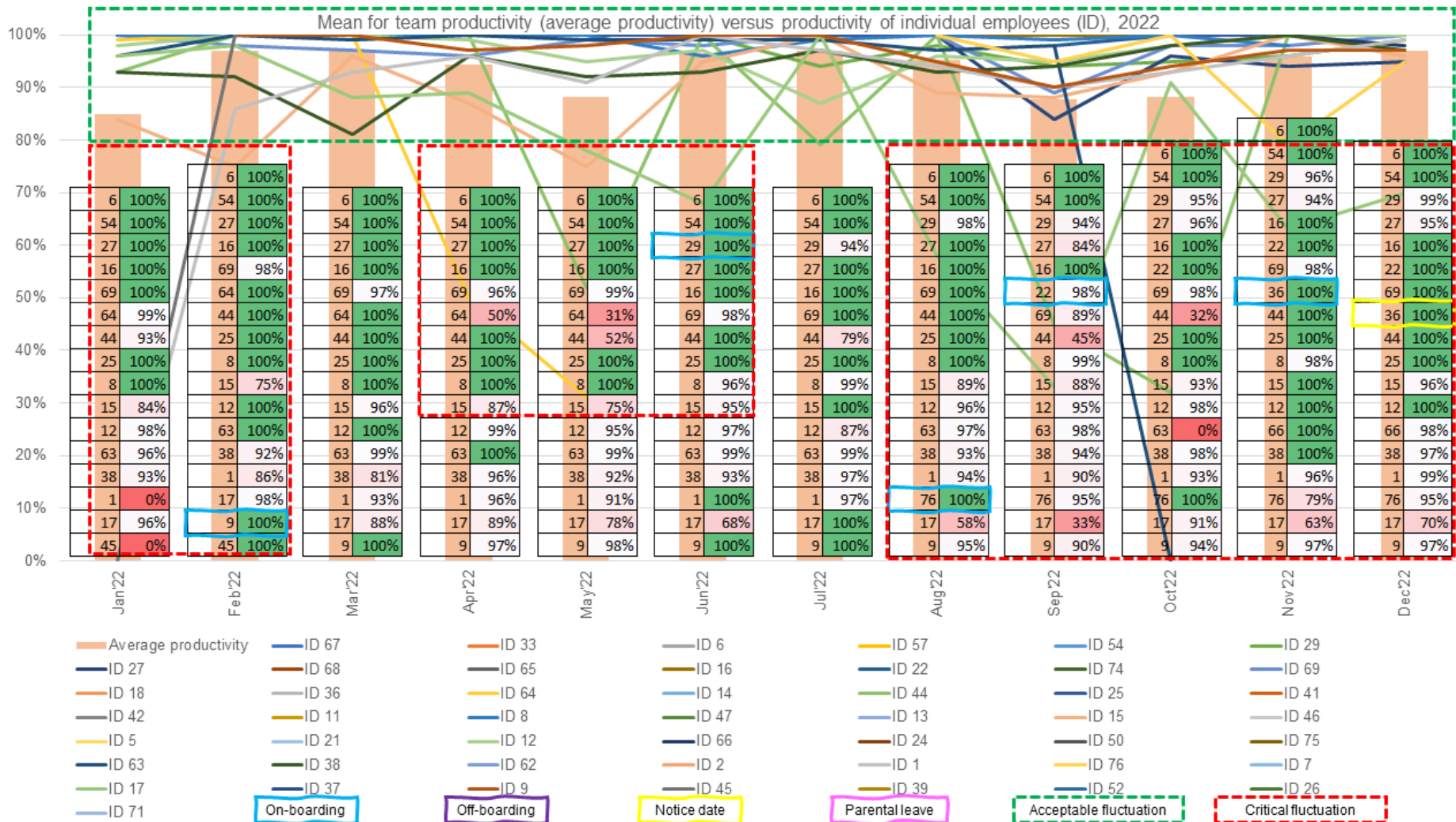
Figure 18. Mean for team productivity versus productivity of individual employees, 2022

## Statement of Affirmation

I hereby declare on oath that I have prepared this master´s thesis independently and without the use of other than the specified aids. The positions taken directly or indirectly from external sources are identified as such. The work has not yet been submitted in the same way or a similar form to another examination authority and has not yet been published.


Dornbirn, 07.07.2023                    Mariia Rogova _____