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HR Analytics for Competitive Advantage

Bringing organisational value while empowering the HR profession

By Elin Engsfelt and Louise Rosén Fång

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Supervisor: Rikard Larsson

Examiner: Bo Göransson


ABSTRACT

- Title:** HR Analytics for Competitive Advantage: Bringing organisational value while empowering the HR profession
- Authors:** Elin Engsfelt & Louise Rosén Fång
- Supervisor:** Rikard Larsson
- Problem definition:** The HR profession has throughout history, and still has, a legitimacy problem, where the HR department typically becomes administrative support, rather than a strategic business partner.
- Purpose:** Explore HR professionals' perceptions and opinions on the use of HR Analytics in their work and identify the functions and challenges that HR Analytics brings to the organisation, the HR department, and the HR profession.
- Methodology:** A qualitative research approach has been chosen. A comprehensive and substantial review of today's research on HR Analytics has been executed. Further, empirical data has been collected from online interviews where ten HR professionals based in Sweden participated.
- Findings:** This study has identified several functions of HR Analytics across organisational processes, HR processes and the HR profession. Most importantly, empirical support has been found for a new function, the legitimating-advocating function. In addition to this, challenges of implementing and using HR Analytics have been identified on the three levels. Finally, the findings show that knowledge and feelings towards adopting something new affect to what degree HR Analytics is being utilised among HR professionals and organisations. To broaden the use of HR Analytics, motivational drivers must be met to facilitate the adoption process.
- Conclusions:** Adopting HR Analytics brings competitive advantages to the organisation, HR processes, and the HR profession. Furthermore, as HR professionals take ownership of the adoption of HR Analytics, the HR profession will be empowered and its legitimacy will increase.
- Key Words:** *HR Analytics, Artificial Intelligence (AI), Human Resources (HR), Legitimacy, HR Profession, HR Processes, Organisational Processes, Diffusion of Innovation Theory (DOI), Four Stages of Analytics, Isomorphism, Functions, Challenges*

PREFACE

We would like to begin by thanking our supervisor Prof. Rikard Larsson for his continuous support and valuable guidance in the process of writing this thesis. We also want to thank the participants in our study, the ten interviewed HR professionals, for sharing their time with us and allowing us to take part in their valuable knowledge, thoughts and insights.

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Elin Engsfelt



Louise Rosén Fång

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1. Introduction

This chapter includes an introduction and a problematisation of the research topic, while also providing the reader with necessary background information. Hence, a historical overview of the HR profession, including its current state, is presented as well as an introduction to HR Analytics. Following, the research purpose and the research questions are presented, and after that, we go through the demarcations of the study. Finally, the chapter ends by providing an outline of the disposition of the thesis.

1.1. Problematisation of the Research Topic

Over the past decades, digital advancements have led to rapid changes in our daily lives. Artificial intelligence (AI) is to a large extent incorporated into the business environment (Arora et al., 2021), and with innovations such as open AI through ChatGPT, the advantageous capacities of AI are becoming more evident (Khankriyal, 2023). Simultaneously, the integration of AI in Human Resources (HR) is happening (Arora et al., 2021; Pierson, 2023).

Looking back, there has been a shift in the perception of the role HR play in organisations, leading to a corresponding change in the nature of HR duties. Initially limited to administrative tasks, the HR profession has evolved into a more efficient, resource-optimized, and strategically oriented profession, creating greater value for organisations. This transformation is referred to as the *HR Transformation*. Despite the positive outcomes, a profound challenge for the HR profession has emerged (Boglind et al., 2021). Even though HR has transformed its role to become strategic with a seat at the table in the top management team, the HR profession remains struggling with legitimacy (Belizón & Kieran, 2021; Heizmann & Fox, 2019; Pritchard & Fear, 2015). While other departments in the organisation (e.g. marketing, sales and finance) have the advantage of working with data which have given them weight to arguments and initiatives, HR has not had the same advantages. Hence, the profession has relied on less effective arguments, such as opinions and gut feelings (Qureshi, 2020), which has limited HR professionals' ability to legitimise themselves in organisations (Wirges & Neyer, 2022; Belizón, & Kieran, 2021;

Heizmann & Fox, 2019; Mahadevan & Schmitz, 2019; Damm & Dahte, 2016; Cappelli, 2015; Thompson, 2011; Bassi, 2011; Lawler et al., 2004; Qureshi, 2020).

Digital development in our private life and society have changed our environmental conditions, affecting the way we operate (Khankriyal, 2023). Most importantly, it has changed our working life and the way we perform our job. AI is seen by many as a technology that is revolutionising working life but how its rapid development will affect the HR field is still unknown (Charlwood & Guenole, 2022). Arora et al. (2021, p. 1) referred to AI as “[...] as a technique that acts like an individual's brain and applies human intelligence in numerous disciplines to enhance the efficiency and productivity of various industries”. As a consequence of the digital AI revolution, HR Analytics, which was created over 20 years ago, has received a boost and is a frequent topic of discussion today (Belizón & Kieran, 2021). HR Analytics refers to investigating and improving elements of human resources by applying analytical techniques coupled with people data to improve strategic decision-making and enhance performance (McCartney & Fu, 2021). As a result, HR Analytics enables informed decisions that are not based on intuition but instead on data insights, identified through AI as it has analysed, predicted and diagnosed organisational metrics (Arora et al., 2021).

As HR is becoming more digitised, we see more and more titles popping up within HR with a direct connection to analytics, such as ‘Director People Analytics’, ‘HR Analyst’ and ‘Workforce Analytics Manager’ (Bartram, n.d.). With AI becoming increasingly prevalent in our working life, it is important to understand the impact HR Analytics has on organisational and HR-related processes. However, the most interesting aspect of this study is finding out what impact HR Analytics has on the HR profession and its legitimacy problem. Is HR Analytics serving a legitimacy-boosting function for the HR profession, while also bringing competitive advantages to both the organisation and the HR profession?

1.2. History and Current State of the HR Profession

To discuss HR Analytics in relation to the field of HR, it is necessary to have an understanding of the HR profession’s historic development. Therefore, in this subchapter, we have created a visual timeline (see Figure 1), showing the starting point of HR and its progression up until the

profession's current state. To support the timeline, additional descriptions are provided to showcase the profession's development over time.

In the 1910s, HR became officially recognised as a separate department (Kaufman, 2014). Mahadevan and Schmitz (2019) explained that during this period, HR's struggle for legitimacy began by being constrained to the role of a personnel department and limited to performing mainly transactional tasks. To break free from these boundaries, HR has made efforts to assert other organisational roles and responsibilities which are seen and acknowledged as being of greater importance. Changes or trends in HR can, therefore, be seen "[...] as part of an ongoing disciplinary struggle for legitimacy" (Mahadevan & Schmitz, 2019, p. 517). The focus of HR scholars and professionals has, since around the 1980s, been on transforming HR into a strategic organisational department and aligning HR processes with business goals (Mahadevan & Schmitz, 2019; Kaufman, 2014).



Figure 1: Timeline of the HR profession's Historic Development (compiled by authors)

As concluded from the historic overview, the HR profession has gone through ups and downs, and has evolved and reinvented itself. This has usually been in response to external conditions; such as the economy changing or influential researchers popping up emphasising the need to

coordinate and care for human resources (Cappelli, 2015; Damm & Dahte, 2016). HR has even changed its name multiple times, which Cappelli (2015) has explained as a symptom of HR only being invested in and valued when organisations risk losing talent. Today, however, HR is seen as a standard practice in organisations (Kaufman, 2014), but the profession remains struggling with embracing its strategic competence. The profession tends to become administrative support, rather than being seen as a strategic business partner (Belizón, & Kieran, 2021; Heizmann & Fox, 2019; Thompson, 2011). HR becoming a given member of the management team is an indication of increased status. Boglind et al (2021), however, explained that the status may also be reduced as more stakeholders are given a seat at the table.

Damm and Dahte (2016) claimed that the reason HR has been struggling with legitimacy is due to the way HR interplay with the organisation's CEO and top management team. The CEO and the top management team have always had the highest hierarchical positions. Hence they have the most impactful influence on business decisions and strategy. HR's organisational role has, therefore, depended on the opinions and perceptions of the CEO and top management team. An example of this is that at times, the HR department consists of non-HR professionals, such as engineering or finance graduates who have developed good relationships with the CEO and the top management team. As a result, they have received ownership of HR processes without having a bachelor's or master's degree in HR. Due to HR's lack of legitimacy, Heizmann and Fox (2019) have described the HR profession as the 'poor cousin' of the managerial professions and claimed that HR will never stop struggling until they manage to show a direct impact on business performance. Then, and only then, HR will fully legitimate its position.

What therefore can be concluded from this historic and current review of the HR profession, is that despite HR's efforts and progress in becoming a strategic business partner with a given seat at the top management table, it is evident: HR still has a legitimacy problem (Wirges & Neyer, 2022; Belizón, & Kieran, 2021; Heizmann & Fox, 2019; Mahadevan & Schmitz, 2019; Damm & Dahte, 2016; Cappelli, 2015; Thompson, 2011; Bassi, 2011; Lawler et al., 2004; Qureshi, 2020).

1.3. Introducing HR Analytics

HR Analytics is an innovation with many names – e.g., ‘Talent Analytics’, ‘Workforce Analytics’, or ‘People Analytics’ (Marler & Boudreau, 2017). However, HR Analytics seems to be the name that is most commonly used and will therefore be the term used in this thesis. Besides having many names, there are also multiple definitions for HR Analytics: Lawler et al. (2004) and Mondore et al. (2011) viewed HR Analytics as a way of linking organisational performance and business outcomes to HR practices’ HR data. Aral et al. (2012) focused on how individual performance can be measured and monitored, by using HR Analytics, and Pape (2016), highlighted how decision-making can be based on relevant HR data. Bassi (2011, p. 16) continued on this note, by defining HR Analytics as “an approach for making better decisions on the people side of the business”. Bassi (2011) added to this definition that HR Analytics ranges from ‘simple reporting’ to predictive modelling. Hence, HR Analytics can be used on different levels, depending on organisational choice. In this thesis, the definition of HR Analytics provided by Marler and Boudreau (2017, p. 15) will be used:

“A HR practice enabled by information technology that uses descriptive, visual, and statistical analyses of data related to HR processes, human capital, organizational performance, and external economic benchmarks to establish business impact and enable data-driven decision-making”.

The technical aspect of HR Analytics is that it uses information technology (IT) to assess data on HR processes, human capital, organisational performance, and external economic benchmarks using descriptive, visual, and statistical methodologies. This practice aids in assessing the business impact of HR initiatives and enables data-driven decision-making (Marler & Boudreau, 2017). For many organisations, HR is one of the most costly elements of business, therefore it is essential to understand how HR decisions and investments in HR affect business performance (Qureshi, 2020). Ultimately, the goal of HR Analytics is to establish a connection between HR decisions and business outcomes, including organisational performance (Marler & Boudreau, 2017).

Despite having existed for more than 20 years, HR Analytics has not been fully implemented as best practice in the HR field and the practice is still seen as a relatively ‘new’ innovation in HRM (Belizón & Kieran, 2021). We know that with the rapid advancement of technology, particularly with the rise of AI, various aspects of our lives have changed and AI has been integrated into business (Arora et al. 2021; Khankriyal, 2023). We stated earlier that the impact AI will have on the field of HR is unknown, but we know that it will bring different possible outcomes, including both advantages and challenges. Even though adopting AI in HR work comes with risks that need to be considered and managed, AI will continue to progress regardless of whether the HR field wants it or not (Charlwood & Guenole, 2022). Hence, HR needs to prepare for it and make sure to utilise the benefits that come with it.

If HR professionals decide to engage in the development of AI and HR Analytics and choose to take ownership of adopting AI tools such as HR Analytics, then it could give the HR profession the legitimacy it has been lacking. However, if HR professionals remain passive and organisations do not implement efforts to upskill their HR practitioners in AI and needed skills, then the HR profession risks experiencing a deterioration of their quality output. Additionally, the profession risks a decrease in status and value (Charlwood & Guenole, 2022). To survive and preserve its current level of legitimacy, and maybe even enhance its significance as a profession, it is crucial for the HR profession to proactively keep up with emerging trends and technological advancements: This is of great importance, given HR’s past as a service-oriented profession. Only when HR take ownership of its self-development will the credibility of HR professionals be ensured; therefore, it is vital for their survival (Bailey, 2015). Currently, the potential advancement and legitimacy boost that HR Analytics offers are not fully taken advantage of by HR and organisations (Belizón & Kieran, 2021).

1.4. Purpose and Research Questions

The purpose of this study is to explore HR professionals' perceptions and opinions on using HR Analytics in their work and to identify the functions and challenges that HR Analytics brings to the organisation, the HR department, and the HR profession. By learning about HR professionals' perceptions, we will get insights into their viewpoints on HR Analytics, what it can be used for, and where it is heading. By also examining their opinions, their standpoints concerning the use

of HR Analytics will be discovered. We wonder whether utilising HR Analytics could make HR departments achieve a more influential and strategic position in organisations. If HR Analytics is adopted properly while being fully utilised, we are curious if the HR profession could transform into a legitimate and highly-valued business partner. To serve the purpose of the thesis, the following research questions have been formulated:

1. What are HR professionals' perceptions and opinions on using HR Analytics in their work?
2. What functions and challenges does HR Analytics bring to organisational processes, HR processes and the HR profession?

As pointed out already, as technology advances and organisations seek to optimise their HR processes to make data-driven decisions, HR Analytics is beginning to be incorporated into HR. In today's existing research, however, there is still a lack of understanding regarding the functions and challenges of HR Analytics, particularly from the perspective of HR professionals. This study seeks to address this research gap by exploring HR professionals' perceptions and opinions of HR Analytics and its impact on the organisation, the HR department, and the HR profession. By doing so, this thesis will provide new insights into the research field. Besides extending the field of research, it is relevant and of great value to also strengthen today's body of knowledge by confirming significant theories as well as challenging present discourses. Hence, the existing literature on HR Analytics plays a central role in this thesis, which is why a substantial and comprehensive literature review will be conducted in order to contrast the findings in the empirical data. By doing so, this research aims to contribute to the existing literature on HR Analytics and provide practical insights for HR professionals and organisational leaders.

1.5. Demarcations

We have concluded that technological trends such as digitalisation and the development of artificial intelligence (AI) have transformed how organisations operate and make decisions. Simultaneously, the use of AI in HR has been a topic of increasing interest. AI could be used for

multiple HR-related matters, but for this thesis, we have decided to specifically focus on AI used in HR Analytics. This decision was made because it is highly relevant and significant for HR professionals to understand the advantages and disadvantages of adopting HR Analytics in HR processes.

Furthermore, narrowing down the scope specifically to AI in HR Analytics allows for a more focused and in-depth analysis of this particular application within the broader field of HR. It enables us to explore the specific implications and challenges related to HR Analytics, providing a comprehensive understanding of its effects on HR professionals and their work. However, the study will not delve into the technical aspects of AI in HR Analytics, such as the different types of tools and techniques available. This decision streamlines our research efforts and allows us to look deeper into the human aspects of HR Analytics and maintain a focus on HR professionals' perceptions and opinions without being hung up on technical details.

While we see that the use of HR Analytics has the potential to impact various aspects of the organisation and different professions, this study focuses specifically on HR professionals' perceptions and opinions of HR Analytics. This demarcation allows us to explore the human factor and the subjective experiences of those directly involved in implementing and utilising HR Analytics. This approach provides valuable insights into how HR professionals perceive the benefits, challenges and potential impacts of HR Analytics on their work.

We are aware that the demarcations mentioned above may cause potential limitations or negative consequences to arise. For example, by narrowing the scope to HR professionals' perceptions and opinions, we limit the generalisability of our findings. The perspectives of HR professionals may not fully represent the experiences and viewpoints of other stakeholders within organisations, such as executives, employees or IT specialists. There is a risk of overlooking the broader impacts of HR Analytics on organisational processes and other professions within the organisation. Additionally, focusing on perceptions and opinions brings a subjective element to our research which can be influenced by the HR professionals' individual experiences, biases or organisational contexts.

Lastly, excluding the technical aspects of AI in HR Analytics might lead us to an incomplete understanding of HR Analytics and limit our ability to analyse and interpret the findings within a broader context critically. However, narrowing the focus of our study means that we can delve deeper into the specific aspects of HR Analytics that directly impact HR professionals. This depth of analysis enables us to provide comprehensive insights and nuanced perspectives on the subject. By centring our research questions on HR professionals' perceptions and opinions, we align our study with the practical concerns of HR professionals. Furthermore, this focus enhances the relevance and applicability of our findings, making them more actionable for organisations seeking to implement HR Analytics.

In conclusion, while acknowledging the demarcations' potential limitations and negative consequences, the focused analysis of HR professionals' perceptions and opinions in our study provides valuable and actionable insights that outweigh these concerns. By aligning with the practical problems of HR professionals and offering comprehensive and nuanced perspectives, our research contributes to the understanding and successful implementation of HR Analytics in organisations.

1.6. Disposition

This subchapter provides an overview of the structure of the thesis and the different chapters it contains.

Chapter 2: Theoretical Framework

The theoretical framework that underpins the study is presented in this chapter. It provides an overview of the fundamental concepts and theories related to HR Analytics and their implications for the HR profession. The chapter contains a comprehensive and substantial review of the available literature on the functions and challenges of HR Analytics. An overview of the Four Stages of Analytics, isomorphism and the Diffusion of Innovation theory (DOI) by Rogers is presented as well as the models that make up the analytical framework.

Chapter 3: Research Methodology

This chapter describes the research methodology used in the study, including the research design, data collection and analysis methods. The interview population is presented, as well as the sampling of the literature used. Finally, we present a reflection on the research quality, where we consider quality measurements and ethical considerations.

Chapter 4: Findings and Analysis

This chapter presents the study's findings and analyses them in relation to the purpose and the research questions. It provides a thorough overview of the HR professionals' opinions and perceptions of HR Analytics and their experiences of the HR profession's legitimacy problem. Furthermore, the chapter contains an extensive analysis of the functions and challenges of HR Analytics identified in the empirical data in relation to the theoretical framework.

Chapter 5: Discussion and Conclusion

The final chapter begins by answering the study's two research questions by discussing the findings in the empirical data and the theoretical framework. Moreover, the limitations and the theoretical and practical implications of the study are discussed as well as recommendations for future research.

2. Theoretical Framework

In this chapter we will go through the comprehensive and substantial theoretical framework used in this study. The framework displays the different functions and challenges contemporary research has identified concerning the organisation, typical HR processes and the HR profession. Furthermore, the different user levels of HR Analytics will be presented. Following that the Diffusion of Innovation theory (DOI) including isomorphism will be presented. At the end of the chapter the analysis models, which are based on the theoretical framework, will be shown and explained.

2.1. Functions of HR Analytics

When reviewing contemporary research, multiple functions of HR Analytics have been identified. Some are connected to both organisational processes and typical HR processes, some are connected to only one area: the HR profession. In Figure 2, the functions concerning the three levels and the disposition of the subchapters are displayed.

Before we start to use the term *function*, we want to clarify what we define as a function of HR Analytics. We choose to refer to a *function of HR Analytics* as the practical usefulness of HR Analytics that serves a specific value-bringing purpose. The definition is an integration of the two linguistic definitions provided by the Britannica Dictionary (n.d.), and the Swedish dictionary SAOL (SAOL1, n.d.; SAOL2, n.d.).

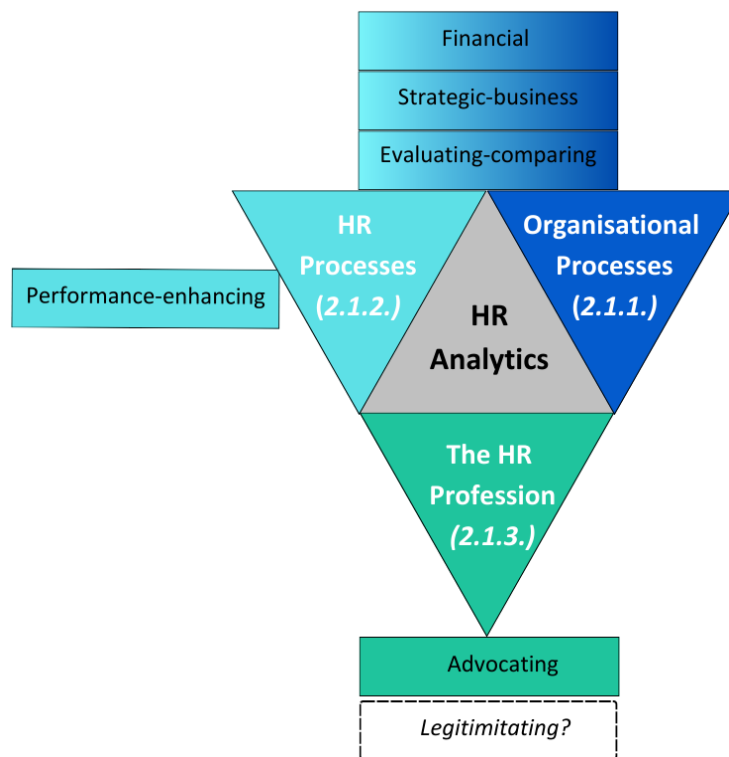


Figure 2: *Theoretical Framework of the Functions of HR Analytics (compiled by authors)*

To identify different functions of HR Analytics, we have studied Marler and Boudreaub's (2017) evidence-based review of published peer-reviewed literature on HR Analytics. In this article, 14 peer-reviewed articles have been looked over which we have reviewed together with conclusions

presented by Marler and Boudreau. The theoretical implications presented by Marler and Boudreau (2017), were that despite a growing interest in HR Analytics, there is limited scientific evidence concerning whether adopting HR Analytics is recommended. This claim is based on the fact that out of the 14 articles, only four involved empirical analysis, and only one presented empirical evidence linking HR Analytics to organisational performance. By declaring a lack of scientific evidence for the benefits of adopting HR Analytics, they concluded that HR Analytics is “definitely in its infancy” (p. 21) and it seems that the topic of ‘HR Analytics’ has not caught enough interest among the management scholarly community. However, theoretical studies of innovation adoption “would provide fertile ground for constructing hypotheses regarding the expected patterns of adoption regarding HR Analytics and other current HR innovations” (Marler and Boudreau, 2017, p. 22).

To further support the review of Marler and Boudreau (2017), additional articles of relevance have been examined to explore practical implications, and the functions of HR Analytics concerning organisational processes, HR processes and the HR profession. McCartney and Fu (2022) provided the following practical implications for practitioners wanting to adopt HR Analytics. First, their study showed evidence of the positive impact HR Analytics has on organisational performance. Second, accessibility to HR technology, e.g. a human resources information system (HRIS), plays an important role in enhancing the positive impact on organisational performance, as it enables information to be shared in different ways e.g. dashboards, visualisations, KPIs and reports.

2.1.1. Organisational Processes

Organisational functions of HR Analytics include all organisational processes that occur outside of the HR department. We have identified three functions of HR Analytics in organisational processes; the *financial function*, the *strategic-business function* and the *evaluating-comparing function* which will be presented in the following paragraphs.

Financial function

We have identified that HR Analytics serves the purpose of providing financial business impact for the organisation, this function has been named ***the financial function***. Analytics highlights

the financial benefits of investing in HR activities by providing calculations on *return on investment (ROI)* (Capelli, 2015; Douthitt & Mondore, 2014). In other words, the “human capital return on investment measures the return on each dollar invested in human capital after adjusting for the cost of financial capital” (DiBenardino, 2011, p. 47). A second financial metric that can be provided by HR Analytics is *productivity*, which is “the amount of revenue generated for each dollar invested in human capital, after adjusting for the costs of materials and financial capital” (DiBenardino, 2011, p. 47). A third metric is *liquidity*, “the ratio between incentive compensation and a profit goal determined by the organization” (DiBenardino, 2011, p. 47).

Historically, business leaders have wanted to measure effectiveness such as ROI on HR capital investments in relation to enterprise-level value, which they now can. With the financial metrics HR Analytics can provide, organisations can now take action on utilising the human capital drivers of business performance and discover further opportunities for improvement, while keeping on projecting the economic impact different strategic interventions could have. If organisations invest in high-tech analytical tools, this would enable them to receive prescriptive recommendations (DiBenardino, 2011), which would place the organisation on the highest stage in Dearborn and Swanson’s (2018) four-stage model. This would be beneficial for multiple reasons, which will be further explained in *2.3 Four Stages of Analytics*. While HR Analytics provides a financial function which can boost organisational performance, Bassi (2011) argued that too often HR departments tend to use the ROI calculations to prove their worth, rather than aiming for business impact. This, she said, is not the purpose of HR Analytics.

Strategic-business function

The second organisational function of HR Analytics which has been identified in the existing literature is the ***strategic-business function***. With the help of HR Analytics, organisations can analyse data from HR and other business departments to make predictive modelling of future trends and outcomes. By making a predictive analysis – looking at so-called “*what-if*” scenarios, such as implementing new policies or changing strategies, the organisation develops a better understanding of the possible outcomes or consequences, organisational processes have (Wirges & Neyer, 2022; Bassi, 2011). With the use of HR Analytics, business leaders can further see the impact the HR department has and potentially could have on business outcomes (Douthitt &

Mondore, 2014). Consequently, the status and performance of an organisation can be improved if HR Analytics is properly adopted and utilised (Prasad & Kamalakhanan, 2021). Bassi (2011) especially emphasised the importance of fully utilising HR Analytics, as it can serve “[...] as a source of competitive advantage for organisations that put it to good use” (p. 15).

Besides HR Analytics enabling strategic analysis, HR Analytics also improves decision-making regarding multiple organisational processes. For example, HR Analytics can elevate the quality of decision-making in managerial discussions by generating inputs by showing the direct effect of human capital on critical business outcomes (Rasmussen & Ulrich, 2015; Marler & Boudreau, 2017). By connecting business outcomes to HR data generated through HR Analytics, the organisation can make informed decisions about how to prioritise and make investments concerning human capital (Douthitt & Mondore, 2014). Examples of how HR Analytics can be strategically leveraged in decision-making are the following: (1) challenge the present organisational design, (2) plan on how to create real-time networks concerning customers, products, people etc., (3) do more with the same or less, by optimising the organisational resources, and (4) recast goals and link them to rewards (Ghatak, 2022).

The third component of the strategic-business function is the ability to question organisational “half-truths” by providing the organisation with a rational perspective based on data. By applying evidence-based management and using data to question ‘half-truths’ and beliefs about what works and what does not work, organisations can improve their performance (Bassi, 2011). Nonetheless, Falletta (2014) argued that powerful and/or narcissistic managers still might not accept the picture painted by data and instead remain to rely on their own opinions and intuition. There is also a risk that HR Analytics is used to provide support for previously made judgements rather than to challenge the present HR strategy (Falletta, 2014; Rasmussen & Ulrich, 2015). However, despite these risks, HR Analytics can produce new insights if perspectives from several fields (such as investor perspective, technology and finance) are included in the analysis (Rasmussen & Ulrich, 2015), for example, in top management team meetings.

Evaluating-comparing function

A third organisational function that is enabled by HR Analytics is the ***evaluating-comparing function***. This function allows the organisation to identify the cause-effect drivers which can be found in HR Analytics when a well-functioning HRIS is used. An HRIS can create reports on key performance indicators (KPIs) and also allows the collection, storage, manipulation, retrieval, and distribution of HR Analytics (McCartney & Fu, 2022). Not utilising this function of HR Analytics is risky since important indicators that the HRIS provides might be missed. This negatively affects the organisation's performance and business impact (Mondore et al., 2011). Furthermore, organisations can compare their metrics with other organisations through multi-company databases which enables them to identify normative data. Hence, organisations can benchmark their performance in comparison to other organisations (Lawler et al., 2004; Bassi, 2011). Schmidt (2021) described four levels on how organisations can evaluate their performance position and their capabilities in comparison to competitors:

1. The organisation uses a *reactive* approach, where they look at their isolated data and compare it to business demands. This results in ad hoc work, where actions are taken on request.
2. The organisation takes a *proactive* approach, where the analytics are used for benchmarking to guide decision-making.
3. The organisation uses a *strategic* approach, where the analytics are used for segmentation and statistical analysis. At this stage, the organisation looks for cause and delivery of actionable solutions.
4. The organisation take on a *predictive* approach, where they use the analytics for scenario planning, by engaging in risk analysis and mitigation with the support of strategic planning.

2.1.2. HR Processes

In this section, we move away from the organisational processes that do not necessarily concern the HR department. This section focuses on the functions of HR Analytics concerning typical HR processes such as; recruiting, succession planning, learning and development, on- and

off-boarding, employer branding, salary and benefits review, administrative payroll work, workforce planning, absence management and overall organisational design (Pape, 2016). When reviewing existing literature, four functions of HR Analytics regarding HR processes were identified; *the financial function*, *the strategic-business function*, *the evaluating-comparing function* and *the performance-enhancing function*. These will now be explained below.

Financial function

Similarly to the financial function in organisational processes, HR Analytics also provides a strong financial function for HR processes. The ROI calculations the HR department can make serve the purpose of guiding them in their decision-making processes on how to utilise their budget. Furthermore, with the help of ROI calculations, they can demonstrate the bottom-line impact of HR activities; thereby, securing their spot at the top management table (Mondore, 2011; Douthitt & Mondore, 2014).

Besides using the financial metrics to guide HR initiatives, investments and budgeting, the metrics can offer guidance in operational work. HR can manage employee performance by continuous analysis to identify the operational changes needed e.g. how to update talent management processes (Douthitt & Mondore, 2014). Some guiding steps the HR department should take are according to Douthitt and Mondore (2014) the following: (1) “identify critical business outcomes” (p. 18) (2) “align HR data with business outcomes” (p. 19), (3) “conduct the analytics to identify drivers of business outcomes and ROI” (p. 19), (4) “deliver HR priorities and expected ROI to all leaders in a simple format” (p. 19), and (5) “track progress on critical drivers and calculate the actual ROI” (p. 19).

Strategic-business function

The second function HR Analytics brings to HR processes is the ***strategic-business function***. The HR department typically is responsible for attracting, developing and retaining the organisational knowledge and skills, hence the HR department plays an important strategic role in affecting employee performance in the organisation. Taking ownership of this strategic-business role enables the HR department to utilise HR Analytics for organisational business value by providing insights into staff ability and employee talent. By optimising HR

processes with HR Analytics, organisations will not risk struggling with fulfilling strategies due to organisational members not possessing the needed cutting-edge skills (Lawler et al., 2004).

According to Douthitt and Mondore (2014), HR processes benefit from HR Analytics because it supports the creation of HR strategies with a focal point on business outcomes and making strategic choices. By analysing and linking HR data with data from other departments in the organisation, the HR department can forecast future trends and changes within the organisation (Wirges & Neyer, 2022; Bassi, 2011). Based on predictions, HR can act proactively and adjust its strategy instead of operating in a reactionary manner. This will create HR processes suited for the volatile and uncertain dynamics of present work life (Schmidt, 2021). With evidence-based management, the decision-making in HR processes is based on data instead of HR professionals' opinions, gut feelings or intuition (Bassi, 2011; McCartney & Fu, 2022). As a result, decisions based on analytics will challenge assumptions and beliefs of how HR processes "should" be performed and improved (Bassi, 2011). Thus, by using HR Analytics, HR can influence business strategy and show the correlation between HR processes and business outcomes (Lawler et al., 2004).

Evaluating-comparing function

For the HR processes, the *evaluating-comparing function* of HR Analytics enables the same reactive, proactive, strategic and predictive comparisons as were presented when focusing on the evaluating-comparing function for organisational processes (Schmidt, 2021). Schmidt (2021) further explained that specific HR metrics can be evaluated concerning other companies, which enables benchmarking. This serves the purpose of guiding the HR department in ad hoc decision-making, but also strategic decision-making. For HR processes, everything from recruiting, learning, diversity and compensation to psychometric data assessments, culture issues and well-being, can be evaluated and improved. When comparing the HR process-related metrics, trends can be identified which enables the HR department to be more aware of how the organisation is doing and how the organisation works. For example, different relationships between organisational design, management practices, high-performance behaviour as well as misbehaviour can be spotted. When coming to valuable conclusions, a range of different HR issues can be solved, and new best practices can be discovered. For example, skills gaps or new

recruitment channels can be identified. Different digital approaches which can enable these evaluations are LinkedIn reports, government reports and macro trends such as educational level, migration and population (Schmidt, 2021).

Performance-enhancing function

When using HR Analytics in HR processes, it has been concluded that it can be used to evaluate performance and spot different interdependencies and relations between HR metrics such as skills gaps and organisational culture. The ***performance-enhancing function*** of HR Analytics enables the utilisation of insights to expand employee knowledge and skills and encourage information sharing to boost learning and the well-being of employees. This can be concluded from Schmidt's (2021) recommendations on performance management. He argued that open communication is the major factor that enables growth and learning. This can be done through weekly coaching sessions or daily check-ins to boost alignment and engagement, which according to Schmidt (2021) are the two main drivers for optimising performance. To reach this goal, HR needs to build habits of learning among employees e.g. making the employees engage on their learning platform or boost their knowledge elsewhere.

To support the employees on this journey, different actions can be taken. One is to provide important stakeholders, such as team managers, access to the organisation's analytics. These stakeholders can use the metrics to understand workforce trends, which can guide them in how to motivate and support their employees differently (Schmidt, 2021; McCartney & Fu, 2022). ROI calculations provided can together with HR Analytics be shared with the organisational managers to make them data-driven, hence, decreasing their reliance on intuitional gut feelings when making decisions (Douthitt & Mondore, 2014; McCartney & Fu, 2022). In turn, employee and organisational performance are enhanced (Bassi, 2011).

Besides HR Analytics having a performance-enhancing function by enabling access to the data and its insights (Bassi, 2011), HR Analytics can improve the efficiency and effectiveness of HR processes (Lawler et al., 2004). Improvement can especially occur when HR Analytics is supported by other HR technology tools such as chatbots (McCartney & Fu, 2022) which can answer questions the HR department typically needs to answer. With the support of HRIS

McCartney and Fu (2022) stated that HR Analytics can be easy-presented through visual dashboards, hence making reflections on insights become more effective and time-efficient. This, in turn, would simplify performance monitoring because the visual dashboard can present descriptive HR Analytics.

2.1.3. HR Profession

After looking over the functions HR Analytics provides in HR processes, we will now switch focus to the HR profession.

Advocating Function

One function of using HR Analytics has been identified for the HR profession in previous research: the ***advocating function***. As HR professionals choose to adopt and make use of HR Analytics, they are increasing their chances of becoming a strategic business function (McCartney & Fu, 2022). To have influence, they need arguments that top management listens to and cares about, otherwise, they will not be heard. What HR professionals, therefore, need to do is to prove to the top management that organisational results depend on the strategic work HR engages in. For HR to gain influence, the top management must acknowledge this interdependency. In other words, the HR professionals' organisational influence is decided by the degree of alignment between the top management and themselves (Damm & Dahte, 2016). This is where the advocating function of HR Analytics comes to use – it can serve as the evidence HR professionals need to enhance their business influence and decision-making capability.

Using HR Analytics for advocating reason can be done by using dashboards that HRIS can provide HR professionals with. By doing so HR professionals can, as pointed out in *2.1.2. HR Processes*, show how KPIs are being monitored and used for strategic work. Furthermore, HR professionals can use HR Analytics to present short-term and long-term predictions of workforce trends (McCartney & Fu, 2022). Additionally, as pointed out in *2.1.1 Organisational Processes* and *2.1.2. HR Processes*, the financial function HR Analytics enables by providing ROI calculations, is another example of how HR Analytics serves an advocating function for HR professionals. With ROI calculations HR professionals can demonstrate their business impact

and become more influential in managerial decision-making processes (Douthitt & Mondore, 2014).

Legitimizing function

In creating the theoretical framework of this study, a theoretical gap has been identified. While the HR profession's struggle with legitimacy has been discussed by many researchers (see *1.2 History and Current State of the HR Profession*), the question of whether HR Analytics can solve the problem has not been researched to the same extent. As described above, the advocating function of HR Analytics provides HR professionals with the ability to advocate for the importance of their work, which indirectly increases their legitimacy. However, legitimacy is not only about the ability to advocate for ideas and practices, it is also about status and influence. We are curious if legitimacy could serve as its own, separate function of HR Analytics. If so, it would close the theoretical gap on a legitimating function.

2.2. Challenges of HR Analytics

Although HR Analytics has been around for years and research shows a positive impact on business, HR Analytics has not been used by a majority of organisations (Marler & Boudreau, 2017). In this subchapter, the challenges of HR Analytics, including barriers to adopting it, and the risks of implementing it, will be presented in three sections (see Figure 3). Figure 3 illustrates the findings made from a comprehensive and substantial literature review, by letting different circles represent the identified challenges surrounding organisational processes, HR processes and the HR profession. The size of the circles reflects the size of the challenge, but they are not connected to any specific functions within the levels.

Before diving into the identified challenges, we want to present the practical implications Marler and Boudreau (2017) shared in their scientific article concerning concurring challenges. To successfully adopt HR Analytics, the following must be moderated. First, the right knowledge and skills must be equipped to collect correct data, perform statistical analysis and communicate the findings in an accessible and understandable way. Second, supportive stakeholders within the company are needed to promote good collaboration when implementing HR Analytics. Third, the IT department should be part of the adoption to facilitate the organisation with a well-functioning

HRIS (Marler and Boudreau, 2017). McCartney and Fu (2022) agreed with Marler and Boudreau (2017) by emphasising the need for supporting culture, and the necessary tools to ensure accessibility and advanced technology.

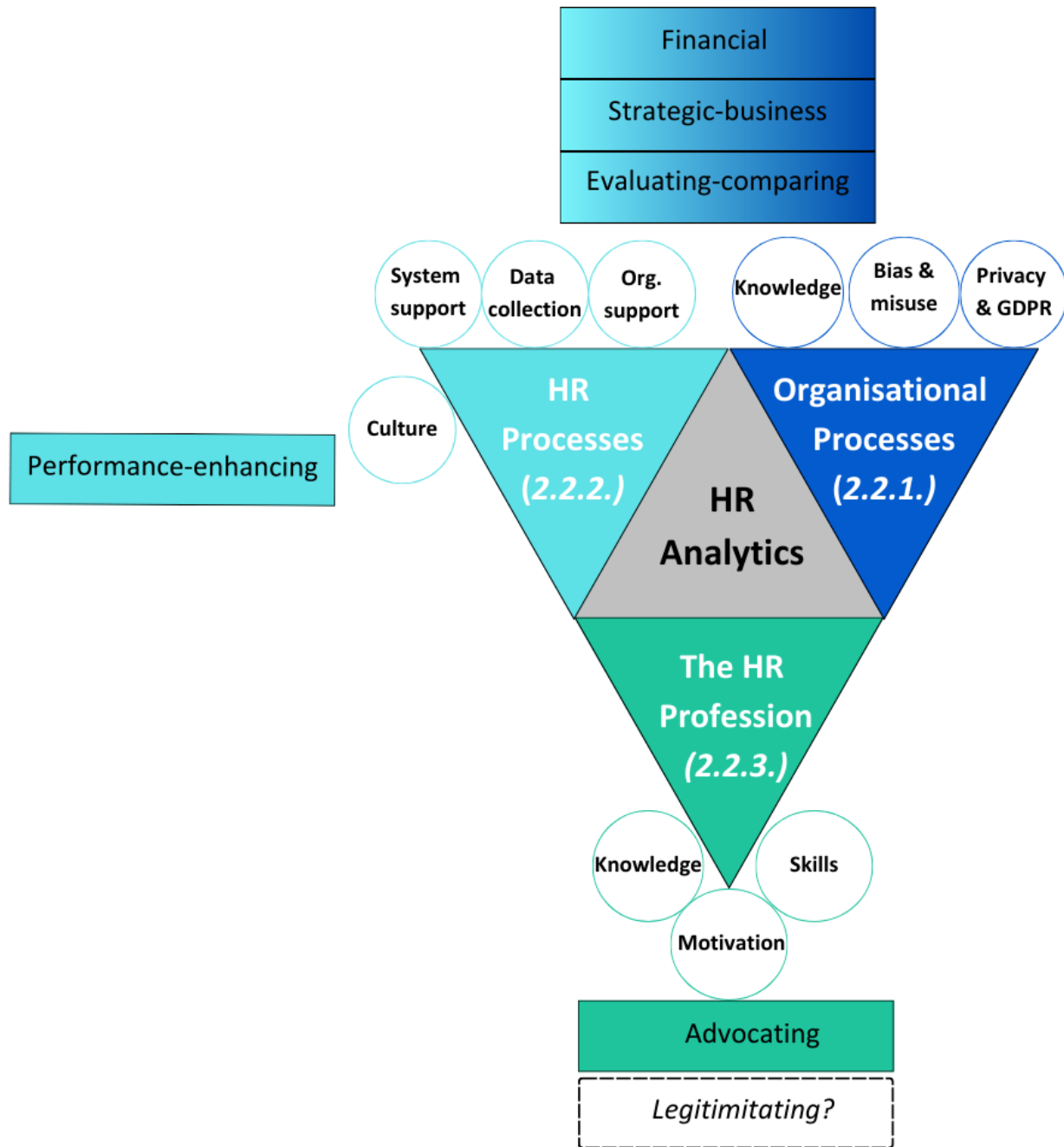


Figure 3: Theoretical Framework of the Functions and Challenges of HR Analytics (compiled by authors)

2.2.1. Organisational Processes

In reviewing contemporary research, multiple organisational risks of adopting HR Analytics have been identified. Cayrat and Boxall (2022) present five major risks they argue should be taken into consideration. The *first* risk concerns data ownership and integration issues. The risk consists of the challenge of locating and integrating the relevant data that HR Analytics provides. Who should have access to the data and its insights? Torre, Sarti and Antonelli (2022) agreed with this risk by stating that organisations must make sure that the data authorship is protected, kept private and conserved. Concerning this challenge Cayrat and Boxall (2022) continued on this note by emphasising the need to consider legislative laws – such as the European general data protection regulation (GDPR) – that organisations must follow.

The *second* risk is making sure that the people working with analytics, typically the HR department, have the analytical competence to master it. Some argue that the HR department is not competent enough, hence, recommending that organisations partner with consultancies or the Business Intelligence (BI) department (Cayrat & Boxall, 2022). Another recommendation is to either create an HR Analytics team within the organisation that consists of statistical experts and HR professionals or put the team and the HR Analytics function outside the HR department, to benefit from expertise from other analytical teams (Cayrat & Boxall, 2022; Rasmussen and Ulrich, 2015).

The *third risk* presented by Cayrat and Boxall (2022) is the degree to which HR professionals respond to immediate and long-term business issues that upper management and line managers claim need to be addressed. Working with HR Analytics, a successful HR professional should therefore promote collaboration with these managers, and other organisational stakeholders such as other analytics teams or finance. The *fourth* risk is that despite HR Analytics' potential of providing accurate information, using this advanced technology does not lessen the role intuition, experience and beliefs play when business-related decisions are about to be made (Cayrat & Boxall, 2022).

The *fifth* and final risk to consider is the danger of prejudices, biases and misunderstandings being designed into the HR Analytic algorithms, resulting in decisions undermining employee well-being (Cayrat & Boxall, 2022). Angarve et al. (2016) and Rasmussen and Ulrich (2015) emphasise this risk too; “HR analytics can be misused to maintain the status quo and drive a certain agenda, i.e. when you know what story you want to tell, and you then go look for data to support same (e.g., requests to ‘validate the effects of our training’” (Rasmussen & Ulrich, 2015, p. 237).

Besides these five risks, Rasmussen and Ulrich (2015) presented a major risk to consider before adopting HR Analytics. They argued that HR Analytics risks becoming a management fad, instead of delivering the powerful value it is supposed to do. A fad is defined as a ‘shiny new idea’ that gets attention but never sticks. If organisations do not fully utilise HR Analytics and only implement it for normative reasons or to look good, HR Analytics risks becoming a management fad.

A final additional organisational aspect to reflect on is that small and medium-sized organisations risk becoming overwhelmed as a response to the fast-paced and accelerating digital revolution we see happening. As these organisations hope to maintain their competitiveness while keeping up with the new external demands and conditions, they risk having a limited approach to ensure HR Analytics is providing them with valid and reliable insights. In today's world, it is therefore important that organisations allow HR to take on the leading role towards this ‘new normal’ way of working. The argument for this is that only HR professionals have the educational background and the competence required to manage HR Analytic implementation (Torre, Sarti & Antonelli, 2022).

2.2.2. HR Processes

The risks presented in the previous section concerning organisational processes, are of course relevant to consider for HR processes as well. Regarding the risks that Cayrat and Boxall (2022) pointed out, the HR department needs to consider the data ownership and integration risk and make sure it has the needed skills to create value by utilising HR Analytics. If it is concluded that the department lacks the necessary knowledge, then it needs to collaborate with the ones who

have the needed competence. Furthermore, as Cayrat and Boxall (2022) argued, the HR department must ensure it generates value for the business both short and long-term by taking the insights from HR Analytics into serious consideration when decisions are made. Additionally, HR needs to be aware that HR Analytics can be biased, hence, the data can not be blindly trusted. Finally, as Rasmussen and Ulrich (2015) pointed out, HR must secure that HR Analytics does not become a fad, but rather a strong business tool they can use to develop their processes for the better.

What is more specific to the HR processes is the organisational support they need to create desired value. Marler and Boudreau (2017) stated two barriers that affect the HR processes negatively. First, if the top management lacks knowledge about HR Analytics and chooses to not support the adoption of it, HR processes risk receiving restricted funding and buy-in. Pape (2016) continued on this note by emphasising the need for organisational support so HR professionals can receive funding for training in their HRIS. The second barrier Marler and Boudreau (2017) presented is if the top management chooses to provide the HR department with a limited HRIS. As a result, the HR department will have limited capacity to spot performance indicators and receive diagnoses, trends and recommendations from the HRIS. Thus, a limited HRIS would obstruct the HR department from optimising predictive and prescriptive HR Analytics. Predictive and prescriptive analytics are, as Dearborn and Swanson (2018) and Schmidt (2021) argued, the top stage of analytical work. Furthermore, the quality of the HRIS must be high, otherwise, the data insights will not be valid. Additionally, if collecting data and integrating it into the system is difficult and time-consuming, then HR process-related work will become challenging (Pape, 2016).

Other barriers or roadblocks identified for HR processes are institutional and cultural constraints (Dearborn and Swanson, 2018). Institutional constraints consist of inaccurate, inconsistent or hard-to-access data, lack of HR Analytics skills and training, and lack of adequate investment in resources. Cultural constraints, on the other hand, refer to leaders and employees not seeing the value in a data-driven culture, lack of top management support, and the risk of HR not knowing how to relate HR Analytics to business outcomes successfully.

Additionally, another challenge HR departments face in their work with HR Analytics is deciding on what HR data to collect. Faletta (2014) pointed this out after asking HR professionals what types of data they found appropriate and inappropriate to collect. The data they found appropriate to collect were data concerning performance appraisal and evaluation ratings, demographic data, personality assessment results and 360 feedback results from leadership development purposes. The data they saw as inappropriate to collect were data concerning employees' prescriptions on drug usage obtained legally, private data gathered from social media, and video material used to monitor work patterns and behaviour. What could be concluded from the study was that ethical dilemmas are important to consider when working with analytics based on HR data. Thus, there must be a balance between what businesses want and what employees would feel comfortable with.

A final risk with using HR Analytics in HR processes relates to Rasmussen and Ulrich's (2015) concern about HR Analytics not being fully used and, thereby, becoming a fad. Douthitt and Mondore (2014) argued for the importance of optimising the use of HR Analytics in HR processes, meaning, data can not only be collected; it must also be analysed. In their article, Douthitt and Mondore (2014) gave turnover rate as an example of where running turnover reports is not relevant, unless you are trying to identify what is causing the turnover. Therefore, it is of great importance that HR departments aim to create the best possible business value. Only then can HR processes become profitable, and not only costly.

2.2.3. The HR Profession

Now, moving away from HR processes, we focus on the challenges HR professionals face when adopting and using HR Analytics. As presented earlier in *1.2. History and the Current State of the HR Profession*, the HR profession has been struggling with its legitimacy throughout its history (Wirges & Neyer, 2022; Belizón, & Kieran, 2021; Heizmann & Fox, 2019; Mahadevan & Schmitz, 2019; Damm & Dahte, 2016; Cappelli, 2015; Thompson, 2011; Bassi, 2011; Lawler et al., 2004; Qureshi, 2020). HR has been valued and devalued based on the state of the economy and the funding and appreciation HR has received have been decided based on the CEO's and top management's opinion on it (Cappelli, 2015; Damm & Dahte, 2016). However, if HR professionals start adopting HR Analytics and utilising it for business impact, then the profession

can improve its status and become the strategic partner it dreams of (Heizmann and Fox, 2019; Rasmussen & Ulrich, 2015; McCartney & Fu, 2022). However, some challenges need to be addressed to adopt and fully utilise HR Analytics.

First, HR professionals come with an educational background that is people-focused and not analytical, hence, they lack analytical skills. This lack of skills creates a barrier that limits HR professionals from learning about HR Analytics and adopting it in their organisations (Angrave, et al., 2016; Lawler et al., 2004; Marler & Boudreau, 2017; Vargas et al., 2018; Cayrat & Boxall, 2022; Rasmussen and Ulrich, 2015). Rasmussen and Ulrich (2015) highlighted that HR professionals typically do not have a keen interest in engaging in analytical work – “ [...] most HR professionals are not attracted to HR because of the opportunity to work with data and analytics as part of their role.” (p. 239). Vargas et al. (2018) added to the skills gap discussion by stating that the use of HR Analytics among HR professionals has not kept pace with organisational needs, which results in HR not acting as a strategic partner.

If the HR professionals do not speed up and upskill themselves to adopt HR Analytics into HR work, HR professionals will be taken over by other departments such as finance or IT (Angrave et al., 2016; Bassi, 2011; Marler & Boudreau, 2017). In other words, the lack of analytical knowledge among HR professionals combined with an unwillingness to keep up to pace, is both a barrier to adoption but also a risk of losing the business opportunity to other professions. As a result, the value of the HR profession would decrease once again (Charlwood, & Guenole, 2022) and organisations would lose the HR Analytics work to finance or IT. These professions have historically not had the skill to care for employees in the way that HR does (Bassi, 2011). This could potentially damage the quality of work and employee well-being (Angrave et al., 2016). However, Rasmussen and Ulrich (2015) argued that collaboration with other departments could be beneficial, and it should naturally occur as the use of HR Analytics matures.

Second for HR professionals to fully utilise the possibilities of HR Analytics, they need technological support (Giuffrida, 2014). Giuffrida (2014) presented that only 13% experienced that they had the necessary technologies or systems needed. The technological systems available to HR professionals typically are restricted to operational functions. This means presenting only

‘basic’ metrics such as the number of applicants in the pool or how much time is needed to fill certain positions (Giuffrida, 2014). Instead, HR professionals should receive the organisational support to buy in more advanced technology, so that HR Analytics can serve a strategic function too. Besides not having enough technologically advanced systems, the systems available typically are not flexible enough to adapt to the shifting conditions HR professionals experience. Hence, the systems are too rigid to meet ad hoc requirements (Angrave et al., 2016; Giuffrida, 2014). Furthermore, it is common that the different systems are not able to communicate with each other, hence, they are not well-integrated. However, this may not be a huge issue – if all capabilities would be integrated into one big system, the system would still produce the same type of data, making the HR professionals “[...] stuck having the same old impact” (Douthitt & Mondore, 2014, p. 20).

Fourth, according to Giuffrida (2014), only 18% of business leaders trust the data and the insights that have been generated from HR Analytics. Hence, top management lacks faith in their HR professionals and, additionally, four out of five business leaders perceive their HR department as not having the skills to improve their HR Analytics capabilities (Giuffrida, 2014). However, while the HR professionals are not being trusted, they still experience that they have limited time at work, as their plate of other obligations keeps getting bigger when it is already filled. As a result, this makes the HR professionals feel that they do not have the time to upskill and invest time and energy into implementing HR Analytics (Bassi, 2011). Hence, we can see a paradox where the profession is highly trusted in doing certain tasks, but not trusted in doing other tasks such as implementing HR Analytics or acting as a strategic business partner.

A fifth challenge is the risk of data fetish. Rasmussen and Ulrich (2015) argued that this risk may occur, as HR professionals try to upskill themselves in analytical knowledge. However, it will only happen if the business focus is lost – data should not be collected for the sake of data, it should be collected to enable informed decision-making. Therefore, it is important for HR professionals to not start collecting data without aligning the work with present and future business challenges. HR will never create business success if they validate existing assumptions in practice. If they can add value by providing new insights with the use of HR Analytics, they will create business success. Furthermore, Rasmussen and Ulrich (2015) recommended that the

data should be supported by qualitative data such as intuition and experience because it will boost storytelling and create a coherent story when talking to key stakeholders – sometimes, only showing data is not enough.

2.3. Four Stages of Analytics

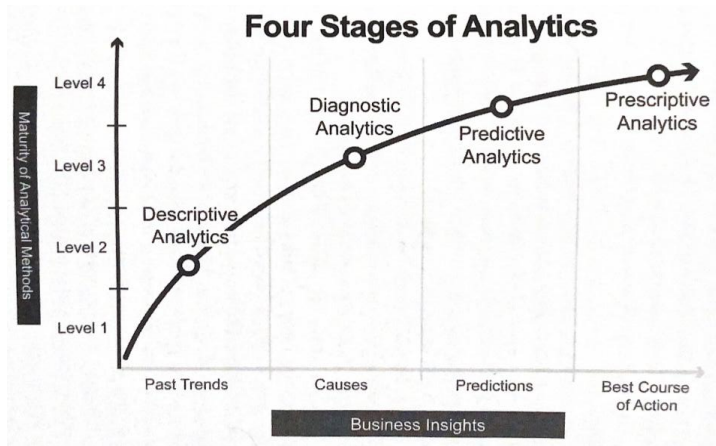


Figure 4: *The Four Stages of Analytics* (Dearborn & Swanson, 2018 p. 53).

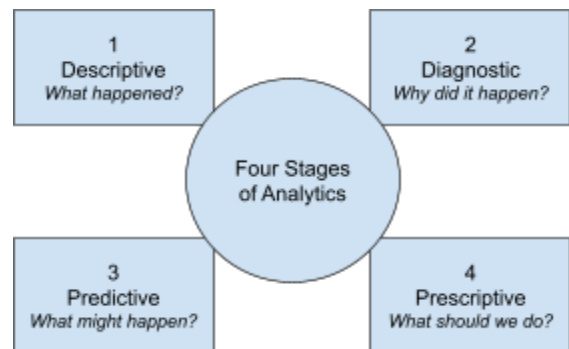


Figure 5: *The Four Stages Explained:* from Dearborn and Swanson (2018, p. 55) (compiled by authors).

In the book, *The Data Driven Leader*, Dearborn and Swanson (2018) presented *The Four Stages of Analytics* (see Figures 4 and 5). The framework serves the purpose of guiding people that are new to analytics, and it is doing so by illustrating how to think about analytics to target business challenges.

The first stage is called *Descriptive Analytics* and these metrics provide answers to the question ‘What has happened?’. It reveals present statistics and historic trends e.g. the number of people hired, employee engagement scores and time to fill requisitions, which can be used to guide decision-making and be compared to KPIs. Furthermore, the metrics are typically pulled from reports or dashboards. In the operational day-to-day business, the analytics tend to be descriptive analytics. The second stage in the Four stages of Analytics, is *Diagnostic Analytics* which serves the purpose of answering the question ‘Why has this happened?’. At this stage, the descriptive data is analysed with the help of techniques that identify degrees of correlation and relationships

between different variables. This enables conclusions to be drawn that can pinpoint certain problems or causes, which can guide problem-solving actions.

The third stage in the framework is called *Predictive Analytics* and answers the question ‘What could happen?’. At this stage, the data is being analysed to spot probable outcomes by finding correlations within both present and historical data. For this, more advanced techniques are needed which include statistics, modelling, machine learning and data mining. Finally, the fourth stage in the Four stages of Analytics is named *Prescriptive Analytics*. Here the question ‘What should we do’ is answered, and this is done by the system analysing both descriptive and predictive analytics to explore possible solutions and optimal courses of action. If the system is fully advanced, it can even provide reasons for the recommendations it is presenting.

Besides explaining and defining the different stages of analytics, Dearborn and Swanson (2018) presented to what extent HR Analytics is used in organisations. About 50% of organisations using HR Analytics are using descriptive analytics, and only 30% are using diagnostic analytics. 10% are using predictive analytics to strategise their work, and about 4% of all organisations using analytics utilise it prescriptive-wise.

2.4. The Interdependency of Diffusion of Innovation Theory & Isomorphism

From reviewing contemporary research we found that the Diffusion of Innovation theory (DOI) developed by Rogers (2003) has been used to study the expanded use of HR Analytics among organisations and HR professionals (Marler & Boudreau, 2017; Vargas et al., 2018).

The DOI theory argues that innovation is only fully adopted, when people have passed the five processes, which are (1) knowledge, (2) persuasion, (3) decision, (4) implementation and (5) confirmation (see Figure 6). The first process stage, *Knowledge*, is where the individual learns about the innovation’s existence. In the second process stage, *Persuasion*, the individual forms an attitude towards the innovation. This step is more affective than it is cognitive. In the third stage, *Decision*, the individual decides to either adopt or reject the innovation. The innovation is put into practical use in the fourth stage, *Implementation*. Finally, at the fifth stage, *Confirmation*, the individual seeks supportive evidence that adopting the innovation was a good

decision. Depending on the evidence found, the practical use of the innovation may expand, or be discontinued (Rogers, 2003).

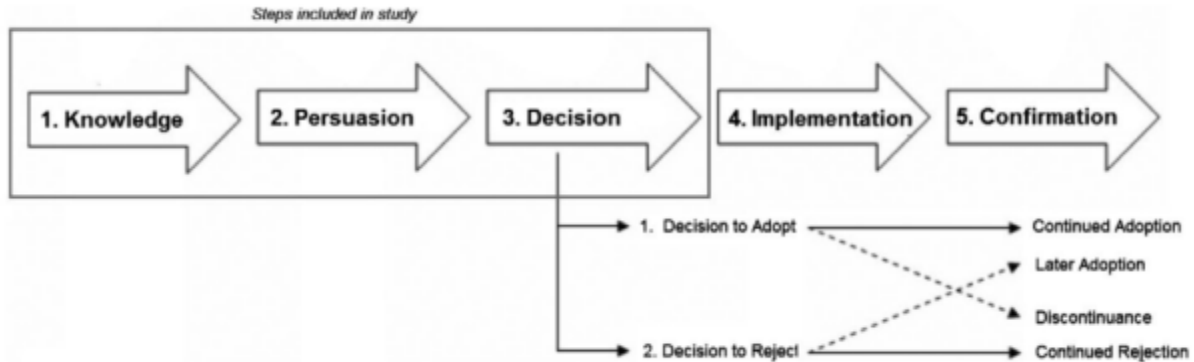


Figure 6: Redeveloped from *Diffusion of Innovation* (Rogers, 2003, p. 170), by Vargas, R. et al. (2018, p. 3047)

Because people will start this five-step process at different times and they may need more or less time to decide to adopt, Rogers (2003) divided this population into 5 groups; (1) innovators, (2) early adopters, (3) early majority, (4) late majority and (5) laggards. *Innovators* are characterised by people being open to adopting the innovation while expecting and being prepared to cope with the innovation not being fully profitable. These people have the persona of being venturesome. The *early adopters*, on the other hand, tend to be more respected and typically have leadership positions. These people may want more time before adopting the innovation, but when doing it, they inspire others to approve it. The *early majority* includes people who are similar to the early adopters, but they typically do not have leadership positions. This group tends to adopt the innovation just before the other half of their peers start to adopt it. The *late majority* is the group of people, around $\frac{1}{3}$, who wait to adopt the innovation until most of their peers have. This group may be sceptical towards the innovation, but peer pressure and/or economic necessity influence them to adopt it. Finally, *laggards*, the fifth group, are sceptical and traditional and do not like change. These people typically want to adopt an innovation only when it has been shown that it works and is beneficial to use (Rogers, 2003).

As Marler and Boudreau (2017) saw that only 16% of organisations use HR Analytics, they declared HR Analytics as a diffusing innovation that is at the early adopter stage. In other words, the early majority, late majority and laggards had not yet adopted HR Analytics. To support this

conclusion they drew insights from Paauwe and Boselie (2005) that discussed the term *isomorphism* about drivers that motivate the adoption of new behaviour. Isomorphism is when one unit in a population resembles other units that face the same set of environmental conditions.

As our thesis aims to study HR professionals' perceptions and opinions of HR Analytics, HR professionals can be defined as units if we see the HR profession as a population. If doing so, isomorphism can be declared as the interdependence between the different HR professionals. If we refer back to Marler and Boudreau (2017), who defined the HR profession as a population that is at the early adopter's stage of HR Analytics, then it is relevant to recognise the motivational drivers they see affect the HR profession. What they concluded was that early adopters' isomorphism is fueled by 'competitive' elements like managerial rationality, economic and competitive rationality, and projected risk-return tradeoffs. However, for the later adoption groups, *institutional* isomorphism forces, such as 'coercive' (trade unions, legislation), *mimetic* (copying best practices of others), and *normative* (norms promoted by respected institutions such as universities, professional associations, social networks, etc.), have a stronger influence.

Thus, the reason why the adoption of HR Analytics has been limited is not explained as “[...] a symptom of a lack of belief that HR Analytics can work, but rather the natural progression of innovation adoption in which only a small proportion of organizations attend to such evidence because they are the only ones willing to take the risk of early adoption.” (Marler & Boudreau, 2017, p. 22). The larger proportion's future decision to adopt will instead be driven by institutional factors. On the other hand, theories could suggest that it is the lack of scientific evidence, or that it is not seen as credible, that has limited the adoption of HR Analytics (Marler & Boudreau, 2017).

2.5. Presentation of Analytical Framework

In this chapter we have gone through the contemporary research which has illustrated the functions of HR Analytics and typical challenges which can arise when adopting HR Analytics. Furthermore, the identified functions and challenges of HR Analytics have been connected to three different levels – organisational processes, HR processes and the HR profession. Finally, the four stages model was presented, as well as Roger's Diffusion of Innovation (DOI) theory

with the support of isomorphism. Together, this literature review guides our analytical process, which will be presented with our empirical results in Chapter 4. *Results and Analysis*. The analytical process will include the analytical model (see Figure 7) and the model of the theoretical framework (see Figure 3). Together they serve the purpose of this thesis – to explore HR professionals' perceptions and opinions on using HR Analytics in their work and identify the functions and challenges that HR Analytics brings to the organisation, the HR department, and the HR profession. Furthermore, they target one research question each.

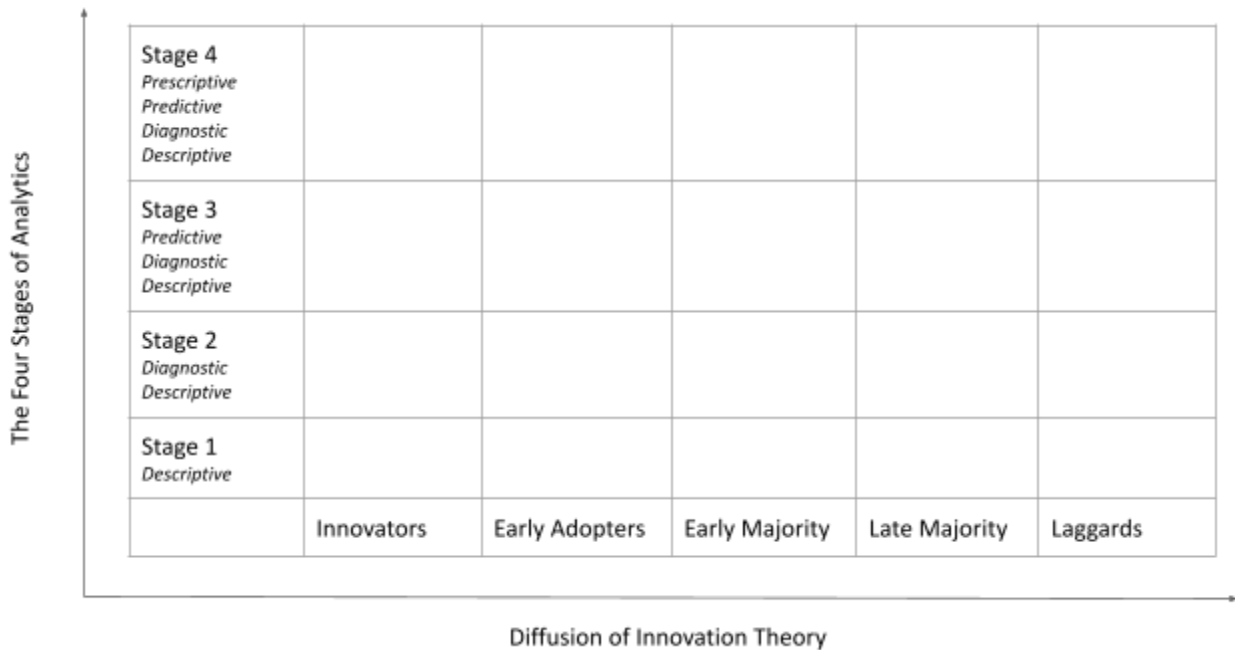


Figure 7: Analytical Model of the Four Stages of Analytics and the Five Adoption Groups (compiled by authors)

The analytical model supports the first research question ‘What are HR professionals' perceptions and opinions on using HR Analytics in their work?’. The model integrates ‘The four stages’ and Roger’s DOI theory, to illustrate the extent HR Analytics is being used by the interviewed HR professionals while visualising where they are located on Roger’s DOI scale – are they innovators, early adopters, early majority, late majority or laggards?

The theoretical framework model supports the second research question ‘What functions and challenges does HR Analytics bring to organisational processes, HR processes and the HR profession?’. This model illustrates the functions and challenges which have been presented in

the theory chapter, and they have each been connected to the three levels: organisational processes, HR processes and the HR profession. What furthermore has been added to the model is our forecasted belief that HR professionals have experienced an increased legitimacy by using HR Analytics. Hence, we have added this, what we choose to call, *legitimizing function* to this model, but this function has a dotted border due to the theoretical gap.

3. Methodology

In this chapter, we will provide an overview of the methodology used for this study. First, we describe the comprehensive and substantial literature review which plays a central and guiding role in this thesis. Thereafter, the qualitative research approach is presented and the primary data collection method, online interviews, will be argued for. After that, the interviewee population will be described followed by a description of the analytical process used for analysing the collected empirical data. Finally, the chapter ends with a critical reflection on the research quality.

3.1. Description and Sampling of Literature Review

The comprehensive and substantial literature review presented in Chapter 2. *Theoretical Framework* has played a central role in this thesis. It has been used to both confirm present theories and challenge contemporary discourses. The sampling consists of peer-reviewed articles concerning the adoption and use of HR Analytics among HR professionals. The articles look into the organisational value HR Analytics brings to the business and how HR Analytics can best be utilised and incorporated into HR processes. Furthermore, the sampled literature reflects the challenges identified concerning the adoption of HR Analytics, and it sheds light on motivating factors connected to innovation theory and isomorphism.

All literature has primarily been conducted from the Lund University library platform LUBsearch. Keywords used in combination when searching for literature were ‘HR Analytics’, ‘People Analytics’, ‘Talent Analytics’, ‘Workforce Analytics’, ‘HR’, ‘Legitimacy’ and ‘ROI’. A second platform which has been used is Google Scholar. Google Scholar has only been used when we have searched for literature which has been referred to in our other literature material.

For example, Marler and Boudreau (2017) presented an overview of the contemporary research at the time, which we then choose to review ourselves. The search platforms have been used to ensure high quality of research and the peer-review filter has been used to block out research of lower quality.

The majority of the material consists of articles published in scientific journals, and the remaining literature includes theoretical books. What supported this decision to combine empirical articles with theoretical literature, was that it would reflect present research findings while providing new perspectives. When deciding on sampling, we also wanted to ensure having a diverse literature, hence we chose articles where the authors are based in different geographical origins – New Zealand, Sweden, United States, India, Singapore etc. When choosing literature, publication years have also been considered and reflected on. The majority of the literature was published between 2015 and 2023. The exceptions are Devanna et al. (1981), Lawler et al. (2004), Levenson and Boudreau (2004), Bassi (2011), Mondore, Douthitt and Carson (2011), Thompson (2011), Aral et al. (2012) and Faletta (2014). More extensive reflections on the quality of the literature and how we have influenced the literature review will be discussed in *3.6. Critical reflection of research quality.*

3.2. Qualitative Research Approach

For this study, a qualitative research approach has been used to fulfil the purpose of this study and answer its explorative research questions. For reference, see *1.4. Purpose and Research Questions* or Figure 8. A qualitative research approach was chosen because it aims to search for an in-depth understanding of people’s experiences and perceptions of a research problem or a phenomenon (Salmons, 2016) In other words, it creates “new understandings of the meaning people give to their lives” (Salmons, 2016, p. 3).

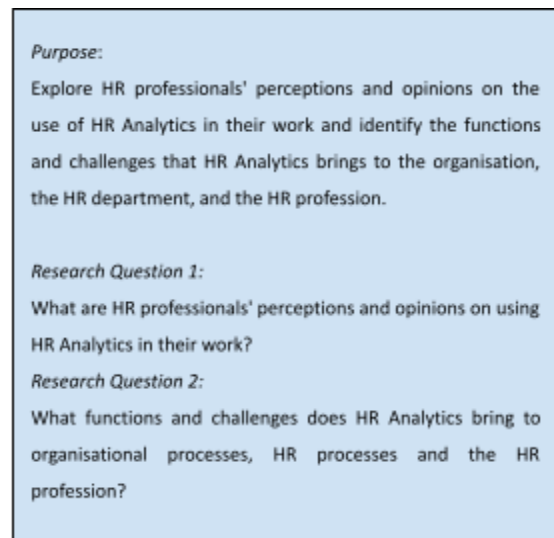


Figure 8: Purpose & Research Questions

When engaging in qualitative research the researcher adopts the ontological view that people construct their reality, making each individual's perspective on life subjective (Salmons, 2016). For us, this means that the opinions and perceptions which has been collected from HR professionals reflect their separate realities. Brinkmann and Kvale (2015) shared that this ontological view is called *phenomenology*. For this thesis, we have not exclusively chosen a phenomenological ontological view. Instead, we have chosen to support it with a *pragmatic* ontological viewpoint. A pragmatic view means that the concepts and meanings someone believes in are generalisations of past actions and interactions we have had with our environment. Hence, a person's beliefs and assumptions are socially constructed and ever-changing, making their truth current and tentative (Sekaran & Bougie, 2016). Applying these two ontological views – (1) phenomenological and (2) pragmatic – to our research study indicates that the data which has been collected from HR professionals will not only be subjective but also represent their present opinions and perceptions which have been socially constructed.

In *1.2 History and Current State of the HR Profession*, we concluded that the HR profession historically has had a legitimacy problem. This problem can be referred to as what Sekaran and Bougie (2016) defined as a business problem; a problem encountered in the work setting. When trying to find solutions to a business problem which can guide managers to make informed decisions to successfully deal with problems, one is engaging in business research (Sekaran & Bougie, 2016). Because the HR profession has a legitimacy problem and this thesis has sought to understand how HR Analytics can empower the HR profession, our study reflects business research.

Benefits and Challenges of Qualitative Research

The benefits of conducting qualitative research are multiple. First, it enables the researcher to engage in different and flexible work processes, making the approach emergent, reflexive and process-driven (Sekaran & Bougie, 2016). Second, rich and in-depth data can easily be collected (Salmons, 2016). However, what is both a benefit and a challenge is that the researcher is an instrument in the qualitative research approach. Hence, the researcher naturally influences the way the empirical data is generated, and how it is being analysed (Denscombe, 2018; Mill and

Birks, 2014). What Denscombe (2018) has pointed out as vital for researchers engaging in qualitative research is that they reflect on how they manage their research – how they approach it and argue for decisions. For us, it has, therefore, been important to engage in these reflections to enhance our awareness and decrease the impact of our biases. To ensure a high degree of research quality, we have followed the recommendations presented by Mill and Birks (2014). These include fostering self-awareness, clarity of purpose, commitment to hard work and internal motivation. These recommendations including additional quality aspects will be further discussed in Subchapter 3.6. *Critical reflection of research quality*.

Explorative Research Questions & Research Gap

To serve the research's purpose, we have chosen to construct exploratory research questions because this type of question collects rich and in-depth data (Sekaran & Bougie, 2016). Furthermore, it serves our exploratory purpose, which has been chosen because we want to learn more about the subject of HR Analytics and HR professionals' opinions and perceptions of it. Furthermore, we have found that there is a gap in today's research. Contemporary research studies have delved into the definition of HR Analytics and the value it can create for organisations. Moreover, it has been pointed out that HR departments should be the ones implementing HR Analytics in their organisations because HR professionals are people-focused and not only business-focused (Bassi, 2011). However, what has not been focused on is the HR professionals' opinions and perceptions of HR Analytics. Hence, our research has adopted explorative research quotations focusing on HR professionals' viewpoints to fill this gap in research.

3.3. Primary Data Collection Method: Online Interviews

When doing qualitative research there are different methods the researcher can choose to use (Sekaran & Bougie, 2016; Cassell, 2015). We have chosen to use interviews as our primary data collection method. We argue that this has been a suitable approach because it has enabled us to collect a large amount of data from the HR professionals we chose to interview. What we have found beneficial with conducting interviews is that it has allowed us to control the data collection by steering the interview as we wanted. Hence, we could be flexible during the interview and ask follow-up questions to the different interesting topics the interviewees chose to elaborate on.

When designing our interview method, we naturally made some decisions so our method would suit our preferences for this research. Our first decision was to conduct the interviews online using Google Meet to allow video format, but also allow people working in the Lund/Malmö region to have the interview on-site. Conducting video interviews, given the growing usage of the internet and familiarity with internet tools, is beneficial because it enables face-to-face interaction, where visual cues can be picked up while allowing the participation pool to increase (Cassell, 2015). Additionally, the interviewees can choose their spot for the interview, which we saw as a flexibility-benefit as the interviewees can locate themselves in a quiet and well-suited spot where they feel comfortable. The reason for choosing Google Meet was that it is free to use, no account needs to be created, it allows screen sharing if needed, and has a user-friendly design (Google Meet, n.d.). Originally, we had two interviews booked on-site, but one had to cancel and the other interview ended up being hosted online. A limitation of conducting interviews online is that the quality of the interview partly depends on the internet connection and partly on the equipment being used (Cassell, 2015). Therefore, we chose to limit our interview traffic during the interview, and we made sure to test our computer microphone to ensure no headset with a built-in microphone would be needed.

The second decision we made when designing our interview method, was to record all interviews on one of our mobile phones. Initially, we planned on recording the meeting on Google Meet, but because the recording function is a premium function, that was not possible (Google Meet, n.d.). The third decision we made was to use the digital tool Calendly, to simplify the booking process for our interviewees. The benefit of using Calendly is that it allows the interviewees to review all available time slots, choose their preferred time, and receive a calendar invite including information about the interview and a meeting link (Calendly, n.d.). The fourth decision made when designing our interview method was that one of us would hold the interview, and the other one would take notes. What supported this decision was that both of us would be given a clear task, hence, no one would need to multitask and risk missing important statements from the interviewee. Instead, we could stay focused on our separate tasks.

Designing the interview guide

Before conducting the interviews, we made sure to write a valid interview guide (see Appendix 1) that would answer the thesis's research questions and purpose. To enable that, we decided on a semi-structured interview, which according to Cassell (2015) is beneficial because the structure allows flexibility without being too rigid. In other words, by applying a semi-structure to the interview, the interviewer is steered in a set direction, but the interviewer can choose to deviate from the structure to ask unplanned sub-questions depending on the responses received. It allows the interviewer to explore the subject being discussed while making sure the questions are being answered (Cassell, 2015).

When designing the interview, we chose a thematic format in accordance with the research questions, to explore HR Analytics concerning the three levels being organisational processes, HR processes and the HR profession. Additionally, an introductory section was added to focus on asking general questions for the interviewee to introduce themselves. Before starting the interview, we also made sure to inform the interviewee about the purpose of the study and the interview. Furthermore, we explained the interview format and shared how the data would be collected through sound recording and note-taking. Additionally, we presented that the empirical data would be analysed and presented in our thesis, and all material besides the thesis would be deleted afterwards. To end the introduction and kick off the interview we asked for consent and opened up for questions. To finish up the interview, we decided that the interviewee would be informed that all questions had been answered, and then we would open up for reflections. For this, we formulated questions asking the interviewee for any additions and reflections on how they experienced the interview. This provided us with the feedback we could learn from. Finally, the interview ended with us thanking the interviewee for participating.

When designing our interview guide, we chose to formulate open-ended questions and close-ended questions depending on the purpose of the question. For example, we had two quantitative questions in the end, where the interviewees were asked if (1) they had felt that using HR Analytics had increased their legitimacy and (2) if they would claim that HR Analytics serves as an advocating instrument when arguing for the implementation of HR initiatives. The

reason for including these quantitative questions, in addition to our qualitative questions, was to explore if the interviewees potentially had experienced increased legitimacy after adopting HR Analytics. Finally, the interview guide was made in Swedish as all interviews were conducted in Swedish. What supported this decision was that all participants had professional proficiency in Swedish and Swedish is our native language. Hence, choosing Swedish over English felt most relevant and beneficial.

As pointed out in 3.2. *Qualitative Research Approach*, it is important that the researcher reflects on its influence on the research as well as the research's overall quality (Denscombe, 2018). Therefore, we will discuss the quality of our primary data collection method, being online interviews in 3.6. *Critical reflection of research quality*.

3.4. Description and Sampling of Interview Population

Qualitative research is typically characterised by a small sample group of participants because the goal is not to provide a large comparative cause-and-effect analysis but rather to gather rich and detailed data that provides new insights and perceptions on a phenomenon or research problem (Salmons, 2016). Because we decided on a qualitative research approach, a small sample group consisting of HR professionals working with HR Analytics suited our research purpose and our research questions.

When deciding on interviewees, we chose to do an empirical demarcation where we aimed to contact HR professionals based in Sweden. We thought about including other geographics but decided on Sweden as it would increase the generalisability for HR professionals working with HR Analytics in a Swedish context. The participants were sourced by applying a specific search string on LinkedIn: ("hr analytics" OR "people analytics") AND (hrbp OR "hr partner"). The formulation of the search string was created based on the requirements that we wanted to find HR professionals who had expressed on their LinkedIn profile that they (1) worked with HR Analytics today or did previously and (2) had a senior position where they are currently working closely with the top management team. When applying our search string 95 people were found relevant. 41 of these were contacted, 22 responded, and ten got selected. When reaching out to the candidates we used the InMail function on LinkedIn Recruiter. The template used (see

Appendix 2) enabled the interviewees to be given a short presentation of the study and us, and by including a Calendly link in the template they were able to book a time slot for their interview.

Our sample group (see Table 1) consisted of ten Swedish-speaking individuals in total, five men and five women. The youngest person interviewed was 28 years old and the oldest was 55 years old. The mean of the sample was 39.7 years and the median was 37 years. Four participants lived in Stockholm, three lived in Gothenburg or Malmö, and the remaining lived in smaller cities in Sweden. Three participants had ten years or less of HR experience, four had between ten and fifteen years of HR experience, two had between fifteen and twenty years of HR experience, and one had more than twenty years of HR experience. A majority (8) worked in private organisations, and two worked in the public sector. Four of the organisations had less than 1000 employees, four had a range between 1000 and 4000 employees and two organisations had more than 16 000 employees. Two individuals worked as self-employed consultants and the others were employees.

Participating in the interviews meant that they all would be anonymised. The way we define being anonymous means that we can provide information about the participants as long as it can not be tracked to them. For example, no names, employers or unique personal information would be presented. Some of the interviewees requested anonymity vocally, while others did not. However, before designing our interviews, we had already decided on letting the interviewees be anonymous. What supported this decision was that we wanted the interviewees to feel comfortable expressing both positive and negative opinions and perceptions on working with HR Analytics. Furthermore, we wanted them to be open with their struggles and feel comfortable to share if they for example would feel or had felt a lack of organisational support or managerial support. Hence, by allowing them to be anonymous, they could feel more comfortable expressing their opinions, thoughts and feelings.

Participants	Sex	Age	Location	Years in HR	Private/Public owned	No. of Employees
Interviewee 1	Woman	28	Stockholm	7	Private	1700
Interviewee 2	Male	45	Göteborg	17	Private	400
Interviewee 3	Woman	55	Stockholm	10	Private	23000
Interviewee 4	Woman	37	Linköping	10	Private	800
Interviewee 5	Male	38	Stockholm	13	Private	700
Interviewee 6	Male	37	Varberg	9	Public/Self-Employed	3400
Interviewee 7	Woman	35	Göteborg	13	Private	100
Interviewee 8	Male	48	Göteborg	24	Private	2300
Interviewee 9	Male	44	Stockholm	18	Private/Self-Employed	2000
Interviewee 10	Woman	30	Malmö	6	Public	16000

Table 1: *Interviewee Participants*

3.5. Description of the Analysis of the Empirical Interview Data

When reviewing and analysing the collected qualitative data, the researcher typically uses an inductive or abductive approach to identify specific themes and trends, which generates findings (Salmons, 2016). For our analysis, we used an overall inductive approach because we aimed to find rich and unique data. With a comprehensive and substantial literature review, the contemporary research field provides much insight into HR Analytics. In addition to the literature review, the empirical data consisting of interview material has been examined and analysed in comparison to the literature review.

When coding and analysing the empirical data we drew inspiration from Brinkmann and Kvale's (2015) recommended five steps (see Table 2). First, we read through the interview notes separately to get a general idea of the interviewees' opinions and perceptions. Second, we identified the different opinions and perceptions that appeared naturally as we read through the interview notes, Third, the opinions and perceptions were grouped into different categories. The fourth consisted of us relating the opinions and perceptions and their categories to the research purpose and the research questions. This meant that we grouped them into organisational processes, HR processes and the HR profession. After this, we compared the interviewees' perceptions and opinions to the theoretical framework. This moved us to the fifth and final step, where the most essential themes that reflected or contradicted the literature review got tied

together into descriptive statements. The results, including the matrices we used after coding and grouping our empirical data, and the analysis made will be presented in Chapter 4. *Results and Analysis*.

The Analysis of an Interview
Step 1: The complete interview is read through to get a sense of the whole.
Step 2: The natural ‘meaning units’ of the text, as they are expressed by the subjects, are determined by the researcher.
Step 3: The theme that dominates a natural meaning unit is restated by the researcher as simply as possible, thematizing the statements from the subject’s viewpoint as understood by the researcher.
Step 4: Interrogating the meaning units in terms for the specific purpose of the study.
Step 5: The essential, nonredundant themes of the entire interview are tied together into a descriptive statement.

Table 2: *The Analysis of an Interview, Brinkmann and Kvale (2015, p. 234-235) (compiled by authors)*

When coding and analysing interview material different interpretations can be made, hence, the researcher should be aware of its active role when studying the data (Brinkmann and Kvale, 2015). To minimise the risk of a biased interpretation, we decided that we both would code and analyse the interview material, instead of only one. What supported this decision, was that four eyes are better than two, meaning, if we both look at the material and perceive it differently, then we can discuss that with each other. This way of working enabled us to question each other's interpretations.

3.6. Critical Reflection of Research Quality

After presenting, describing and arguing for our methodological approach to the research subject of HR Analytics, it is now time to examine the quality of our research. When doing research it is important to ensure it is of high quality. Therefore, the researcher must reflect on the choices that he or she makes and what consequences they have (Denscombe, 2018; Brinkmann and Kvale, 2015; Sekaran & Bougie, 2016; David & Sutton, 2016). In this subchapter, we will, therefore, provide a general reflection on the research quality. Second, a quality review of the use of

contemporary literature will be presented. Finally, a focused quality review on the choice of conducting interviews will be presented as well as a discussion on alternative research approaches.

General Research Quality

Throughout our research, we have actively reflected on alternative decisions and their consequences to make informed decisions. All decisions made have been motivated by the positive impact they have on the validity and reliability of the research. In other words, we have through this research process connected our roadmap to our research purpose and the research questions, to make sure the purpose is fulfilled and the questions answered. In addition to these reflections, we discussed our ontological view and what prerequisites we come with that can make us biased but also support us throughout this research. This way of working – to reflect on decision-making and potential consequences while also reflecting on prerequisites – is profitable and a quality characteristic for research, according to David and Sutton (2016).

To further improve the quality of our research, we have made sure to study contemporary research to identify what discourses there are and what the research lacks. From doing this, we have followed Allwood and Erikson's (2017) recommendation to highlight in what way our research findings reflect contemporary research, hence strengthening present discourses. However, besides reflecting contemporary research, new findings have been identified to expand the field of research.

The generalisability of the study is relatively high. It is supported by the wide spread of theory being used, the equal balance between women and men among the interviewees, and the diverse positions and ages of the interviewees. One limitation of the study is that all the interviewees operate in Sweden, hence, they can only shine a light on their Sweden-based work. Had we included interviewees from other countries, the generalisability would have increased as the diversity of the population would have increased. Furthermore, the number of interviewees would have been higher, meaning that the results would also become more generalisable. However, concerning the time frame that has been available for conducting this master thesis, the

choice of limiting the interview number to ten was made to create the best value concerning the set time frame.

Validity and reliability, two other quality measurements for research (Brinkmann and Kvale, 2015; Sekaran & Bougie, 2016; David & Sutton, 2016), have been ensured based on the following factors. First, as presented earlier, all decisions have been made to serve the purpose of the research and the research questions. Secondly, our interviews and literature review have been conducted to quality-enhancing guidelines which have been presented. Thirdly, to enhance our trustworthiness we have made ourselves visible throughout this methodology chapter by arguing for our decisions and reflecting on their advantages and disadvantages. Furthermore, we have worked on our awareness by reflecting on our prerequisites and potential biases to limit their impact on our research findings.

Quality of the Literature Review

When engaging in business research it is recommended to reflect on ethical issues, especially when building research on the work of others (Sekaran & Bougie, 2016). For the purpose of this thesis, we have not fully relied on any specific findings a researcher has provided the field with. However, we have studied contemporary research to inspire our research and it has also been used to spot confirmations or disconfirmations.

When relying on the work of others Sekaran and Bougie (2016) highlighted two pitfalls the researcher has to be aware of. The first one is “Purposely misrepresenting the work of other authors – that is, their viewpoints, ideas, models, findings, conclusions, interpretations, and so on.” (Sekaran & Bougie, 2016, p. 59). The second pitfall is “Plagiarism – the use of another’s original words, arguments, or ideas as though they were your own, even if this is done in good faith, out of carelessness, or out of ignorance.” (Sekaran & Bougie, 2016, p. 59). Both pitfalls are defined as fraud, and it is of high importance that the researcher does not engage in such behaviour (Sekaran & Bougie, 2016). To ensure we do not engage in plagiarism and purposely misrepresent our work, we have done the following. We have made sure to always separate our beliefs and statements from research, hence, referencing accordingly has been of high priority and importance. Second, we have made sure to include all references in our reference list to

enable readers to study the theoretical framework we have chosen to include in our thesis. Thirdly, all citations have been correctly marked, and the number of citations has been limited to not dominate the thesis. Finally, we have throughout this discussion elaborated on how we have tackled the ethical issues researchers face. By taking these choices, we have considered Sekaran and Bougie's (2016) recommendations and made choices thereafter.

Interview Quality

To ensure the quality of our interviews, we upskilled ourselves in what to plan for and reflect on before, during, and after an interview. Brinkmann and Kvale (2015) presented a few guidelines which can be valuable to consider to ensure quality. The first guideline is that the interview should be interpreted throughout the interview. This we fulfilled by having one of us conduct the interview and the other one take notes; thereby, reflections could be made throughout the interview on both ends. The notetaker was responsible for writing down what had been said, but also what meaning different expressions could have. The second guideline is that the interviewer should attempt to verify his or her interpretations of the interviewee's answers throughout the interview. This we did by commenting on the things that were said, actively asking the interviewee to verify our interpretations, and asking follow-up questions. Finally, the third guideline that Brinkmann and Kvale (2015) claimed is of high importance is that the interview is self-reported by the researcher and does not require additional explanations. To ensure this, we made sure to take notes and record the interview.

When conducting interviews it is furthermore important for researchers to understand that they are the key instrument. It is the interviewer who decides on the questions and leads the interview. A good interviewer makes sure to know the topic being discussed, has good conversational skills, is proficient in the language and is reflecting the linguistic style of the interviewee to enhance the interviewee's satisfaction and comfort. As interviewees will perform differently during the interviews, the interviewer is responsible for motivating and facilitating the interviewee. At the same time, the researcher conducting the interview has to master the skill of making on-the-spot decisions about what to ask and how, what to follow up on, and what not to (Brinkmann & Kvale, 2015). Because the interviewer must take this kind of accountability for the interview, we made sure to inform each other about who the upcoming interviewee was and what

experience he or she had presented on his/her LinkedIn profile. Furthermore, we chose a seating spot that was quiet and felt comfortable to us, and we ensured that the sound was working. We also made sure to have our interview guide up on one side of the computer screen where the interview was held, and we decided that the note-taker would remove herself from the interview lens when the introduction had been given and the formal interview started. This decision was supported by the argument that we felt that it would be easier and assumingly more relaxing for the interviewee as he or she would only need to focus on looking and talking to one person – the interviewer – during the interview. A final choice we made to facilitate a comfortable and nice interview was to stay alert to the communication style of the interviewee and make sure that our facial expressions, body language and linguistic style would be positive and light to influence the interviewee to feel more comfortable and enthusiastic about participating in the interview. Furthermore, after each interview, we let the interviewee provide us feedback, so we could learn and improve our interviewing skills. To further support this, we also gave each other interview feedback after ending the interview call.

Besides taking accountability for the interview setting – creating a nice talking climate – the interviewer must ensure that the interview supports the research study. Hence, the interviewer must follow the interview guide, while still being flexible enough to allow the interviewee to elaborate further on unique aspects (Brinkmann and Kvale, 2015). To ensure this, we reflected on when to use leading questions and when to not. Leading questions tend to be widely discussed as alarming, but sometimes they can be valuable. They are alarming if the researcher tries to gather the specific answers he or she wants, without allowing the interviewee to contradict common beliefs or the researcher's hypotheses. However, if they are used to verify the interviewees' answers to ensure reliability, then using leading questions is beneficial (Brinkmann and Kvale, 2015). We chose to only use leading questions when we wanted to verify our interpretation of the statements made by the interviewees.

Alternative Research

As has been elaborated on, we chose a qualitative research approach where our primary data collection method was online interviews. Furthermore, we conducted a comprehensive and substantial literature review to examine contemporary research made on the subject of HR

Analytics. Before making our methodological decisions, we discussed alternative research approaches and methods. If we would have made a quantitative research study we could have increased our participation population, but our collected data would not have been as rich or in-depth. Because we aimed at capturing this richer data, we felt that the qualitative research approach would suit us the best. Other methods, besides interviews, we considered were focus groups where HR professionals working with HR Analytics and those not working with HR Analytics would discuss certain questions related to their perceptions and opinions on HR Analytics. What made us not decide on this method was that we felt our time frame for this thesis was too limited for that type of method. However, it would have been interesting to have used focus groups consisting of HR professionals, to capture their shared or nonshared experiences. A further addition which would have been interesting to look into would have been to include people outside the HR department, e.g. line managers, top management, or the finance department. Their perceptions and opinions could have been collected, which would have provided an outside perspective on HR Analytics. Many other alternative decisions could have been made, but these presented are the ones we considered.

4. Results and Analysis

In this chapter the empirical data from the interviews will be analysed in relation to the theoretical framework; including the analysis models. The chapter has been divided into four subchapters. The first subchapter focuses on HR's legitimacy problem and the second subchapter presents the opinions and perceptions of HR Analytics. The third and fourth subchapters present the functions and challenges of HR Analytics identified by the interviewed HR professionals.

4.1. Legitimacy Problem

Based on the empirical data collected in the interviews, the most visible and evident pattern found among the interviewees was that all of them, 10 out of 10, stated that the HR profession is struggling with the legitimacy problem, causing multiple challenges. Interviewee 7 shared that when starting her HR career, she believed she would receive more support than she actually received. She shared that she believed that HR would be more listened to and influential. Interviewee 10 shared one example of HR struggling with legitimacy. In her present

organisation, she experiences that some managers do not fully take accountability for their “employer role”, resulting in HR needing to step in and perform these tasks. Interviewee 10 also stated that her HR-related tasks depend on what function the manager sees HR having, and the needs the manager expresses having; some managers embrace HR as a strategic partner while some want HR to do supporting tasks such as writing meeting protocols. This reflection goes in alignment with what was presented in 2.2.3. *The HR Profession*; HR’s position in an organisation typically is decided by managerial viewpoints and opinions. Hence, HR’s administrative or strategic role is decided by top management and the CEO (Damm & Dahte, 2016).

Interviewees 1 and 4 continued discussing HR’s role in the organisation by agreeing that HR has a tendency to deal with supporting tasks rather than strategic work. They even described that HR can be seen as a dumpster – having to deal with tasks such as throwing the work party or deciding on what cleaning firm to use. The reason why HR struggles to act as a strategic partner is, according to Interviewees 2 and 5, that in general the HR profession has been seen as a “soft”, social department that focuses on the employees, rather than the business and data-related work. Interviewee 2 continued on this note by also sharing that HR does struggle with its legitimacy because HR traditionally have used feelings and intuition when advocating for initiatives or change. However, Interviewee 2 shared that in his present role, where the organisation and the owner value HR highly, Interviewee 2 has influence and leeway which he believes is an unusual exception. Interviewees 1 and 3 touched on this subject too, stating that they believe that most organisations do want HR to become a strategic partner. Nevertheless, because HR in general is seen as a service department working with ‘administrative waste’, the legitimacy problem remains.

To fight the legitimacy problem, what can be concluded from the interviews is that taking self-ownership of one's influential impact is key. For example, Interviewee 3 shared that she chose to involve herself in a project group focusing on transforming the HR Business Partner role from an administrative role to a strategic one in their organisation. Thus, she took self-ownership and aimed for change by aiming for business impact, which Heizmann and Fox (2019) would describe as a step towards legitimacy. Other examples of how to increase the

legitimate status of HR by utilising HR Analytics will be presented later in this chapter under section 4.3.3. *The HR Profession*.

What can be concluded from the paragraphs above is that the interviewees' perceptions of HR's legitimacy problem reflect how contemporary research has described HR's state and progression over time (Wirges & Neyer, 2022; Belizón, & Kieran, 2021; Heizmann & Fox, 2019; Mahadevan & Schmitz, 2019; Damm & Dahte, 2016; Cappelli, 2015; Thompson, 2011; Bassi, 2011; Lawler et al., 2004).

4.2 Opinions and Perceptions of HR Analytics

The interviewees expressed differentiating opinions regarding how widespread the use of HR Analytics is among organisations (see Table 3). Five people, 50%, believed that the use was very low, rating it between 1 and 2 on a scale of 1 (very little) to 7 (very much). The other five interviewees, 50%, had a more optimistic view of the utilisation of HR Analytics, rating it between 3 and 4. However, what can be concluded is that all interviewees perceived HR Analytics as not being widely used, as the highest rate given was a 4, moderately.

Use: 1 (very little) - 7 (very much)	Interviewee
1 = Very little	Interviewee 4
2 = Little	Interviewee 3 Interviewee 6 Interviewee 8 Interviewee 9
3 = Fairly little	Interviewee 1 Interviewee 5 Interviewee 10
4 = Moderately	Interviewee 2 Interviewee 7

Table 3: *HR Professionals' Perceptions of HR Analytics Use*

Despite the interviewees perceiving that HR Analytics is not being widely or fully used, they saw an increasing interest in HR Analytics among professionals. Interviewees 7 and 9 both reasoned that more people were starting to show an interest in and understand HR Analytics, but that few organisations used HR Analytics on an advanced level. Interviewee 4 added that she experienced

that HR Analytics was being discussed and that many people within the HR profession are showing an interest. Despite that, she believed that HR professionals are not taking the time needed to understand HR Analytics. Another perspective shared by the interviewees was that how far HR professionals and organisations have come in their HR Analytic work varies. For example, Interviewee 10 shared that from her work experience, she believed the use of HR Analytics in the public sector was lower compared to the private sector.

Interviewee 2 was in his answer initially optimistic, as he first responded with a 5 or a 6 on the use of HR Analytics among other HR professionals. However, after stating that it was likely that some organisations have not implemented HR Analytics at all, he changed his answer to a 4. Interviewees 3, 6, 8 and 10 (who chose a 2 except for Interviewee 10 choosing a 3) all shared that in general, organisations have a lot of data regarding their people, but the data is often an unused resource with a lot of potential. By comparing this perception to the literature review, the conclusion which can be drawn is that organisations that do not analyse their HR data are missing out on the strategic-business value the data can bring (Bassi, 2011; Douthitt & Mondore, 2014; Prasad & Kamalakhanan, 2021; Wirges & Neyer, 2022).

Compared to Marler and Boudreau (2017), who found that only 16% of organisations use HR Analytics, the five HR professionals who rated the use a 1 or a 2, had a similar impression of the use of HR Analytics. However, the other five HR professionals who rated HR Analytics to be more used could also reflect Marler and Boudreau's perception (2017), if we were to expect an expanded use of HR Analytics in the last six years.

How the interviewees utilise HR Analytics

When the interviewees got to share their perceptions and opinions of HR Analytics, we could capture how they utilise it in their work. To capture this, their perceptions and opinions have been compared to Dearborn and Swanson's (2018) Four Stages Model (see Table 4).

Four Stages Model	Descriptive	Diagnostic	Predictive	Prescriptive	Explanation of Answers
Interviewee 1	Yes	Potential	No	No	Yes = HR Analytics is being used on this level by this person
Interviewee 2	Yes	Potential	Potential	No	
Interviewee 3	Yes	Yes	Potential	No	Potential = HR Analytics is not being used on this level by this person, but the person has elaborated on this potential use
Interviewee 4	Yes	Potential	Potential	No	
Interviewee 5	Yes	Yes	Potential	No	
Interviewee 6	Yes	Yes	Potential	Potential	
Interviewee 7	Yes	Yes	No	No	No = HR Analytics is not being used on this level by this person nor have they elaborated on this potential use
Interviewee 8	Yes	Potential	Potential	Potential	
Interviewee 9	Yes	Potential	Potential	No	
Interviewee 10	Yes	Potential	Potential	No	

Table 4: *The Interviewees' Use and Knowledge of HR Analytics on the Four Stages*

What was found in the empirical data was that all interviewees expressed that HR Analytics provides descriptive data. Today, the interviewees also use it to support or contradict certain beliefs or by comparing it to previous measurements, goals or competitors. Hence, all interviewed HR professionals have reached the first descriptive stage in the Four Stages Model. Additionally, all of the interviewees expressed that HR Analytics can be used for making diagnoses, meaning, spot cause-effect relationships and correlations. However, only 40% shared that they use HR Analytics for that matter today. Hence, only 40% of the interviewees have reached the diagnostic stage in the Four Stages Model. 80% of the interviewees shared that they see the potential use of HR Analytics in providing predictions. However, no one shared that their HRIS is providing them with these types of predictions. Instead, the interviewed HR professionals use their descriptive HR Analytics to make their own predictions by identifying potential trends. Thus, no interviewees have reached the predictive stage in the Four Stages Model.

Finally, only 20% of the interviewees touched on that HR Analytics can provide prescriptive data, meaning, providing recommendations on how to improve the organisational well-being and performance. However, no one shared that their HRIS is providing this type of HR Analytics. Hence, no interviewees have reached the prescriptive stage in the Four Stages Model. What can be concluded from this analysis is that the interviewees all use descriptive HR Analytics, but differ in how they utilise HR Analytics at the higher stages. Furthermore, they differ in

awareness of how much they know about the last two stages. In Figure 9 the interviewees have been spread out depending on which stage they are at.

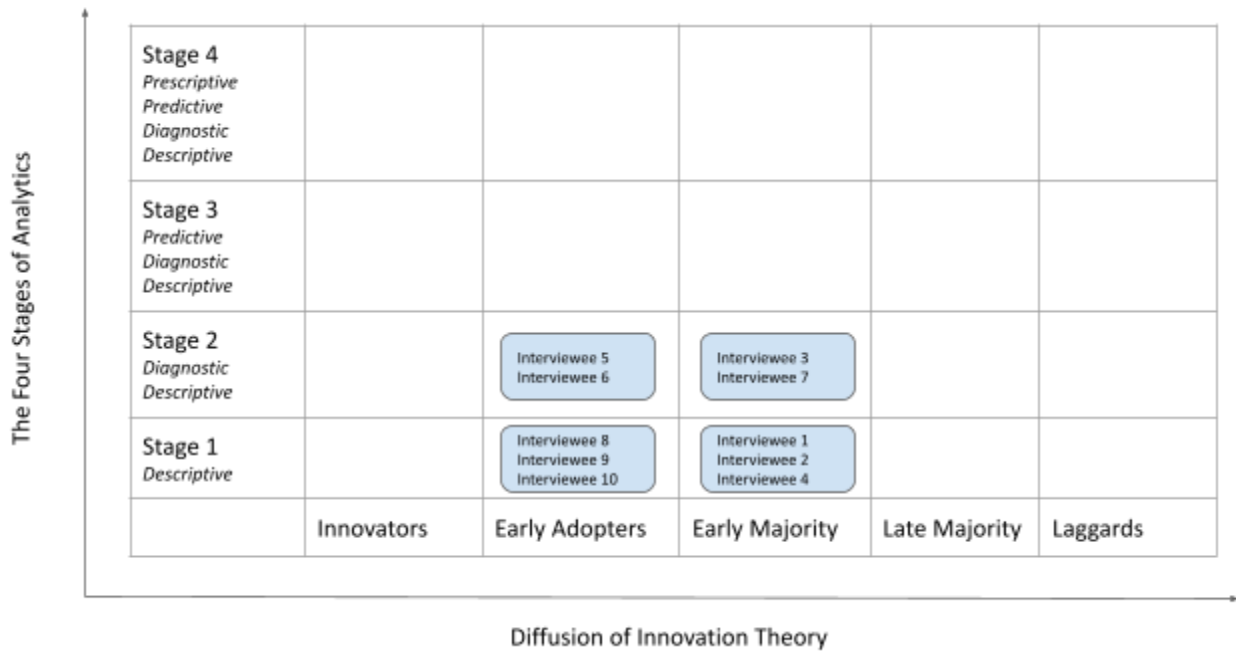


Figure 9: *The Interviewees' Analytical Stages and Adoption Group (compiled by authors)*

As the interviewed HR professionals were still in the early steps of fully utilising HR Analytics, their perceptions and opinions have also been studied in relation to Rogers's (2003) Diffusion of Innovation Theory (DOI). Because all interviewees had adopted HR Analytics and had a positive attitude towards using it, they all passed Rogers's five steps: knowledge, persuasion, decision, implementation and confirmation. Hence, they have learned about HR Analytics and gained a positive attitude towards it, which has made them want to adopt it. As they use HR Analytics, they aim to confirm its benefits by optimising its functions. These functions will be presented in *4.3 Functions of HR Analytics*. Rogers (2003) also divided the population of adopters into five groups: (1) innovators, (2) early adopters, (3) early majority, (4) late majority and (5) laggards. From learning about the interviewees' usage of HR Analytics, they have been spread out in Figure 9 to illustrate which group they belong to. Hence, Figure 9 illustrates both the interviewees' stage position concerning the Four Stages Model and their adoption group concerning the DOI theory.

What can be concluded from this figure is that the interviewees are on a low level of utilising HR Analytics – they are only at the descriptive or diagnostic stage – and they belong to either the *Early majority* or the *Early adopters*. Hence, they started working with HR Analytics at different times, but the early adopters have not necessarily moved into a higher stage than the early majority. Thus, there is no clear correlation between the adoption group and the stage. A correlation which has been found is that the interviewees placed in the early adoption group and in stage two – in other words, the most advanced group – are both men of the same age that graduated around the same time. However, to define causality, further research would be needed. Nevertheless, something that can be concluded is that the ones who are early adopters and on the highest stage have a greater capacity to produce greater business value. This conclusion is evident if we revisit Bassi (2011) who emphasised that HR Analytics can serve “[...] as a source of competitive advantage for organisations that put it to good use” (p. 15). Thus, the organisations and HR professionals who decide to fully utilise HR Analytics will expand their competitive advantage further. Hence, it is important to keep up, not to risk falling behind and loose competitiveness, as other organisations move up to the higher stages.

Future of HR Analytics

Besides understanding at which stages the interviewees use HR Analytics, the empirical data has provided us with the interviewees’ perspectives on the future of HR Analytics. All of the interviewees, 100%, shared that they believed that HR Analytics will become more commonly used in the future. Hence, they all had a positive stance. Interviewee 5 claimed that HR Analytics probably will become a hygiene factor for the modern HR profession, as “the sky is the limit” for the advantages that HR Analytics can provide the organisation with. Interviewee 6 agreed by stating that he could not imagine an organisational challenge that HR Analytics can not manage or prevent.

However, despite the interviewees’ belief that HR Analytics will become more commonly used, they did not agree on the pace of the progression. Interviewee 9 for example shared that even though HR Analytics has become more talked about today compared to 15 years ago, the development of the HR field is moving too slowly. An explanation for the slow progression could be that HR professionals have not felt motivated enough to adopt HR Analytics,

potentially because HR professionals according to Rasmussen and Ulrich (2015) do not typically have a keen interest in analytical work. Another explanation could relate to the phenomenon of isomorphism – that people who resemble each other in one population typically share the same motivational drivers (Marler & Boudreau, 2017). Hence, the reasoning for why HR Analytics is not widely used by HR professionals could be because their shared motivational drivers have been invisible or limited. If competitive rationality, which is seen as a key driver to the adoption group of innovators, has not fueled the HR professionals to adopt, it may be the institutional drivers e.g. the normative and mimetic ones that must increase in strength to make HR professionals adopt HR Analytics to a greater extent.

The consequence of not adopting HR Analytics now meant, according to the interviewees, that the competitive strength will not progress, but potentially decrease. Interviewee 2 for example stated that organisations that do not understand or are not able to implement HR Analytics will suffer and fall behind the organisations that do utilise HR Analytics. He remarked that HR Analytics is a trend that organisations must follow not to become obsolete. Interviewee 9 also shed light on the risk that if HR professionals do not take ownership of upskilling themselves in HR Analytics and implementing it, they risk losing this work area to other professionals who will take ownership. If this would occur, interviewee 9 worried that the focus on people may be lost, if less people-focused professions take the lead. This perception is reflected in the literature review, where it has been stated that HR Analytics will be taken over by other professions such as finance or IT if the HR profession does not take ownership of the work (Angrave et al., 2016; Bassi, 2011; Marler & Boudreau, 2017).

Interviewees 1 and 2 continued on this note by saying that there is also a risk or a chance – depending on the perspective – that a new profession will arise; focused on HR Analytics and functioning as a bridge between HR and finance. Interviewee 2 elaborated on this further by saying that he believed the area of HR Analytics will give legitimacy to the HR profession if it remains as it looks today, but in the future HR Analytics will grow into its own strategic department where the HR Analytics partner will be equal to the HR partner. This might cause HR and finance departments to have less legitimacy, but the HR professionals and organisations that follow the trend of HR Analytics will retain their valued function in their organisations and

society. Hence, if HR professionals take accountability and ownership of HR Analytics, their legitimacy will increase and be preserved. Interviewees 1, 2, 6 and 9 highlighted this by stating that HR Analytics will most likely become a best practice in HR and organisations, and it is important for HR to own the implementation of HR Analytics. They shared that when working with analytics one risks trusting the data blindly, which can cause mistakes. Interviewees 1, 2, 9 and 10, therefore, claimed that the right balance between data and people is needed to improve decision-making. Interviewees 3 and 10 agreed on this note by also stating that “everything starts and ends with people” (Interviewee 3) and HR can benefit from becoming more data-driven, because they can start speaking the finance language, but it is important that “HR remains HR” by putting emphasis on soft values (Interviewee 10). Relating back to the literature review, Rasmussen and Ulrich (2015) encouraged HR professionals to not develop a data fetish, where they risk losing business focus and intuitional feeling if they trust data blindly.

4.3. Functions of HR Analytics

After introducing the HR professionals’ general attitudes towards HR Analytics, we will look into what functions HR Analytics is providing the organisation, the HR processes and the HR profession. Across the three levels, five functions in total were found: *the evaluating-comparing function, the strategic-business function, the financial function, the performance-enhancing function and the legitimating-advocating function* (see Table 5).

All processes: functions	Evaluating-comparing (organisational & HR processes)	Strategic-business (organisational & HR processes)	Financial (organisational & HR processes)	Performance-enhancing (organisational processes)	Legitimating-advocating (HR profession)
Interviewee 1	X	X		X	X
Interviewee 2	X	X	X	X	X
Interviewee 3	X	X	X		X
Interviewee 4	X	X			X
Interviewee 5	X	X			X
Interviewee 6	X	X		X	x
Interviewee 7	X	X	X		X
Interviewee 8	X				X
Interviewee 9	X	X	X	X	X
Interviewee 10	X	X	X		X

Table 5: Interviewees’ Perceptions of the Functions of HR Analytics on All Levels

Hence, in this subchapter, the interviewees' descriptions will be presented in relation to the theoretical framework. In each section below, the functions will be presented in order from most frequently to least frequently mentioned by the interviewees.

4.3.1. Organisational Processes

When reviewing the interviewees’ perceptions of HR Analytics and the organisational functions, four functions have been identified (see Table 6).

Organisational processes: functions	Evaluating-comparing		Strategic-business		Performance-enhancing		Financial
	Benchmarking	Evaluating	Decision-making	Critical reflection	Information-sharing	Streamlining	ROI & KPIs
Interviewee 1	X	X	x	X		x	
Interviewee 2	X	X	x	X	x		x
Interviewee 3		X	x				x
Interviewee 4	X	X	x	X			
Interviewee 5	X	X		X			
Interviewee 6		X	x	X	x	x	
Interviewee 7		X	x				x
Interviewee 8	X	X					
Interviewee 9	X	X	X	X	x		x
Interviewee 10		x					

Table 6: Interviewees’ Perceptions of the Functions of HR Analytics in Organisational Processes

Evaluating-comparing function

The first function is the ***evaluating-comparing*** function, where the data enables evaluation of the employees' perceptions and feeling towards the present organisational processes. Consistent with McCartney and Fu (2022), the interviewees shared that they collect descriptive data consisting of employee perceptions, such as experienced workload and experienced enjoyment, but also other measurements such as the division between gender, diversity and turnover rate. The interviewees, similarly to Mondore et al. (2011), argued that having access to those data insights was important because the organisation can learn what they are doing well and what they need to improve.

To further understand the organisational performance, the interviewees shared that the organisation can compare its data insights with other organisations. By doing so, the organisation can benchmark itself in relation to others and realise if their measurements are reflecting other organisations or are better or worse. Additionally, if the organisation decides to regularly do the same measurements, then the organisation can compare new measurements to old ones, hence enabling internal comparisons that can spot trends. These perceptions align with Lawler et al. (2004) and Bassi’s (2011) ideas that HR Analytics helps organisations identify normative as well as ‘good’ or ‘bad’ data in order to benchmark their performance. An example of a trend that

Interviewee 6 shared was tracking employee turnover – is it increasing over time or does it increase during specific times of the year?

Interviewee 6 explained that if his organisation would decide to move up their four-stage ladder, then the organisation would be able to start forecasting with the help of AI to predict specific employee behaviour that assumingly would show in future measurements. By doing so, more benefits would be enabled as the technology used becomes more advanced (Dearborn & Swanson, 2018; Schmidt, 2021). When doing these analyses, Interviewee 2 shared that organisational conditions could be evaluated and set in comparison with other organisations. This could as Interviewee 2 shared include comparing work benefits to competence development or sick leave. Interviewee 3 adds her perspective on evaluating and comparing functions by connecting HR Analytics to KPIs to assess if the organisation is performing as wanted. Considering Schmidt's (2021) four levels on how organisations can evaluate their performance and capabilities in relation to competitors, the examples provided by the interviewees show that they are on stages 1 and 2. However, if they were to start using more advanced technology, stages 3 and 4 would be within reach.

If we think back to Dearborn and Swanson's (2018) Four Stages of Analytics, there are higher stages of analytics – the predictive and prescriptive analytics. However, from what could be found from the interviews, the most commonly used analytics was the describing and potentially the diagnostic one. This perception reflects Dearborn and Swanson's (2018) view on the overall use of Analytics – that about 50% of all organisations do some reporting focusing on descriptive data, and around 30% engage in diagnostic data. The analytical work is majorly used for operational reporting, but 30% of the organisations, also aim to understand which other metrics they need to support their decision-making. In other words, when starting to collect diagnostic data, the organisation can start to let the insights guide them in their strategic work. This leads us to the second organisational function that has been identified from analysing the collected interview data; the strategic business function.

Strategic-business function

By considering the perceptions the interviewees showed, the empirical data reflect that the ***strategic-business function*** provides guidance in decision-making and challenges intuitional beliefs, hence, increasing awareness which enables more well-informed decisions. Interviewees 2 and 9 for example emphasised that by letting the HR Analytics guide decision-making, the decisions made will become more relevant and proactive. Interviewee 2 continued by claiming that HR Analytics also fights decision-making based on feelings and old practices; ‘this is what we have done before’ thinking. In other words, HR Analytics will promote critical reflection on old ways of working, as Interviewee 2 pointed out – to make decisions more relevant and efficient. The interviewees' perceptions are consistent with the thoughts of Bassi (2011) and Wirges and Neyer (2022) on how organisations can make predictive analyses to provide guidance in strategic decision-making.

Interviewees 1, 4, 5, 6 and 9 all agreed with each other that HR Analytics can disprove and devalue organisational “half-truths” and opinions concerning the insights the data provides. These findings support the idea presented by Bassi (2011) that evidence-based management helps organisations question half-truths and beliefs about what works and what does not work. Interviewee 5 moreover shares that HR Analytics can challenge the power structure where decisions historically may have been based on seniority, rather than the best solution or the most beneficial direction to go forward. In other words, HR Analytics neglects gut feelings, opinions and guesses that may come from senior management, and instead focuses on sharing the truths from the data that have been analysed. This provides further empirical evidence for the belief that evidence-based management helps organisations apply strategic decision-making which leads to better decisions and improved performance (Bassi, 2011).

Performance-enhancing function

A third organisational function that was identified from the empirical data is the ***performance-enhancing*** function. This function is similar to the performance-enhancing function that was identified for HR processes in the theoretical framework in 2.1.2. *HR Processes*. However, based on the perceptions and opinions of the interviewees, it has been categorised with the functions of HR Analytics on an organisational level because the focus of

the interviewees was mainly on the performance of the managers and the organisation rather than on the performance of HR processes.

The first aspect of the performance-enhancing function that was identified from the empirical data was that HR Analytics enable the sharing of information in the organisation. Interviewees 2 and 9 shared that when conducting HR Analytics, the data and the insights that are collected can be conveniently shared and made available to managers in the organisation to enhance their awareness of the organisation's well-being and performance. This is consistent with what contemporary research says about motivating and supporting employees – by providing important stakeholders, such as team managers, access to the organisation's analytics they will better understand workforce trends. This knowledge guides the managers in supporting and motivating their employees, which leads to improved performance of the organisation (Schmidt, 2021; McCartney & Fu, 2022). Interviewee 6 continued on this note by also highlighting the importance of enabling access to organisational members so that they can look up the measurements which they want to find out about. One way of doing so, he shared, is to provide automated monthly reports or offer a self-service function. The observed patterns in our data align with the principles outlined by Schmidt's (2021) recommendations in performance management. The growth and learning that this type of open communication enables help drive organisational performance.

The second part of the performance-enhancing function is the streamlining aspect of HR Analytics. One primary benefit of using HR Analytics in organisational work was, according to Interviewee 6, the elimination of manual labour in collecting and analysing data. In Interviewee 6's experience, managers previously had to manually work in Excel files to produce data on others' requests or their own needs. Similarly, the improvement in efficiency and effectiveness was also a benefit in the theoretical framework (Lawler et al, 2004; Bassi, 2011). Further examples were described by McCartney and Fu (2022), such as chatbots that answer frequently asked questions and visual dashboards that simplify the presentation of data and performance monitoring. According to Interviewee 1, the advantage of using HR Analytics when conducting data collection and analysis work was that mistakes caused by humans can be avoided. AI do not make these mistakes, as long as they are programmed the way we want. Furthermore, as

Interviewee 6 continued, AI works much faster than a human being. Hence, it is more beneficial to let the AI do the analytical work instead of letting a human do it.

Financial function

In section 2.1.1. *Organisational Processes* of the theoretical framework, the **financial function** of HR Analytics was one of the more prominent functions. In the empirical data, however, it was one of the less mentioned functions – four of the ten interviewees saw it as a function. Interviewee 9 explained that he used it in order to justify decisions, for example, using numbers in order to show cost savings. Interviewees 2 and 3 continued that if you can present data that support your initiatives it is easier to get them through and by focusing on financial gains the value of the work can be measured. Even though it was not a prominent function, these findings align with the financial functions in the theoretical framework. This shows that with the help of HR Analytics, ROI and other metrics on productivity and liquidity can justify decisions and highlight the benefits of HR activities (Capelli, 2015; Douthitt & Mondore, 2014; DiBenardino, 2011).

4.3.2. *HR Processes*

When reviewing the interviewees’ perceptions of the HR Analytics functions in HR processes, three functions have been identified (see Table 7).

HR Processes: functions	Evaluating-comparing		Strategic-business		Financial
	Benchmarking	Evaluating	Decision-making	Critical reflection	Budget & ROI
Interviewee 1			x	x	
Interviewee 2		x	x	X	
Interviewee 3	x	X	X		
Interviewee 4	x	x	x	x	
Interviewee 5	x	X	x	X	
Interviewee 6		X	x	x	
Interviewee 7		X	x		
Interviewee 8	x	X			
Interviewee 9	x	X	X	x	
Interviewee 10		x	X		X

Table 7: Interviewees’ Perceptions of the Functions of HR Analytics in HR Processes

Evaluating-comparing function

During the interviews, the HR professionals’ perceptions and opinions on HR Analytics in relation to HR processes revealed two main functions. The first function, the **evaluating-comparing** function, is similar to the organisational processes but instead set in the

context of HR processes. Rather than focusing on the performance of the organisation as a whole, it focuses on the performance of the HR processes, such as work environment management, employer branding and talent management. Interviewee 7 said that HR has tried to put the “employee experience” in the spotlight for a long time but that it has been difficult to concretise what determines employee wellbeing. She believed that with data that evaluates the employee experience it will be easier for HR to drive investments in employees’ wellbeing. Interviewee 3 also believed that the work environment can be improved and suggested that it is specifically when organisations and departments evaluate their processes that learning occurs. These perspectives add further support to Schmidt’s (2021) ideas of how all HR processes can be evaluated which will provide the HR department with insight into the performance of the organisation. This will give the HR department a better standing in identifying trends and finding new best practices.

Another part of the evaluating-comparing function is employer branding and talent management. Interviewees 2 and 9 believed that HR Analytics can help HR adapt the job ads in accordance with target group data and reach a smaller, more relevant pool of candidates. He also thought that organisations that do not implement HR Analytics will make unwise decisions that in the long run might lead to dissatisfied employees and a loss in the employee brand. Interviewee 10 said that HR Analytics can help organisations understand why candidates are attracted to certain positions and organisations and adjust their employee branding strategy accordingly. Interviewee 3 added that in her organisation they analyse the data to find out why people are attracted to the organisation and to find out whether their expectations are met or not. Interviewees 3 and 4 stated that organisations can benchmark their employee branding by comparing their data to the market, for example, Universum’s reports on what candidates are looking for when job searching. Interviewee 8 said that with the help of data, HR can identify where the candidates are located and what competitive salaries look like in those markets in order to benchmark other companies and the market overall. Interviewees 4 and 8 both saw the potential to evaluate and benchmark the recruitment processes with other organisations’ data as well as compare different internal recruitment processes, for example on how much time was needed for a certain position. By identifying bottlenecks in the processes the HR department can improve the time consumption in recruiting processes. Interviewee 9 suggested that HR could post different job

ads to evaluate and compare how many candidates apply to each job ad in order to find out which job ad is more attractive to candidates. The data collected in our study provide compelling evidence in favour of Schmidt's (2021) belief that trends can be identified by using HR Analytics and valuable conclusions can be made in order to improve HR processes. Furthermore, by utilising HR Analytics, insights regarding staff ability and employee talent can be identified (Lawler et al., 2004).

Lastly, Interviewees 5, 6, 7, 8 and 9 saw HR Analytics as a valuable tool to evaluate trends, for example, in employee turnover. The observed perceptions of trend spotting in our interviews are supported by the literature review (Schmidt, 2021; Wirges & Neyer, 2022; Bassi, 2011). Interviewees 7 and 10 said that it is important for an HR business partner to understand why people choose to leave the organisation. Interviewee 8 agreed and added that HR Analytics can help organisations benchmark their employee turnover and understand what other organisations are doing. Interviewee 5 gave an example of when a manager confronted him because he thought the employee turnover was too high and that they were losing their top talent. He said that with the help of data and benchmarking with their competitors he could show the manager that their turnover was normal in their market. They could also identify that there were certain periods when more employees chose to leave the organisation and make efforts to decrease employee turnover.

Strategic-business function

In the same way that HR Analytics provides the evaluating-comparing function in both organisational and HR processes, the same goes for the ***strategic-business function***. In 4.3.1. *Organisational processes*, the interviewees expressed that HR Analytics provides guidance in decision-making processes while challenging intuitional thinking and the power structure's division of influence and authority. HR Analytics was further explained as having a boosting effect on critical reflection towards old ways of working, while also having the ability to disprove so-called 'truths'. If we change perspective from the organisation level to typical HR processes, then we can conclude that HR Analytics is also decision-guiding and has a boosting effect on critical reflection towards HR processes.

Adding to Bassi's (2011) and Wirges and Neyer's (2022) perception of how evidence-based management leads to better decisions and strategies in HR processes, examples were found in the empirical data. On a strategic level, HR Analytics can guide for example salary revision, and recruitment as well as help the HR department to re-strategise their working processes to solve any potential problems. Additionally, as Interviewee 3 pointed out, the HR department can strategise on how to increase the data collection in employee performance reviews which confirms Douthitt and Mondore's (2014) argument that HR Analytics can benefit HR processes because it helps to create HR strategies with a focal point in business outcomes. Another way that HR Analytics is being strategically used in HR processes is, as Interviewee 2 stated, by collecting data on e.g. job seekers and what they value when going through the organisation's recruitment process, in order to learn what adjustments should be made to increase the candidate satisfaction. He continued by sharing that HR Analytics can also be used for planning how to reach the right candidate pool and how to target them the best. This supports Schmidt's (2022) claim that HR Analytics can create HR processes that are suited for the volatile and uncertain dynamics of the present working life.

Lawler et al. (2004) presented the business value that HR Analytics brings to the organisation by providing insights into staff ability and employee talent. The HR department is responsible for providing the organisation with employees, hence, the importance of these insights in HR processes is high. Interviewee 3 added to this perspective by giving examples of how HR Analytics serves a strategic purpose for all HR processes. The recruitment processes can become more efficient, by using HR Analytics to find out what needs to be changed. The same goes for the onboarding process and internal career development – are we living up to the newly recruited's expectations? Our empirical data provide strong support for the claim that making decisions based on data analytics instead of HR professional's opinions, gut feelings or intuition will lead to better decision-making in HR processes (Bassi, 2011; McCartney & Fu, 2022). Thus, the strategic-business function is identified both in the theoretical framework and in the empirical data.

Financial function

Similarly to 4.2.1 *Organisational Processes*, the **financial function** in HR processes was not as prominent in the empirical data as in the theoretical framework. Only Interviewee 10 mentioned that HR Analytics gives her the ability to act with a long-term financial mindset and see patterns over time. She explained that by calculating ROI in all areas of HR work, she can make sure that the financial budget is used as efficiently as possible. Using HR Analytics in this financial matter is supported by the literature review (Douthitt & Mondore, 2014; Mondore, 2011). However, despite Interviewee 10 noting the financial function, the empirical support for a financial function in HR processes is low. This, on the other hand, reflects Bassi's (2011) argument that the purpose of HR Analytics is not for HR to use ROI calculations to prove their worth. Instead, HR Analytics should be used in order to have a business impact, which the evaluating-comparing and strategic-business functions are examples of. Hence, it should not be surprising that the interviewees do not strongly emphasise the financial function.

Performance-enhancing function

In the theoretical framework, the **performance-enhancing** function was categorised in the functions for HR processes because HR is responsible for people-related matters and therefore also the performance of the employee. However, the empirical data showed that the perceptions of the interviewees were that the performance-enhancing function belongs to the organisational processes (4.3.1.). While HR is responsible for the employee performance of the organisation, it was evident that the interviewees mainly focused on the performance of the managers and the organisation, not their own processes specifically.

4.3.3. The HR Profession

While the above-mentioned functions focus mostly on the benefits of using HR Analytics for the organisational and HR processes, our study found that there is one function that is specific to the HR profession (see Table 8). As concluded in subchapter 1.2 *History and Current State of the HR Profession*, the HR profession is struggling with legitimacy. During the interviews, the legitimacy and advocating functions were a recurring topic for all the interviewees and because of the close connection between the functions we have chosen to combine them into the **legitimizing-advocating** function. While all the functions together can bring positive business

impact, they would according to Heizmann and Fox (2019) all increase the legitimacy of the HR profession. Hence, it is evident that HR Analytics in itself also provides a legitimacy function.

HR Profession: functions	Legitimizing-advocating	
	Legitimizing	Advocating
Interviewee 1	X	X
Interviewee 2	X	X
Interviewee 3	X	X
Interviewee 4	X	X
Interviewee 5	X	X
Interviewee 6	X	X
Interviewee 7	X	X
Interviewee 8	X	X
Interviewee 9	X	X
Interviewee 10	X	X

Table 8: Interviewees' Perceptions of the Functions of HR Analytics for the HR Profession

Legitimizing-advocating function

The result of our study showed that HR Analytics provides the HR profession with legitimacy (see Table 8). All of the interviewees believed that HR Analytics could give the HR profession the legitimacy it is lacking, and 9 out of 10 said that their personal experience was that HR Analytics did provide them with more legitimacy. One interviewee, Interviewee 10, did not agree with the second statement but explained that her organisation had not fully implemented HR Analytics and therefore she had not seen the benefits of working with it yet. Interviewee 10 said that if the organisation is “ready and willing for the change in working methods, HR Analytics will give the HR profession more legitimacy and credibility with managers but also throughout the organisation”. Interviewee 8 agreed that HR needs to incorporate data in order to be a strategic business partner instead of an administrative function and pointed out that HR Analytics can show the impact the HR department has on business outcomes.

Interviewee 5 explained that by combining customer, finance and HR data, HR can better understand how the business is connected and “push the agenda in a different way”. Continuing on the same note, Interviewee 9 said that analytics can give the HR profession the business acumen it is lacking which will result in HR bringing value to the organisation and becoming more legitimate. Interviewee 2 added that the finance department historically has had a closer

connection to the management team, but with the help of HR Analytics the power balance could change in HR's favour. These findings reflect Heizmann and Fox's (2019) statement that when HR starts providing positive business impact, its legitimacy will increase.

All interviewees also expressed that HR Analytics provides the second part of the legitimating-advocating function, the *advocating function*. It has increased their influence in negotiations and when meeting with the top management. Since HR professionals' organisational influence is decided by their alignment with the top management (Damm & Dahte, 2016), enabling a stronger relationship between HR and top management will give the HR profession a higher status. Furthermore, access to HR Analytics has boosted the interviewees' confidence. Interviewee 6 shared that he experience that it is easier to get heard and listened to when he can support his arguments with data. It enables him to legitimise his business partner position, which supports McCartney and Fu's (2022) belief that HR professionals increase their chances of becoming a strategic business department with the help of HR Analytics. Interviewee 7 agreed with Interviewee 6, by highlighting that HR Analytics can support her intuitional feeling about something. The data can provide evidence for her being right. HR professionals can combine HR Analytics with an advanced HRIS to present short-term and long-term predictions of workforce trends (McCartney & Fu, 2022) which is one example of how HR Analytics provides an advocating function. Instead of relying on their gut feelings HR professionals can support their arguments with forecasting data.

Interviewees 3, 4, 6, 7 and 8 continued by emphasising that HR Analytics serves as an advocating complement to 'soft' arguments they define as opinions, beliefs, and feelings. With analytics, they can show financial information and point to the benefits of implementing HR initiatives. Interviewees 2 and 9 added that by speaking the same language as the finance department – to focus on financial gains, costs and return on investment – the value of HR projects can be measured and presented. The empirical evidence presented here shows practical examples of the benefits of ROI calculations described by Douthitt and Mondore (2014). Hence, ROI calculations help HR professionals demonstrate their business impact which will boost their influence in managerial decision-making and when advocating for HR initiatives.

By presenting all empirical functions of HR Analytics identified and comparing them to the literature review, the total functions of HR Analytics are illustrated in Figure 10. As seen, the empirical data has contributed to the creation of a new function and the performance-enhancing function has now become connected to both organisational processes and HR processes.

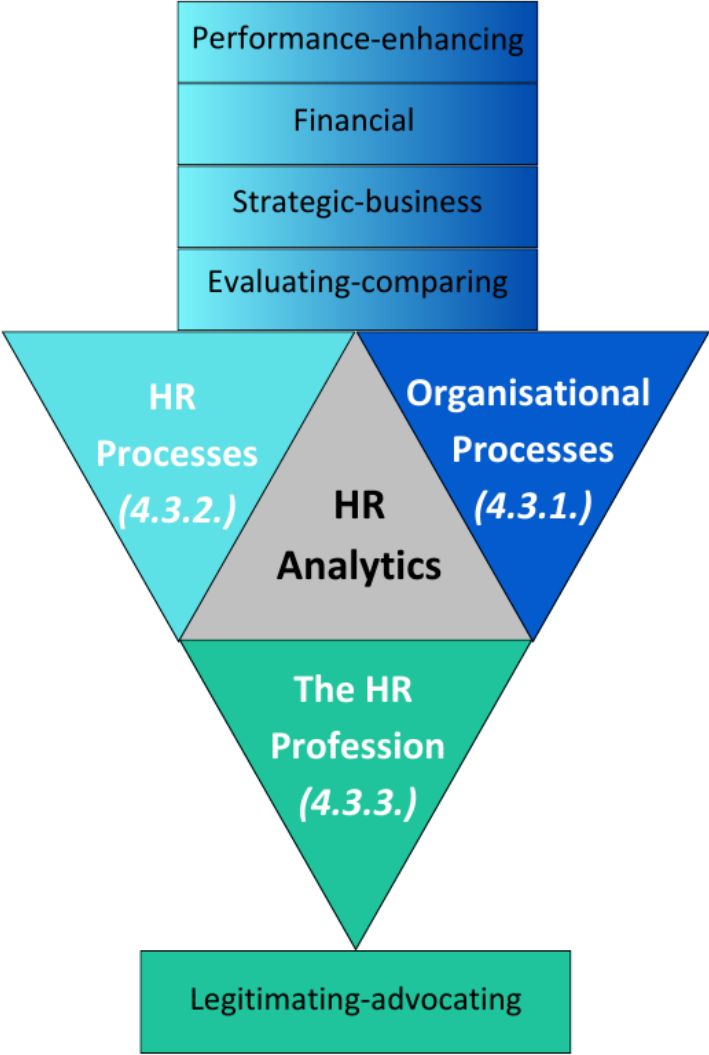


Figure 10: Finalised Model Showing the Functions of HR Analytics (compiled by authors)

4.4. Challenges of HR Analytics

From the empirical interview data, the HR practitioners have expressed different challenges with HR Analytics. These challenges include barriers to starting to use HR Analytics, limitations of HR Analytics and the risks they see with using HR Analytics. The purpose of this subchapter is therefore to present these identified challenges and compare them to the comprehensive and substantial literature review. The findings will be presented in relation to the three levels of organisational processes, HR processes and the HR profession.

4.4.1. Organisational processes

First, as HR Analytics challenges old assumptions and truths based on intuition, seniority or opinions, there is a risk that top management, despite being shown data, will be sceptical and not open to change. Interviewee 5 indicated that an organisation which decides to adopt HR Analytics will experience not only promising numbers but also concerning ones. Some of their intuitional thoughts may be represented, but other intuitional beliefs may be shattered as the analytics tell something different. Therefore, the top management in the organisation must be open to critique and change. If not, then the HR Analytics will not bring much value, if the top management does not allow the HR department to take action on the data insights. Relating back to Cayrat and Boxall (2022), collaboration towards top management is key to ensuring business impact and intuitional beliefs must be challenged so that well-informed decisions can be made.

Second, HR Analytics is data, but not necessarily unbiased facts. Interviewee 2 shared that if an organisation wants to analyse HR data, they need to have enough data and correct data so that the analysis is valid. If the data is limited or biased, it is dangerous to believe that the data insights are facts. If the data however is valid and the measurements are reliable, then it is, as pointed out in *4.3 Functions of HR Analytics*, beneficial to reflect on the data when making decisions. However, what Interviewee 2 emphasised was that even though the collected data has been declared valid and reliable, it is important to remember that the data only provides an indication or an alternative solution. To blindly base all decisions on specific measurements without reflecting or questioning them, increases the risk of forgetting to consider other aspects of the data which could result in bad decisions. To sum up this point, Interviewee 2 ended by saying that if you believe that the data “[...] holds nothing but the truth”, you are incorrect. Interviewees

1, 5, 6, 7 and 8 all agreed with Interviewee 2, that when working with analytics one must balance the data by considering the human perspective. This viewpoint is supported by the literature review, as it is vital to strive towards accurate data, but still reflect on potential prejudices and biases which can have been designed into the HR Analytic algorithms (Cayrat & Boxall, 2022; Angarve et al., 2016; Rasmussen & Ulrich, 2015).

A third challenge that was identified from the interviews was that when implementing HR Analytics the organisation needs to consider who shall have access to the data, who shall gather the data, what data should be collected and how it should be structured. Data privacy and GDPR furthermore need to be considered. Interviewee 6 stated that the system providing the analytics needs to have open access to the people needing access in the organisation. If allowing that, then they can find the metrics they are looking for, instead of asking for assistance. This would increase the information-seeking effectiveness. However, what Interviewee 8 emphasised is that it is extremely important that HR structures who shall have access to what. If an AI bot would be created internally for an organisation and given full access to all the data, then employees could get access to all personal data. Interviewee 8 argued that we need to ensure that this does not happen, laws like GDPR must be followed and if an organisation is spread globally, then international laws must be followed too.

Additionally, Interviewee 8 argued that it is vital that the data is well-structured, and also preserved the day the organisation decides to change their digital system. If the data is lost, then the organisation loses a ton of information, which Interviewee 8 said will affect the organisation negatively, as the same measurement comparisons can not be done anymore. Interviewee 10 also stated the importance of being structured if wanting to utilise the HR Analytics function. To sum up Interviewee 8's reasoning, the organisation and especially the HR department need to balance gathering as much data as they want, while structuring it well and considering limitations such as GDPR, confidentiality and laws. Interviewee 10 also agreed to the fact that the organisation must reflect on what data they want to collect and how the employees would feel about it. By comparing these viewpoints to the literature review, it is clear that the interviewees' perceptions are supported by theory. Accessibility and data ownership have been presented as a considerable

challenge, as organisations must follow legislation such as GDPR (Cayrat & Boxall, 2022; Torre, Sarti & Antonelli, 2022).

Fourth, when implementing HR Analytics, there are risks to consider. Interviewee 7, for example, pointed out the need for the right preparations. This includes warming up the management team so that they will become aware of the value and the need for HR Analytics. Inspirational seeds must be spread out so the inspiration can grow stronger as the employees receive more motives for using HR Analytics. It is all about stakeholder management. Concerning the motivation that will grow and enable managers and employees to upskill in analytics, this positive mindset towards HR Analytics needs to be preserved so the organisational culture can support the advancement of HR Analytics. Interviewee 3 added to this note that she believes that the HR department needs to show the positive impact HR Analytics can create by acting out good examples. She continued by saying that a project would need to be set off, and produce good results, to legitimate the HR Analytics function. This risk is also supported by the literature review, as institutional and cultural constraints can obstruct processes (Dearborn & Swanson, 2018) e.g. a successful implementation of HR Analytics.

A fifth challenge we thought would become more prominent was the cost of implementing HR Analytics. However, from the empirical data, the overall perception is that getting started with analytics does not need to cost much. Interviewee 1 declared that every organisation pays for some type of HR system, and these systems usually have reporting functions that can help the organisation get started. Interviewee 7 also added that the analytics tools that are available on the market do not cost a lot compared to other digital tools. The cost of implementing HR Analytics has not been a prominent challenge in the literature review. However, what has been found is that small and medium-sized organisations risk having a too limited approach when implementing HR Analytics (Torre, Sarti & Antonelli, 2022). Perhaps this could be caused by a smaller budget while striving to compete with larger organisations.

4.4.2. HR processes

Besides the organisational challenges, the interviewees' shared that they see challenges with using HR Analytics in the typical HR processes they engage in.

First, as pointed out in the overview of the HR profession presented in *1.2. History and Current State of the HR Profession*, HR leeway and work expectations have been set in relation to the top management demands, hence HR has struggled with their agency and status. The interplay between the CEO and the board of directors has decided on the financial budget and determined what to prioritise and neglect (Douthitt & Mondore, 2014). In other words, HR has always depended on top management. When listening to what the interviewees' had to say about the challenges HR Analytics brings to the HR processes, six interviewees pointed out that organisational support is much needed for HR professionals to strive and become successful when using HR Analytics. If the support is not there, then the HR processes will be negatively affected. As pointed out in the previous section, smaller organisations tend to have a limited approach when adopting HR Analytics (Torre, Sarti & Antonelli, 2022), perhaps it is because of financial limitations. However, that the cost of implementing HR Analytics would obstruct it if from happening has not been supported by either the empirical data or the literature review.

Second, a challenge the HR department can experience is if they are provided with a limited HRIS. Five of the interviewees declared that a well-functioning digital system, that is easy to use and can provide valid and reliable data, is necessary when aiming to create business value. Interviewee 1 argued for the importance of an easy filtering design in the digital system. She found that because HR professionals tend to not have the analytical skill beforehand, the system needs to support them by being easy to navigate and understand. This reflection Interviewee 1 is sharing supports the literature, as the low level of analytical skills among HR professionals is confirmed and it affects their decision on whether to adopt HR Analytics or not (Angrave, D. et al., 2016; Lawler et al., 2004; Marler & Boudreau, 2017; Vargas et al., 2018; Cayrat & Boxall, 2022; Rasmussen and Ulrich, 2015). Interviewees 3 and 4 both continued on this note by saying that a well-functioning usable system must be in place so the HR department knows what data they can collect and how they can work with it. This opinion of HR departments having access to a good system they know how to operate in, is further supported by Marler and Boudreau (2017) and Pape (2016). They argued that the choice of system decides how advanced the analytical work can get, and if the system is of high quality. Furthermore, as Dearborn and Swanson (2018)

emphasised, the HRIS either enables or limits the analytical work to reach the higher stages in the Fours Stages of Analytics.

A third challenge pointed out by two of the interviewees, Interview 5 and 7, was that cultural differences between organisations and industries result in some organisations being more prone than others to adopting HR Analytics. Interviewee 5 argued that the division of labour and what job duties the HR department is expected to manage affects the time the HR practitioners have left for work with HR Analytics. That HR professionals often experience having limited time at work, affecting their work, has been identified as a challenge in the literature review (Bassi, 2011). Interviewee 10 continues on this note by sharing that from her experience collaboration with different managers affects her HR role. Towards some, she acts out her strategic business role, and towards others, she takes a more administrative support role. The same goes depending on the managers' interest in HR Analytics. If interested, the analytical work will be asked for, but if not interested, then it will be neglected.

Interviewee 7 highlighted that if she was the only HR practitioner within an organisation, she probably would not have had enough time and resources to engage in HR Analytics. Interviewee 8 agreed on this point, by sharing that at his previous work, the HR department was small which made them reflect on whether they would have the capacity to invest in HR Analytics or not. Interviewee 7 also expressed that the industry you work in influences your willingness to initiate the use of HR Analytics. If she would have worked in the engineering industry, she saw that the risk would be that the engineers would only question the analytics, instead of reflecting on what it says and what insights it provides. That the culture and relationships between the HR department and top management, but also other organisational executives, have been further supported in the literature review (Marler & Boudreau, 2017; Pape, 2016) – it is a clear challenge if the work culture does not support the HR department.

A fourth challenge presented in existing literature, but not evident in the empirical data, is once again the risk of HR Analytics becoming a fad (Rasmussen & Ulrich, 2015). To manage this challenge Douthitt and Mondore (2014) emphasised the need for HR Analytics to become fully utilised, but for this to happen the HR department needs organisational support, as stated in the

previous paragraph. Hence, if not receiving the support needed, potentially HR Analytics could become a fad.

What can be concluded from the interviews is that limited leeway and expectations on the HR department have an impact on the ability of the department to engage in HR Analytics. If the HR department is expected to act as a service function that only supports operational work such as hiring a new cleaning firm or managing recruitment without engaging in any strategic business-focused work, then the chance that the HR department focuses on strategic measurements with the help of HR Analytics is low. Then HR Analytics most likely will not be well implemented.

4.4.3. The HR profession

When focusing on the HR profession and the way HR professionals take accountability and ownership for their decision to incorporate HR Analytics into their professional life, one barrier stood out in the interviews. The interviewees all believed that the lack of knowledge was a reason for HR practitioners to not engage in and use HR Analytics in their organisational life. Interviewee 1, for example, expressed that in the HR practice, it is uncommon to do measurements and the practitioners typically do not know how to analyse the data. Furthermore, Interviewee 1 as well as Interviewee 7, argued that it can feel comforting when being supported by a colleague who is mathematically skilled and is used to working with BI. Interviewee 9 reflected Interviewee this opinion and even stated that HR departments should utilise data science- and BI experts to gain the business function the profession is striving for. As pointed out in the theoretical framework, HR professionals come from a people-oriented background, hence, they may not be the most skilled at analytical tasks or the most interested in them (Angrave et al., 2016; Bassi, 2011; Marler & Boudreau, 2017). To manage this challenge it can therefore be beneficial to collaborate with other departments such as finance and IT and utilise their strengths (Rasmussen & Ulrich, 2015). This solution to the knowledge problem reflects the comfort the interviewees expressed when getting help from BI colleagues.

Interviewee 4 pointed out that during her bachelor's in HR, they never talked about HR Analytics. The closest she got, was a quick introduction to staff finance and its key figures.

Because of a lack of education in data science and HR Analytics, Interviewee 4 said that she sees her fellow HR professionals lacking the analytical skill that is needed in order to manage and utilise HR Analytics. However, she combats this by emphasising that pedagogical skills are just as important. If the HR practitioner does not master the pedagogical skill, then they will never be able to present the data insights in an understandable way. Interviewee 8 agreed with this final note by highlighting the importance of storytelling when presenting analytics to the top management.

Interviewee 5 pointed out that the HR profession historically has been seen as people-focused, which has made HR education focus on the soft skills an HR practitioner needs. However, the profession got too focused on soft skills, hence, forgetting about the hard skills; the mathematical and analytical skills. If he would hire a junior HR practitioner, Interviewee 5 shared that he would look for someone who had complemented their HR education with business knowledge. Interviewee 6 declared that because HR practitioners lack analytical skills or knowledge about digital supporting tools, they tend to rely on manual labour in Excel files. As a result, they make human mistakes once in a while, generating invalid data and insights. Comparing the empirical data with the literature, the lack of analytical education has already been confirmed (Angrave et al., 2016; Bassi, 2011; Marler & Boudreau, 2017), but the literature also supports Interviewees 4 and 8 stating that the pedagogical skills are just as important as analytical skills. It is the storytelling that brings the data to life and influences stakeholders (Rasmussen & Ulrich, 2015).

Interviewee 8 brought up a third challenge when adopting HR Analytics. The HR profession must ensure they do not forget about their ethical compass because as HR become digitised and organisations start to gather more and more data, we need to control this development by reflecting on integrity and authority. For this, the skill of reflecting on ethics is crucial to have. This ethical awareness is supported by the literature review, as there must be a balance between what the business wants to collect and what the employees feel comfortable with (Faletta, 2014).

Finally, the empirical data shows that HR professionals tend to lack the motivation needed for adopting HR Analytics and they have not realised the need for it either. Interviewee 4 expressed that the limited motivation may be caused by the fact that it takes time and energy to master new

skills, therefore, it is not surprising if HR practitioners choose to not prioritise their self-learning about HR Analytics. Instead, they prioritise other activities that they view as more important and acute. Interviewee 10 also described the lack of motivation HR practitioners tend to feel towards HR Analytics. She believed that it is because the HR profession has developed a learned helplessness towards mathematics, hence, making them not motivated to learn about HR Analytics. Interviewee 5, furthermore added that to take accountability for one's self-development takes courage.

A third perspective that one of the interviewees, Interviewee 6, perceived as important to consider was the cultural aspect. Interviewee 6 was majorly referring to organisational culture affecting the attitude towards HR Analytics, but because cultures exist within all social networks, and the HR profession can be seen as one (Marler & Boudreau, 2017), an explanation to why HR practitioners have not been keen to adopt HR Analytics is because their professional culture has not pushed them in that direction (Rasmussen & Ulrich, 2015). Interviewee 8 continued on this note, saying that he had perceived that HR practitioners tend to feel that they do not want to engage in learning about HR Analytics, maybe because they lack the knowledge. He furthermore added that in the HR world, the only data and key figures HR practitioners in Sweden have received through their education are the 10 key figures presented by *Nyckelinstitutet*. However, Interviewee 8 argued that much more figures need to be found and analysed. To conclude, Interviewee 9 shared that HR professionals have not grasped the necessity to upskill and expand their knowledge in HR Analytics and how to utilise it – they need a “sense of emergency”. The lack of motivation is reflected by Rasmussen and Ulrich (2015), and Vargas et al. (2018) added the perspective that the HR profession has not kept up with the organisational needs, hence they have not become aware of the business impact HR Analytics can have.

What can be concluded from the interviewees' perception of the challenges HR professionals experience with HR Analytics in relation to their profession, is that their competence in data science is limited, thus resulting in HR Analytics not being generally utilised. Furthermore, there is a tendency to not feel motivated enough to invest in learning and/or using HR Analytics, potentially because they lack analytical skills and do not have a keen interest in mathematics, but rather in people. To conclude the Results and Analysis chapter, a final model of the functions and

challenges is presented below (see Figure 11). This model combines the functions and challenges identified in Chapter 2. *Theoretical Framework* with the findings of the empirical data from Chapter 4. *Results and Analysis*. The difference from the theoretical framework of the functions and challenges of HR Analytics in Figure 3 in 2.2. *Challenges of HR Analytics* is that the performance-enhancing function was found in both organisational and HR processes and not only in HR processes. Further, the challenges identified in the theoretical framework have been completed with the challenges found in the empirical data. Lastly, the legitimating function has been confirmed in the empirical data and has been combined with the advocating function into the legitimating-advocating function.

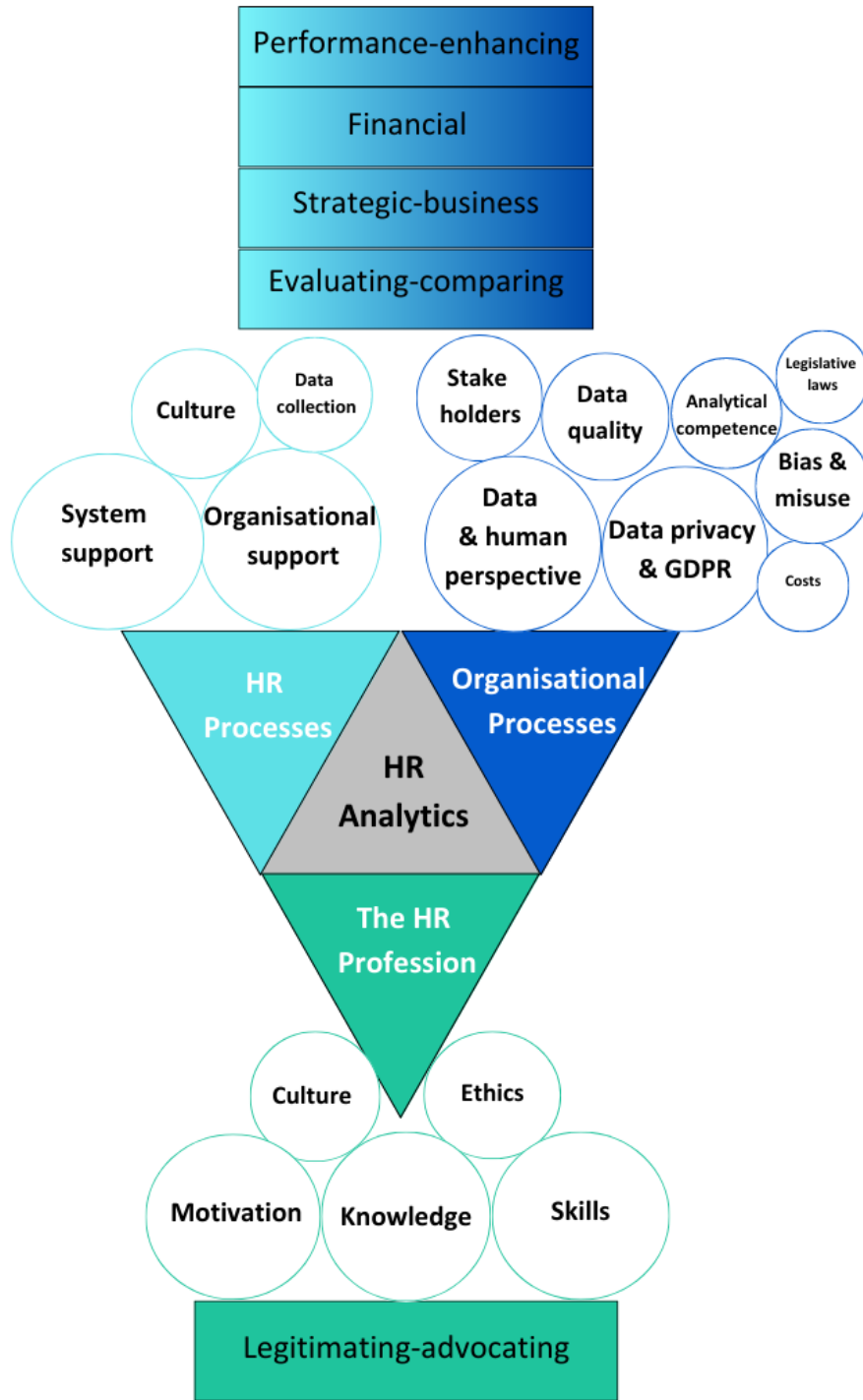


Figure 11: *Finalised Model of the Functions and Challenges of HR Analytics (compiled by authors)*

5. Discussion and Conclusion

Coming to an end, this thesis has aimed to explore HR professionals' perceptions and opinions on the use of HR Analytics in their work as well as identify the functions and challenges that HR Analytics brings to the organisation, the HR department, and the HR profession. The guiding research questions have been (1) *What are HR professionals' perceptions and opinions on using HR Analytics in their work?* and (2) *What functions and challenges does HR Analytics bring to organisational processes, HR processes and the HR profession?* By analysing the empirical data collected in the interviews in relation to the theoretical framework, the findings have provided insights that answer the research questions.

5.1. What are HR professionals' perceptions and opinions on using HR Analytics in their work?

The interviewees had an overall positive attitude towards HR Analytics: all of them believed that it can help solve HR's legitimacy problem. This reflects the beliefs of Belizón and Kieran (2021), that argued that the full potential and legitimacy boost that HR Analytics offers is not taken advantage of. Bassi (2011), however, contradicted this sentiment and said that the purpose of HR Analytics is not for HR departments to prove their worth. According to the empirical data, the legitimacy-boosting capacity of HR Analytics enables HR professionals to start using HR data to advocate and guide decision-making, hence, becoming the highly-valued strategic business partner they have always wanted to become. As a result, the relationship between top management and HR will improve.

Damm and Dahte (2016), as well as Cappelli (2015), emphasised the value for HR of having a well-balanced relationship with the CEO and top management. This is argued for as HR's position and status in organisations is influenced by the state of the economy, and the value CEO and top management perceive HR as having. Thus, as HR Analytics has the ability to improve this relationship HR's legitimacy can increase. Having a positive relationship means that HR has a more stable position in the organisation and is less affected by changes in the economy. However, as Boglind et al. (2021) argued, having a seat at the top management table becomes less valuable as more departments join in. Thus, HR may not necessarily increase its legitimacy

as it takes a seat at the top management table. However, the collaboration with top management will enable a closer collaboration, where HR will be able to influence decision-making on the top level. To sum up, the empirical data shows that HR Analytics can help solve HR's legitimacy problem, but the literature review includes both confirming and contradicting opinions on the matter.

Besides the empirical data confirming HR's legitimacy problem, the empirical data provided us with the conclusion that even though the interviewees work with HR Analytics today, they still are in the early stages of it being used. They all have mastered the first descriptive stage where the focus is on what has happened, and some have reached the diagnostic stage where they analyse why something happened. Some of the interviewees elaborated on the possibilities and wishes to evolve into the later predictive and prescriptive stages where the work is centred on what might happen and what should be done about it. Compared with the numbers presented by Dearborn and Swanson (2018), we could see that the findings in our empirical data are similar to the ones presented in the theoretical framework. None of our interviewees had reached the prescriptive or predictive stages, which is less than the 4 % respectively 10 % that Dearborn and Swanson (2018) identified. 40 % of the interviewees had reached the diagnostic stage and the remaining 60 % were using descriptive analytics. These findings are similar to Dearborn and Swanson's (2018), which identified that 30 % of organisations use diagnostic analytics and 50 % use descriptive analytics. The reason why they have not come further can be explained by the barriers to using HR Analytics that the interviewees could spot which were similar to the challenges presented in the theoretical framework. As these barriers are met, one could assume that the HR professionals have been affected by them. Connecting back to the DOI theory developed by Rogers, knowledge and persuasion are the two factors influencing adoption. After that, it is important that the implementation goes smoothly and that it is evident that the utilisation of HR Analytics creates value.

5.2. What functions and challenges does HR Analytics bring to organisational processes, HR processes and the HR profession?

This study has found that HR Analytics offer several functions across three levels – organisational processes, HR processes and the HR profession. A majority of the functions are

supported by both empirical data and the theoretical framework, whereas the rest are found in either.

Functions

In organisational processes, the evaluating-comparing function as well as the strategic-business function had strong empirical and theoretical support. The empirical findings, for example, showed that all interviewees used HR Analytics for evaluating-comparing purposes by collecting descriptive data which could be compared to historic measurements, or used for benchmarking. The primary use of descriptive HR Analytics was reflected by McCartney and Fu (2022), Mondore et al. (2011), and Dearborn and Swanson (2018). However, as Schmidt (2021) pointed out, more advanced approaches for comparison and evaluation enable more benefits. The empirical data also showed that the strategic-business function provides guidance in decision-making and challenges intuitional beliefs. Together, this increases awareness which enables more well-informed decisions. This explanation of the function reflects the description provided by our literature review (Bassi, 2011; Wirges and Neyer, 2022), however, the organisational status and performance depend on the degree to which HR Analytics is utilised (Prasad & Kamalakhanan, 2021), and to what degree the HR department brings business value (Douthitt & Mondore, 2014).

The financial function had strong theoretical support but less empirical support. Possible reasons why the financial function was not as prominent in the empirical data, could be because the HR profession majorly is people-focused (Angrave et al., 2016; Lawler et al., 2004; Marler & Boudreau, 2017; Vargas et al., 2018; Cayrat & Boxall, 2022; Rasmussen and Ulrich, 2015). Hence, it would be natural that financial reflections would not be the function most spoken about. Finally, the performance-enhancing function was identified mostly in the empirical data. The interviewees talked about how line managers could use the data insights to ensure well-being and performance within their teams, which Schmidt (2021) and McCartney and Fu (2022) explain is performance-enhancing. Furthermore, the streamlining effect was mentioned in the empirical data, which also is stated as performance-enhancing in the literature review (Lawler et al, 2004; Bassi, 2011). However, the literature focused majorly on how HR Analytics serves as a competitive advantage through the strategic-business function.

In HR processes, the evaluating-comparing function and the strategic-business function again had strong empirical and theoretical support in HR processes. It is interesting to reflect on the reason why these two functions have been strongly supported both by the empirical data and the theoretical framework. Potentially the reason could be HR's wish to become more strategic while being given an influential seat at the top management table (Wirges & Neyer, 2022; Belizón, & Kieran, 2021; Heizmann & Fox, 2019; Mahadevan & Schmitz, 2019; Damm & Dahte, 2016; Cappelli, 2015; Thompson, 2011; Bassi, 2011; Lawler et al., 2004; Qureshi, 2020). Potentially, this mindset played a part in the interviewees' perceptions.

Similarly to the organisational processes, the financial function in HR processes also had strong support in the theoretical framework but limited support in the empirical data. One potential explanation for this could be that, as presented earlier, HR professionals are people-focused (Angrave et al., 2016; Lawler et al., 2004; Marler & Boudreau, 2017; Vargas et al., 2018; Cayrat & Boxall, 2022; Rasmussen and Ulrich, 2015), hence, they do not reflect as much on the financial aspects of HR Analytics. Finally, the performance-enhancing function had strong support in the theoretical framework but also very low to no support in the empirical data. This limited support in the empirical data could be explained by the interviewees majorly focusing on the organisational value, but not on how typical HR processes can boost performance. Potentially, this conclusion is due to a miscategorisation on our part, as HR's mission partly is to enhance employee performance by engaging in learning and development practices (Pape, 2016).

Lastly, for the HR profession, the legitimating-advocating function had strong empirical support but only the advocating part of the function was found in the theoretical framework. Multiple sources have confirmed that HR has struggled with its legitimacy, but no one has argued for the legitimacy-boosting function HR Analytics have. Bassi (2011) is the only one who touched on it, but she argued that legitimising HR is not the purpose of HR Analytics. By writing this thesis we have reflected on the reason why HR Analytics has not been discussed as legitimising for HR. Perhaps it relates to the fact that HR Analytics is at the early adopter stage still, and that research, therefore, has only focused on the business impact HR Analytics serves. Clearly, there has been a theoretical gap regarding the legitimating function of HR Analytics, but now our study has

contributed to filling this gap by confirming the legitimating-advocating function's existence. Thus, HR Analytics brings a competitive advantage to the organisation, including its HR department, while empowering the HR profession.

Challenges

Besides offering several functions, multiple challenges with HR Analytics – barriers, risks and limitations – have been identified. The level with the most challenges was organisational processes, where issues regarding data quality, the struggle to balance data with the human perspective, data privacy and GDPR, stakeholders' motivation, implementation issues, and costs concerning the adoption of HR Analytics. were mentioned. The literature review confirmed the accessibility issue regarding who should have access to the data and how it should be integrated into the organisation (Torre, Sarti and Antonelli, 2022). Furthermore, the GDPR challenge was reflected and the need for the human perspective was noted (Cayrat & Boxall, 2022). However, what was not brought up in the empirical data was (1) that for the sake of the organisation, the people adopting HR Analytics must have the competence for it (Cayrat & Boxall, 2022; Rasmussen & Ulrich, 2015), (2) the risk that prejudices and potential biases can influence the analytical data (Cayrat & Boxall, 2022), and (3) that HR Analytics can be misused to only drive certain agendas (Rasmussen & Ulrich, 2015). The reason why these challenges were not brought up, could potentially be explained by the fact that the interviewees still are at the beginning stages – descriptive and diagnostic.

On the next level, the HR processes, the most frequently mentioned challenges concerned organisational support, culture, data gathering, and system support. In the literature review, the same challenges identified for organisational processes were identified concerning HR processes specifically too. Besides these, challenges concerning lack of organisational support, institutional and cultural constraints, limited HRIS, and deciding on what data to collect were identified and reflected in both the empirical data and theory. However, the risk that HR Analytics risks becoming a management fad (Rasmussen & Ulrich, 2015), was not reflected by the empirical data. Instead, the interviewees saw a promising future for HR Analytics. Hence, there is a dissonance here, but the dissonance is not a surprise because all interviewees work with HR

Analytics today and decided to engage in this study voluntarily. Hence, the interviewees are prone to be positive towards using HR Analytics.

Finally, on the last level, the HR profession, two main challenges were discussed: (1) HR professionals' lack of knowledge about HR Analytics and (2) HR professionals' lack of motivation to use HR Analytics. These two challenges were reflected in both the empirical data and theory. Most frequent in the empirical data were concerns regarding HR professionals' lack of analytical skills that stemmed from the culture within the profession according to the interviewees. In the existing literature, this was also pointed out as a major barrier, limiting HR professionals from learning about HR Analytics and adopting it. A lack of motivation to engage in analytical work was also identified as a barrier which limits the adoption of HR Analytics among HR professionals. A third challenge identified in the empirical data was ethical considerations, meaning, as HR is becoming digitised and organisations start to gather more data, it is important to reflect on integrity and authority. This has also been reflected in literature but more concerning the organisation and HR processes specifically, but not fundamentally concerning the HR profession.

5.3. Theoretical Implications

By conducting our research, this thesis has contributed with theoretical implications, where contemporary research has been reviewed and compared to our own collected empirical data. Starting, the business problem identified was that the HR profession lacks legitimacy. Therefore, this research has aimed to seek to understand how HR Analytics can solve this by empowering the HR profession. To do so, this study has expanded the current knowledge base on HR Analytics by identifying the functions of HR Analytics, including how they empower HR professionals, and identifying challenges of adopting and working with HR Analytics.

The existing literature has had a strong focus on the financial function, claiming it as one of the most valuable functions of HR Analytics. However, this perception has been challenged by the empirical data provided in this thesis. This study has found evidence that other functions, such as the strategic-business function and the evaluating-comparing function, are more prominent in HR professionals' experiences and opinions on HR Analytics. Before conducting the empirical

research, a theoretical gap regarding the legitimating function of HR Analytics for the HR profession was identified. This study has contributed to the field of research by addressing this gap, and the empirical data has shown that the legitimating-advocating function is a valuable function in the opinions and perceptions of HR professionals.

5.4. Practical Implications

The research findings have brought several practical implications for HR professionals, including their HR department, and top management. The findings have indicated that there are many advantages of implementing HR Analytics in organisational work, and they reflect Marler's and Boudreau's (2017) and McCartney's and Fu's (2022) practical implications.

First, our findings showed that organisational and managerial performance can be enhanced because new insights about employee well-being, satisfaction and performance can be collected and shared within the organisation, which can guide employee management. For line managers, this can support them in knowing how to boost their team performance, while enhancing employee well-being. Furthermore, as HR Analytics replaces manual Excel work, it has a streamlining effect, enabling employees to focus on other important tasks. This reflects McCartney's and Fu's (2022) implication that HR Analytics has a positive impact on organisational performance, and it contradicts Marler's and Boudreau's (2017) declaration that there is limited scientific evidence where HR Analytics has been linked to organisational performance. Despite this contradiction, it is not a shock that the research on HR Analytics has expanded during the five-year time period between the publication year of Marler and Boudreau (2017) and McCartney and Fu (2022). Instead, this increased interest in the topic would reflect the increased awareness of the digital advancements of AI – e.g. the open AI of Chat GPT – and how it has incorporated business and HR in the last couple of years (Arora et al., 2021; Khankriyal, 2023; Pierson, 2023).

Second, decision-making can be improved on all levels because HR Analytics can confirm and rebut intuitional beliefs, hence promoting more informed decision-making and behavioural change, supporting organisational performance. This reflects McCartney's and Fu's (2022) second implication that an advanced and accessible HR technology further enhances

organisational performance, as it can present analytical information in different visual ways, eg. reports, dashboards, and KPIs. Hence, as Marler and Boudreau (2017) argued, the IT department of the organisation should be part of the adoption to ensure the HRIS is easy to use and advanced.

Third, by supporting HR professionals in equipping analytical knowledge and skills as well as promoting the motivational drivers to use HR Analytics, HR professionals can feel empowered at work and become more influential. As a result, the profession's legitimacy problem can be resolved. This final practical implication, reflects the ideas of Marler and Boudreau (2017), as they also point out the importance of equipping the needed knowledge and skills to utilise the functions of HR Analytics. Furthermore, the implication reflects McCartney and Fu (2022), as they also declare the importance of having a working culture where the stakeholders support the implementation of HR Analytics.

Thus, from the insights gathered, we provide the following recommendations for organisations, HR departments, and HR professionals. First, organisations which have not yet implemented HR Analytics should do so to improve decision-making, employee well-being and organisational and managerial performance. Second, the organisation should allow the HR department to take ownership of the implementation, while supporting them, to increase the legitimacy of the HR department, including its professionals. By doing so, the organisation would gain a new competitive advantage, boosting the total competitive strength. Third, organisations should strive towards fully utilising HR Analytics, to improve and expand the value-creation of HR Analytics. As a result, the organisation and its HR department will gain a huge lead compared to organisations that do not adopt or fully utilise HR Analytics. Following this, the organisations investing in HR Analytics will outperform the ones who do not invest. However, what is important to highlight is that as HR Analytics becomes more commonly used and its functions progress, organisations must make sure that they keep up with the digitalisation and especially AI's progression, and make HR Analytics a prioritised best practice. If organisations fail to keep up, they risk shrinking their competitive advantage lead, and instead, fall behind while losing their competitiveness.

Our fourth, but most important, recommendation is that HR professionals upskill themselves in analytical skills and AI's progression to learn how to fully take advantage of the benefits and updated functions of HR Analytics. HR professionals' lack of analytical skills and knowledge was identified as one of the more frequent challenges of HR Analytics in both previous research and empirical data. As our research has shown, the legitimacy problem can be helped by the legitimating-advocating function of HR Analytics, enabling HR professionals to feel empowered while creating business value. This means that if HR professionals take charge of upskilling themselves in analytical skills and take advantage of the opportunities created by AI's development, the HR profession can progress from being an administrative support role to acting as a strategic business partner.

While we have presented four recommendations, we want to end by noting that the development of HR Analytics and AI is only at the beginning. It is still not clear how technological advancements will affect HR and, the working world in general. Hence, to not lose the H in HR Analytics, the HR field needs to take part in the development of HR Analytics and take ownership of its organisational implementation. If HR loses this ownership, other professions that do not have the same people focus as the HR department, such as finance or IT, may take over the responsibility of HR Analytics. If those professions take the lead on implementing and developing HR Analytics, the people focus might be lost and other aspects e.g. cutting costs may influence the major use of HR Analytics.

To summarise, we have identified the functions and challenges of HR Analytics as well as explored HR professionals' perceptions and opinions of using HR Analytics in their work. This study has contributed to further deepening the understanding of the advantages of HR Analytics and has contributed to closing the theoretical gap on the legitimating function. Additionally, it has shown that knowledge and feelings influence the decision on whether to adopt HR Analytics or not. Furthermore, it has been declared that when motivational drivers, significant to the isomorphism group of HR professionals are met, they influence change of behaviour. Finally, we have been able to conclude that the degree to which HR Analytics is fully utilised depends on the knowledge and feelings, including the motivational drivers, that affect willingness to be innovative.

5.5 Limitations and Future Research

Empirical Limitations

The material in this thesis come from the theoretical framework as well as the empirical data collected in the interviews. Despite providing us with valuable findings about HR professionals' opinions and perceptions of HR Analytics, no patterns have been identified regarding age, gender, geographical location, size and type of organisation, public or private sector, etc. For example, in 2.2.1. *Organisational Processes*, previous research found that small or medium-sized organisations risk becoming overwhelmed and therefore, have a limited approach to HR Analytics. In our empirical data, we could see no such pattern, but this could be due to the size of our population. For future research, it would be wise to study a bigger population to explore and identify possible factors that limit the full adoption of HR Analytics.

Another limitation of this study is the relatively homogeneous nature of the population, as all participants currently work with HR Analytics in Sweden. What characterises the interviewees is that they all work with HR Analytics and voluntarily agreed to be interviewed about the subject in their spare time for no personal gain of their own. Hence, it is evident that the interviewees have an interest in HR Analytics and believe in its possibilities. This could introduce bias, as their functions, challenges, and perceptions of the advantages of HR Analytics may differ from those of HR professionals who are less analytically inclined. Including the perspectives of HR professionals who are not actively engaged with analytics would provide a more comprehensive understanding. Our approach included posting recruitment notices on LinkedIn and reaching out to individuals who have expressed an interest in analytics on their profiles, which probably attracted individuals that have a positive attitude towards HR Analytics. It is important to note that individuals who are not enthusiastic about analytics may be less likely to publicly identify themselves as such on their LinkedIn profiles, making it more challenging to access a diverse population. To address this, future research could target larger organisations where dedicated analytics departments exist, allowing for the inclusion of individuals who are not as convinced about the benefits of analytics. Additionally, targeting individuals who have previously worked with analytics but have since stopped, or those who are seeking to enter the field, would provide valuable insights into their perspectives and experiences.

A third limitation of this study is that it has exclusively had an interest in the opinions and perceptions of HR professionals. The HR department is not an isolated department and its work is affected by and affects the work of other departments in the organisation. Therefore, we encourage future researchers to expand beyond the HR scope. Exploring other professions or stakeholders' views of HR Analytics will expand beyond the HR bubble and contribute to a more nuanced knowledge base. It would be beneficial to include perspectives from various stakeholders within the organisation, such as line managers, to gain a comprehensive understanding of the impact and perceptions of HR Analytics across different organisational roles. Exploring line managers' views of HR Analytics can shed light on how HR Analytics can support their decision-making processes, enhance their understanding of workforce dynamics, and contribute to effective people management strategies.

Theoretical Limitations

The first theoretical limitation identified concerns the international sampling of the literature. The majority of the literature presented in this thesis comes from a variety of geographical origins, which is strengthening, as it provides multinational perspectives on HR Analytics. However, the amount of Swedish literature has been limited. If the amount of scientific literature concerning the subject, had been empirically conducted in Sweden, then it would have strengthened our research. In other words, our empirical data could have been analysed in comparison to Swedish empirical studies. However, because the field of research on HR Analytics is limited and lacks Swedish studies, our literature review could only include some Swedish theories e.g. Boglind et al. (2021) and Damm and Dahte (2016). A limitation following this is that Scandinavian literature, outside of Sweden, could have been reviewed and included in this thesis. However, the amount of Scandinavian literature is limited as well.

The second theoretical limitation identified concerns exploring other organisational roles' perceptions and experiences of working with HR Analytics. This would have added another perspective to the adoption of HR Analytics, by enabling a comparison between HR professionals and other professions. Potentially other professionals within another profession e.g. finance, marketing or engineering, could have provided new insights, functions and challenges.

A third and final theoretical limitation identified is the restricted focus on HR Analytics and not analytical work in other professions and industries. Some literature touched on AI in a broader matter, but still, HR Analytics and the HR industry have been the context. If other literature material concerning other types of analytics in other departments, would have been reviewed, then a comparison between the adoption of analytics between different professions and industries could have been conducted. Perhaps, the adoption of analytics in other professions and industries has moved from the descriptive and diagnostic stages to the predictive and prescriptive ones.

Future Research

By shedding light on the limitations of this thesis, we want to end by providing our recommendations for future research. First, we recommend future research to identify what functions HR Analytics provides other departments in organisations with. Shedding light on the benefits increases the incitement for organisational leaders to invest in HR Analytics and fully utilise its capacities. Second, we recommend future research to expand studying of the interdependence between Rogers's DOI theory and isomorphism in either industry. If focusing on the HR industry, future research could study the impact different motivational drivers have on HR professionals' decision to adopt HR Analytics, and the alignment between HR professionals' preferences could be put in comparison. Third, we recommend future research to try out alternative methods such as. focus groups where shared or nonshared experiences can be captured. In these focus groups, only HR professionals could be concluded or the group could be expanded to include further professions, industries and managerial positions.

Finally, in light of our study, which identified a new function of HR Analytics and contributed to closing the research gap on the legitimating-advocating function, we want to encourage future researchers to further explore this function. In addressing the HR profession's legitimacy problem and advocating for HR practices and initiatives, it is crucial to further explore and understand the legitimating-advocating function. We suggest that future research examines how HR Analytics effectively can be implemented and used to contribute to enhancing the perceived legitimacy of HR professionals and their work within organisations. Additionally, investigating the strategies and approaches that HR professionals can utilise to advocate for evidence-based management would provide valuable insights and help establish HR Analytics as a tool for

creating positive business outcomes and value in organisations. Future research should therefore focus on uncovering the underlying mechanisms, potential challenges, and best practices related to the legitimating-advocating function of HR Analytics, thereby contributing to the advancement of the HR field and highlighting the competitive advantage HR Analytics provides.

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Appendix 1: Interview Guide

Intervjuguide – 50-60 min

Introduktion – 5 min

1. Tacka för deltagande – tillåtelse att spela in intervjun?
2. Presentera oss och studien

Vi heter Louise och Elin och vi har en kandidatexamen i HR från Lunds universitet och läser vi en Master i Management på Ekonomihögskolan vid Lunds universitet. Just nu arbetar vi på vår masteruppsats som syftar till att studera hur HR Analytics används av HR-praktiker och organisationer. Vi har valt att fokusera på HR Analytics eftersom att området är nytt för oss och vi önskar lära oss mer om det.

HR Analytics = People analytics, Talent analytics, workforce analytics, evidensbaserad data

3. Presentera vad deltagandet innebär och vad datainsamlingen kommer användas till, samt att datan kommer att raderas efter att uppsatsen är slutförd. Behandla konfidentialitet och be om medgivande att delta, att vi spelar in och att vi för anteckningar och kommer analysera datan

Ditt deltagande i studien innebär att vi kommer samla in data under intervjun som sedan kommer analyseras och presenteras i uppsatsen. Intervjun kommer spelas in och vi kommer föra anteckningar. Deltagarna i studien kommer att anonymiseras och allt insamlat material kommer att raderas efter att uppsatsen är färdigställd. Vi vill be om ditt godkännande innan vi genomför intervjun.

4. Presentera agendan för intervjun

Intervjun är semistrukturerad och kommer fokusera på dig och dina erfarenheter, HR-professionen, HR-processer och sedan organisatoriska processer.

5. Öppna upp för frågor, informera att hen får göra tillägg längst med vägen om så önskas

Inledande frågor – 10-15 min

Inledning: Som inledande avsnitt vill vi fokusera på dig och din professionella bakgrund.

1. Vill du berätta om dig själv och din professionella bakgrund?
 - a. Utbildning?

- b. Tidigare arbetslivserfarenhet?
2. Vill du beskriva din nuvarande roll och dess innebörd
 - a. Arbetsbeskrivning?
 - b. Ansvarsområden?
 - c. Medlem i ledningsgruppen?
 - d. Hur ser chefsrelationerna ut?
 3. Utifrån din professionella bakgrund och din nuvarande position, vilka är de största utmaningarna du har stött på som HR-praktiker?
 - a. Bli hörd och lyssnad till?
 - b. Handlingsutrymme?
 - c. Motsträviga kollegor och överordnade?
 - d. Dysfunktionella arbetssätt – rutiner, beslutsfattning, samarbete?
 4. Arbetar du idag med HR Analytics och i vilken utsträckning?
 - a. Ja:
 - b. Tidigare:

Tema 1: Professionella processer – 10-15 min

Inledning: Det första temat vi vill avhandla fokuserar på din syn på HR-professionen i relation till HR Analytics.

1. Hur skulle du beskriva HR Analytics och på vilket sätt är det användbart för HR-praktiker?
2. Vilka fördelar ser du med HR Analytics i relation till HR-professionen?
3. Vilka nackdelar ser du med HR Analytics i relation till HR-professionen?
4. Ser du några möjligheter eller risker med HR Analytics i relation till HR-professionen?
5. På en skala från 1-7, där 1 = väldigt lite och 7 = väldigt mycket, hur mycket skulle du säga att HR Analytics används av HR-praktiker överlag? Annars inom din organisation
 - (1) = Väldigt lite
 - (2) = Lite

- (3) = Ganska lite
- (4) = Måttligt
- (5) = Ganska mycket
- (6) = Mycket
- (7) = Våldigt mycket

5a. Ser du att HR Analytics används även av andra professioner inom din nuvarande organisation, men även i allmänhet? *Ex. finans, marketing, top management, engineers*

6. Vad kan du se för potentiella anledningar till att HR Analytics inte används av HR-praktiker?
- a. Bristande kännedom om HR Analytics
 - b. Bristande kunskap (hos HR-praktiker)
 - c. Bristande support från organisation/chefer
 - d. Anses vara en för stor kostnad
 - e. Resultat/Att det inte är värdeskapande
 - f. Annat: _____

Tema 2: HR-processer – 5-10 min

Inledning: Tema 2 syftar till att behandla din syn på HR Analytics i relation till typiska HR-processer – såsom *attraction, rekrytering, onboarding, schemaläggning, frånvarohantering, löner, förmåner, kompetensutveckling, offboarding*)

1. Vilka funktioner ser du att HR Analytics har i det operativa HR-arbetet?
 - a) Från dina erfarenheter, hur har HR Analytics använts?
 - b) På vilka andra sätt ser du att HR Analytics skulle kunna användas?

2. Vilka funktioner ser du att HR Analytics har i det strategiska HR-arbetet?
 - a. Från dina erfarenheter, hur har HR Analytics använts?
 - b. På vilka andra sätt ser du att HR Analytics skulle kunna användas?

3. Vilket värde skapar HR Analytics för HR-processer?
 - a. Internt?
 - b. Externt?

Tema 3: Organisatoriska processer – 10-15 min

Inledning: Tema 3 som är vårt sista tema som syftar till att behandla ditt perspektiv på HR Analytics i relation till organisatoriska processer.

1. Hur arbetar din organisation med HR Analytics under beslutsprocesser och i ert strategiska arbete?
 - a. Specifika områden/initiativ?
 - b. Resultat – milstolpar och uppnådda mål?
 - c. Inställning till HR Analytics-arbetet – organisationsmedlemmar, mellanchefer, högsta cheferna, etc?
 - d. Annat alternativ:

2. Vilken funktion ser du att HR Analytics har i det operativa arbetet på organisatorisk nivå?
 - a. Finans
 - b. Marketing
 - c. Sales
 - d. Top Management
 - e. HR?
 - f. Annat alternativ:

3. Vilken funktion ser du att HR Analytics har i det strategiska arbetet på organisatorisk nivå?
 - a. Finans
 - b. Marketing
 - c. Sales
 - d. Top management – industri-analys
 - e. HR?
 - f. Annat alternativ:

4. Vilka organisatoriska utmaningar ser du att HR Analytics kan bekämpa eller hantera?
 - a. Internt på nuvarande organisation
 - b. Allmänt
 - c. Annat alternativ:

5. Vad anser du krävs inom organisationer för att HR Analytics ska kunna implementeras och bli värdeskapande?
 - a. Utbildning – HR-praktiker
 - b. Stöttning och support – från management och beslutsfattare till HR-praktiker
 - c. Annat alternativ:

Avslutande frågor:

1. Anser du att HR Analytics har gett dig mer legitimitet i rollen som HR-praktiker?
2. Kan HR Analytics fungera som argument till HR-initiativ eller liknande?
3. *Slut på frågor, har du något du vill tillägga innan vi avrundar?*

Avslutning – 5 min

1. Berätta att alla intervjufrågor har besvarats
2. Fråga hur intervjupersonen har upplevt intervjun – var det som väntat? Fråga feedback?
3. Fråga om intervjupersonen vill tillägga något? Nu, eller över e-mail.
4. Tacka åter igen för deltagandet.

Appendix 2: InMail Template

Delta i intervju om HR Analytics

Hej {firstName},

Hoppas allt är bra med dig! Jag heter Elin och är en masterstudent på Ekonomihögskolan i Lund. Jag skriver just nu min masteruppsats om HR Analytics tillsammans med min uppsatspartner Louise Rosén Fång. Vi läser just nu en Master i Management och har sedan tidigare en kandidatexamen i Human Resources från Lunds universitet.

Vi är intresserade av att ta del av HR Business Partners eller personer i liknande rollers åsikter om HR Analytics och erfarenheter av hur det används av HR-praktiker och organisationer. Vi såg på din profil att du idag jobbar som HR Partner/HR Analytics och har flera års erfarenhet inom HR. Vi hade därför mer än gärna tagit del av dina åsikter och upplevelser av HR Analytics och HR-yrket!

Intervjun kommer att ta cirka en timme och kan genomföras antingen digitalt eller fysiskt (Lund/Malmö), beroende på din tillgänglighet och önskemål. Ditt deltagande i denna studie skulle vara mycket uppskattat av oss och dina svar kommer att behandlas med största konfidentialitet.

Om du vill delta i en intervju, vänligen meddela mig så kan vi boka en tid som passar eller boka en tid här: [inserted calendarly link](#). Har du några frågor eller rekommendationer på andra personer som hade varit intressanta för oss att prata med så får du gärna tipsa oss om dessa. Tack på förhand för din tid, vi ser fram emot att höra från dig!

Vänligen,

Elin och Louise