

# Hiring Through Algorithms

A Qualitative Study of Digital Integrations in Recruitment Management

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# Abstract

**Key Words** recruitment, e-Recruitment, person-job fit, person-group fit, person-organization fit

**Purpose** Through technological advancements and the evolution of e-Recruitment tools, Human Resource Management (HRM) has evolved from a traditionally analog talent acquisition process towards a digitized replicant. In this thesis we investigate and aim to make sense of current managerial challenges within the recruitment processes when using currently available e-Recruitment tools.

**Methodology** Through semi-structured and in-depth interviews we intend to explore generalizable patterns of assessing candidate organizational environment fit, when sourcing applicants through automated and data-driven recruitment tools. A grounded theory strategy was applied through an inductive approach during our research.

**Findings** Companies use various tools to assess all levels of a person's organizational environment fit. From our interviews, patterns emerged that highlighted that recruiters would use specific methods to judge a candidate's value, depending on the specific position within the talent acquisition pipeline. Depending on where a candidate's application is within the recruitment process, corresponding tools are then used to determine a Person-Job fit, Person-Group fit, or Person-Organization fit. Digital tools were highly integrated during the assessment of P-Job fit, where the latter two fits mostly relied on non-digital in-person behavioral assessments. Our research also uncovered that efficiency seems to be a key interest and desired need for further development within e-Recruitment. Additionally, not all desires in efficiency improvements are aimed towards technological replacement, but seem to be in desired in human understanding enhancement.

**Conclusion** Recruiters seem to find value in enhancing human decision making by using integrated digital support systems. However, a desire not to substitute the human aspects of social context analysis was voiced, as they found the in-person behavioral analysis to be an essential perceptive key to accurate Person-Group and Person-Organization assessment. While the opportunities do not appear to lie within the digitalization of human perception, a substantial opportunity presents itself from the desire to streamline data input, processing, and analysis.

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# 1. Introduction

## 1.1 Background

Many companies success largely rests on its human capital and in the value that they create (Pfeffer & Veiga, 1999). This poses a continuous need for organizations to find the best possible job applicants in order to build a high performing employee base. To proactively minimize and mitigate poor Person-Organizational Environment fit (P-OE fit), specific hiring processes and procedures have to be established within an organization. It is a recruiter's main role to source candidates for a specific job opening followed by a rigorous vetting process to assess if their experience, background, skills, and abilities are an appropriate organizational fit (Taleo Recruiting User Guide, 2012). A potential candidate's fit goes beyond the posted job requirements and needs to encompass both a team-working fit and a larger P-OE fit (Michael & Tomoki, 2007; Werbel & Johnson, 2001). Studies show that better P-OE fit is correlated to higher job satisfaction, greater job performance, lower rates of turnover, and a stronger sense of commitment to the company (Boxx et al., 1991; Judge, 1994).

Traditional human resource management was heavily focused on administrative functions where today it has shifted towards a more strategic asset to an organization. As intellectual capital is difficult for competitors to duplicate, we see how organizations acknowledge human capital as a competitive advantage (Kavanagh & Thite, 2009). This has led to an increasingly competitive landscape for recruiting and retaining talented employees, also described as “The War on Talent”, a term crafted by Steven Hankin of McKinsey & Company in 1997. Recruiting has become an important department within human resources focused on addressing this challenge. Hence, the role of a recruiter has never been more crucial to an organization, being the responsible organizational constituent for acquiring new talent.

Throughout the years, some aspects of recruitment have attracted a lot of research, e.g. the aspects of how to successfully conduct employment interviews. During that same time, less research has been done on how digital aspects affect the recruitment process, thus generating little agreement on how to asses digital resumes for effective candidate selection (Furtmueller et al., 2011). Electronic recruitment (e-Recruitment) contains many advantages over traditional recruiting, in everything from automated storage of candidate data to the ranking, or comparison of candidates. The Internet now allows for an almost instantaneous application process allowing job searchers to apply in higher frequency and at almost no cost (Furtmueller et al., 2011). Within this shift towards a more data-driven recruitment process, applicant volumes have risen. Although, evidence exists to support the efficiency of digital tools to sift through this higher volume of applications, less literature is available that reviews the accuracy of these applicants to job fits.

In light of the increasing interest from and access to potential hires, a need to accurately navigate through the data has presented itself. For that reason, the focus of our study is to explore the perceived accuracy and challenges for managers within e-Recruitment, when striving to acquire the best talents within high volume applicant pools.

## 1.2 Purpose & Research Questions

The purpose of this thesis is to build an understanding of how the e-Recruitment tools aid in finding an accurate job applicant fit, based on multi-level fit assessment. Previous research highlights three separate perspectives that should be independently assessed and considered when evaluating potential candidate fit (Buettner, 2014; Edwards, 1991; Michael & Tomoki, 2007; Sekiguchi, 2004; Werbel & Johnson 2001).

- Person-Job (**P-J**) fit relates to an evaluation of candidate skills to job role demands.
- Person-Group (**P-G**) fit is an assessment of perceived team and group working fit potential based on personality traits and behavior.
- Person-Organization (**P-O**) fit bases the found personality attributes and determines to what degree they align with the larger company's culture and values.
- Person-Organizational Environment (**P-OE**) fit is the evaluation of overall fit, incorporating all three perspectives above.

Recruitment is a critical organizational operation for company process and performance. Through technological advancements and the evolution of e-Recruitment tools, Human Resource Management (HRM) has transformed from a traditionally analog talent acquisition process towards a digitized replicate (Stone et al., 2015). In this thesis we aim to investigate how far digital tools currently penetrate into the recruitment funnel and where they provide the most leverage to recruitment managers.

In light of mentioned purpose, the research questions are:

*RQ 1. How do digital tools influence the recruitment process when assessing levels of candidate fit?*

*RQ 2. What are the perceived boundaries associated with digital tools in current recruitment practices?*

Our hope is to gain a wider perspective of how fit is assessed, both through a multidimensional perspective and how digital tools help in facilitation. Through this, we also aim to uncover where digital tools act as a catalyst and expose potential shortcomings that may exist.

### 1.3 Limitations

Biases are innate in any human decision-making. In recruitment, screening biases have been well documented in creating an unfair advantage for applicants based on specific physical appearance, gender, and ethnicity (Beattie & Johnson, 2012; Cohen, 1976; People Management, 2015). In some cases these e-Recruitment tools can be programmed to learn from human biases and then avoid making the same mistakes that a human could be subjected to. However, there have been documented cases where the opposite is true; where computer software mimics the choices of recruiters showing how bias was not eliminated from applicant screening. Because, almost all code today is still written by human programmers, there is still a degree of human biases being translated into the code they script that needs to be scrutinized (Garcia, 2016).

*“We are running the risk of seeding self-teaching AI with the discriminatory undertones of our society in ways that will be hard to rein in because of the often self-reinforcing nature of machine learning.”* (Garcia, 2016, p.112)

Another bias lies in the selection of recruiters to interview. We focus on understanding how recruiters in the software technology industry leverage electronic human resource management (e-HRM) tools with an assumption that these recruiters, based on the industry, have high likelihood of leveraging the most advanced tools available. This is in an assumption that they are adopters of the available technologies and can give us a current perspective on the e-HRM landscape. However, it may not be the case that recruiters in software technology use the most current tools giving our study a myopic or unintentionally narrowed perspective. It could be possible that recruiters in an entirely different industry use more advanced tools or a more holistic integration of e-HRM tools that could be a better group to study.

This thesis is focused on assessing the P-OE fit and puts equal importance on the P-J, P-G, and P-O fit relationships for an organization. In reality, recruiters may put differing weight on these fits depending on the specific job role, e.g. finance, leadership, sales. For example, if the role is remote or freelance work, examples exist where P-G or P-O fit is deemed less relevant (Scase, 2003). This can be explained by a recruiter looking for a short term or per-contract hire that has the necessary skills to get the job done but will not necessarily be a long-term company asset. Thus, we want to understand how e-Recruitment affects finding an accurate fit for each level-fit, regardless of how a recruiter may weigh each fits importance.

The above limitation was expressed during one of our interviews with a talent scout for a recruitment company in San Francisco, California. As a third-party recruiter they are outside of the company for which they are sourcing for. This results in candidate sourcers not having an explicit understanding of inter team dynamics or the intrinsic company culture in which they were placing candidates. To try and compensate for this, they primarily work with the company’s

hiring managers to put greater emphasis on the P-J fit and less emphasis on if the candidate is a group working or organizational fit. This may result in the hire becoming a group working miss-fit or lack integration into the company culture as was initially intended. Knowing this, the third party recruiter may use e-Recruitment tools differently to assess fit than might a recruiter who is inside the organization. In addition, third party recruiters usually work on a commission basis where they receive additional compensation for every candidate placed. This could potentially coerce them to suggest candidates for a company that an internal company recruiter may otherwise disqualify.

A small sample size of interviewees might not yield enough diverse opinions and insight to create generalizable conclusions. Conclusions could be established that do not in reality reflect the would-be views of a larger sample size of the company culture and mission. Our sample size attempts to be large enough to gather substantial insight into assessments of P-OE fit. However, without interviewing a larger sample size it is difficult to determine if the underlying perspectives of our recruiters interviewed are commonalities and representative, or just in a random occurrence that we then associate with a similar view.

## **2. Theoretical Background**

### **2.1 Introduction**

In order to further explore the topic of electronic recruitment technologies it is necessary to first provide a general understanding about the different components of both recruiting and the assessment of candidate fit. By exploring trends and developments within both fields, an understanding of the current landscape as well as potential areas of future development is possible. Thus, the main purpose of this chapter is to provide a theoretical outline of previous academic work related to HRM, recruitment, and e-Recruitment, where the knowledge presented will function as basis for structuring desired data collection. The coming chapter also touches upon relevant theories related to assessment of a candidate's Person-Organizational Environment fit, as a mean to evaluate applicant quality within the recruitment process before a potential hiring decision.

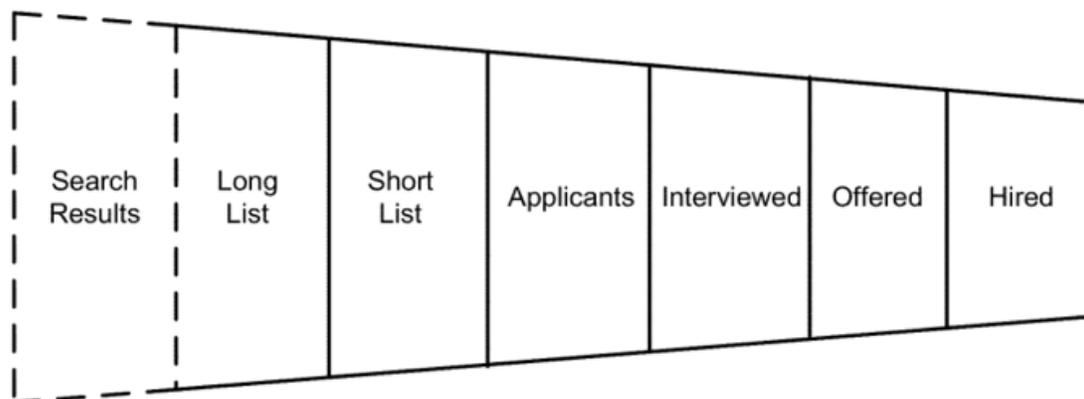
### **2.2 Human Resource Management and Recruitment**

Human resource management (HRM) was initially defined as a set of administrative functions, e.g. scheduling and payroll. Traditional HRM has evolved to include employee recruitment to acquire specific skills and abilities in an effort to maximize return on human capital (Su & Yang, 2015). In order to achieve desired results of profitability, organizations need to successfully balance their available resources to maintain a competitive advantage in the marketplace. These various resources within an organization branch into three general categories: physical, organizational, and human capital (Kavanagh & Thite, 2009). Out of these three, human resource capital has been described as the most critical, where distinguishing competencies are obtained through highly developed employee skills, distinctive organizational cultures, management processes, and systems (Greer, 1995).

As Kavanagh & Thite (2009) explain, during the last couple of decades the economic landscape has experienced fundamental changes sparked by globalization and technological advancements. Organizations in the 21st century have come to realize and value the importance of employees who create organizational knowledge and who inspire innovative practices and procedures. Human capital can provide a sustainable competitive advantage within a company, resulting in intellectual and proprietary knowledge that is difficult for competitors to imitate (Kavanagh & Thite, 2009). Correspondingly, this has made the management of human capital shift towards a strategic approach, where it is crucial to attract, retain, and engage talent.

According to a model by the author David Ulrich, HRM could be categorized into four roles, management of: (1) strategic human resources, (2) firm infrastructure, (3) employee contribution, and (4) transformation and change. HRM is a strategic approach for accomplishing business objectives through managed interactions of employees and the organization (Ulrich, 2013). Following this idea, this perspective suggests that in order for the HR function to become more involved in the strategic process, the HR function must change from being primarily an administrative expert to being a strategic business partner (Marler & Parry, 2016), thus making recruitment of new talent a key function.

It is first necessary to define recruitment and the linear progression associated with the hiring process to understand how technology impacts recruiting. Recruitment is the process in which new candidates are sourced for available job roles within an organization. In addition to new digital job boards and online social networks, e.g. LinkedIn or Monster, traditional methods for recruitment also exist. These channels include, but are not limited to: newspaper advertisements, billboards, referrals from current employees, referrals from business or professional contacts, employment agencies, and inquiries by telephone, mail, or in person (Marsden, 1994). The hiring process is also known as the talent acquisition pipeline, where once an application is received it enters a systematic and linear pipeline as shown below in **Figure 1**. Subsequently in this paper, talent acquisition pipeline is also synonymous with the recruitment funnel.



**Figure 1:** Talent Acquisition Pipeline (Taleo Recruiting User Guide, 2012)

The stages include an initial screening for job fit, a short listing of the initial best available candidates, followed by interviews either on-site and in-person or digitally over audio and video systems. Applicants are ranked and moved through each stage towards either being qualified or disqualified by a recruiter for the available role. If and when recruiters deem applicants a fit, a compensation offer will be given to the candidates of interest (Taleo Recruiting User Guide, 2012).

This talent acquisition pipeline has existed before the introduction of e-HRM tools, however with integrated software capabilities and automation a main benefit is the greater opportunity to analyze the data in depth. Bondarouk et al. (2017) explains how the automation of data analytics has led to higher volumes of digital resume screening, resulting in greater sourcing efficiency. Advancements in information technology is pushing HRM into new positions and possibilities, e.g. electronic recruiting (e-Recruiting), training, scheduling, and others (Bondarouk et al., 2017). Since the introduction and overlap of web-based technologies and human resources management, a range of definitions has emerged. What now is defined as e-HRM has been coined with HR Information Systems (HRIS), web-based HRM, and intranet-based HRM (Boundarouk & Ruël, 2009). An early definition of the e-HRM ditto HRIS was identified as:

*“Specialized information system within the traditional functional areas of the organization, designed to support the planning, administration, decision-making, and control activities of human resource management”* (Desanctis, 1986, p.15)

This definition aims at a more administrative approach to human resources, but recently a more strategic approach is manifested. Therefore, we will concentrate on the e-HRM definition proposed by T.V Boundarouk & H.J.M Ruël (2009). After years of discussion with numerous HRM-researchers, they presented a definition that states:

*“An umbrella term covering all possible integration mechanisms and contents between HRM and Information Technologies aiming at creating value within and across organizations for targeted employees and management”* (Boundarouk & Ruël, 2009, p.507).

With this in mind, all integrations between HRM and IT fall under our definition of e-HRM, regardless of that being e-Recruitment, HRIS, or various recruiting applications such as Applicant Tracking Systems (ATS).

Recent developments within recruitment reveal that both job applicants as well as professional recruiters are increasingly turning to the internet, where recruiters advertise job postings and explore applicant pools, while job seekers use it to apply for jobs online (Furtmueller et al., 2011). Furtmueller et al. also states that during the last decade e-Recruiting has increased significantly, becoming a leading e-commerce application. The authors also postulates that e-Recruitment holds many technical advantages such as automated storage, searching, filtering, pre-selection, comparison and ranking of candidates. With these opportunities both recruiters and job seekers are creating a condition of high volume, where many job seekers are applying for

many jobs. In light of the increased volume, Furtmueller et al. explains that the problem of selection quality arises, and a shift from efficiency towards the importance for accuracy occurs.

*“In as much as the Web makes it easy for job seekers to apply for many jobs in a short time period, the consequence is that companies may be inundated with a large number of resumes, many from unqualified applicants”* (Furtmueller et al., 2011, p. 245)

Even though more recruiters are turning to digital e-Recruitment tools to assist the recruitment process, a surprisingly small amount of research has been done on this topic. Increasingly over the last decade, careful and efficient selection of employees has become a crucial task for any organization (Furtmueller et al., 2011). This evolution has led to candidates sitting in the driver’s seat, being more informed about their opportunities and their long-term value in the marketplace. This forces companies to focus part of their business strategy solely on staffing (Alan & William, 2004). Notwithstanding, there are also benefits to the recruiter. Alan and William describe how by utilizing specialized hiring tools fast growing companies can put themselves in a unique position to attract and retain the best talent, which motivates the focused shift in business strategy.

The recruitment process of identifying and hiring new employees has been described as fundamentally transactional: exchange of contact details, collection and distribution of resumes, selection, and conducting interviews (Reynolds & Weiner, 2009). During each of these activities, the organization is expending resources in both time and money, thus increasing efficiency becomes a crucial need for any organization. Studies show that web-based forms of e-Recruitment can reduce costs by up to 95% over traditional recruitment tools, and has furthermore lessened hiring cycle time by approximately 25% (Dineen et al., 2002). In “The War on Talent”, the authors describe how talented individuals have the negotiating leverage to ratchet up their expectations for their careers, with the price for talent drastically rising (Michaels et al., 2001). The shift in recruiting power is evident, and the need for efficient and accurate selection processes has therefore become of the utmost importance.

While e-Recruitment attracts a greater amount of applicants when compared to traditional recruitment technologies, studies show that this is not consistent with higher quality in applicants (Chapman et al., 2003). In order to ensure the most talented and diverse applicants, many organizations use various forms of technologies to assess an applicant's fit to a job’s requirements, e.g. web-based job applications, personality tests, technical assessments, and interviews (Stone et al., 2015). There has been research on effectiveness and acceptance regarding isolated parts of electronically assisted selection tools. But, the overall question: *if these technologies assist organizations in hiring the most talented and diverse applicants more accurately* is, to our best knowledge, still unanswered.

## **2.3 The People Make The Organization**

Companies are fundamentally an integration of people, beliefs, and practices (Posner et al., 1985). In, *A Business and Its Beliefs* (1963) Thomas Watson Jr., founder of IBM states: “*The real difference between success and failure in a corporation can very often be traced to the question of how well the organization brings out the great energies and talents of its people*”. This makes it important for an organization to attract the talent that fits it’s culture and working environment. Organizational culture manifests itself in many forms, as a system of shared values (what is important) and beliefs (of how things work) (Seibert & proctor, 1984). This ranges from the dress code, to the physical design of a workspace, daily rituals, group preferences, and even language (Uttal, 1983). The impact of organizational culture within a working environment can be a strong predictor and indicator of employee satisfaction, commitment, and connection (Boxx, et al., 1991). Individuals who embody similar ways of action and process tend to perform better in the organizational environment. These studies cover: job and personal characteristics, work experience, leadership styles, group interaction tendencies, and social interaction (Bateman & Strasser, 1984; Reichers, 1985; Steers, 1977). Strong shared values can provide the employees with a sense of fulfillment and self-worth, along with a positive view of colleagues and the company’s ethics, resulting in a higher respect for larger organizational objectives and policies. The effect of high job satisfaction and commitment can result in lower turnover rates and higher work performance (Porter et al., 1974).

In an empirical test of corporate culture, Posner, Kouzes, and Schmidt sent lengthy questionnaires to over 6,000 managers on shared values and personal expectations. Managers who identified their personal values more compatible with their larger organizational values reported higher feelings of success in their life. In contrast, managers with a greater mismatch between personal values and corporate values were two times as likely to express doubts and voiced lower feelings of career success (Posner et al., 1985).

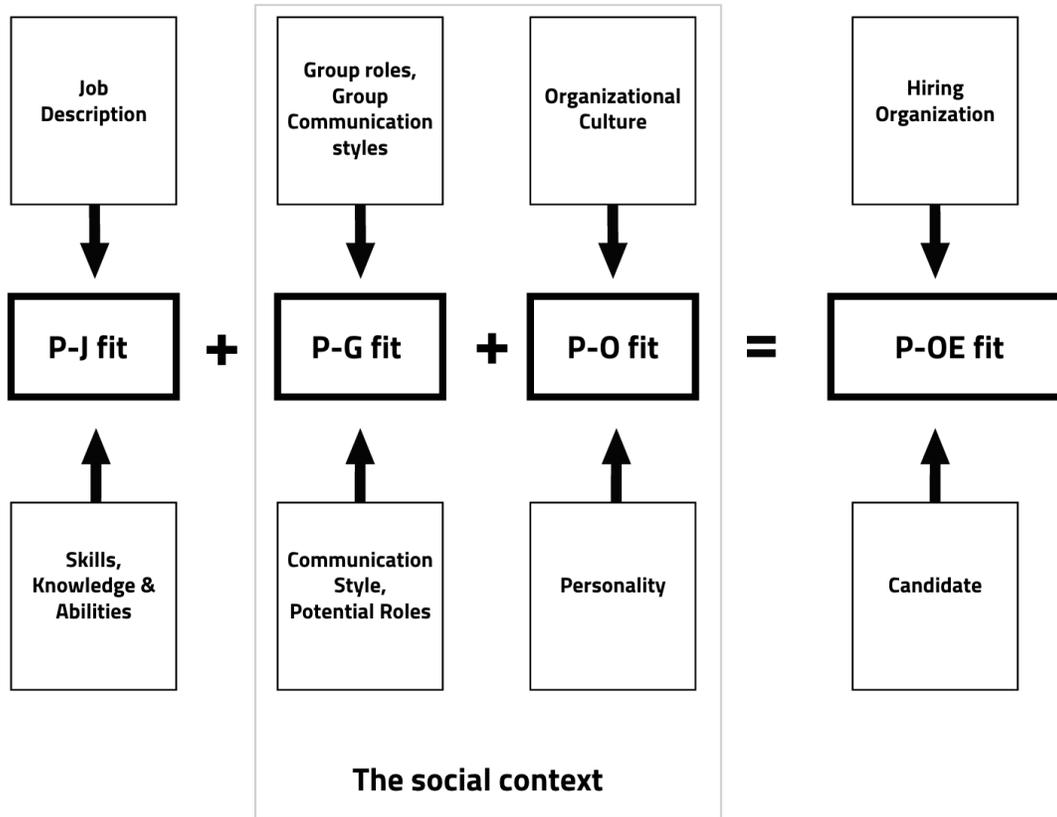
If corporate culture can be better defined and selected for within a company, measures to improve values that are congruent with employee beliefs can greatly improve overall organizational performance (Posner et al., 1985). Thus, finding candidates that are best suited for company roles and the larger organizational culture is beneficial not just to the company as a whole, but to would be co-workers and the greater employee base.

## **2.4 Levels of Fit**

Multiple levels of best fit between candidate and organization environment needs to be considered and addressed during the recruitment process. To find best fit candidates for organizations recruiters must look at different perspectives of organizational interactions as

shown, below in **Figure 2**. Person-Job fit (P-J fit), Person-Group fit (P-G fit), and Person-Organization fit (P-O fit) all contribute to a larger all encompassing Person-Organizational Environment fit (P-OE fit).

To find best matches for these three different levels of organizational fit, appropriate key indicators and elements need to be identified and sought out.



**Figure 2:** Levels of Fit (Based on figure from Buettner, 2014, p.7).

### 2.4.1 Person-Job Fit

To understand Person–Organizational Environment fit we must first start with the P-J fit. This is usually the initial screening step within recruitment and defined as the fit between an applicant’s abilities and the required skills, and knowledge demanded for acceptable performance of the advertised job (Werbel & Gilliland, 1999). Candidate’s applications are reviewed by recruiters, who either qualify or disqualify each candidate through initial screening. Resumes are primarily used to determine an applicant’s initial abilities in relation to job role fit. Within a resume,

recruiters are weighing an applicant's career status, education, desired job, skills, work experience, and extracurricular activities (Furtmueller et al., 2011). Recruitment managers use this information in parallel with cover letters, interviews, assessments, and references to weigh their decisions (Sekiguchi, 2004.) Substantial evidence is available linking job satisfaction, motivation, work performance, daily presence, and employee retention rates to a strong and positive P-J fit (Edwards, 1991).

#### **2.4.2 Person-Group Fit**

With high demands for effective team working and a more global pool of candidates to hire from is increasingly important to seek and build high functioning teams. Person-Group fit (P-G fit) focuses on a group level analysis to highlight necessary traits for strong team-working dynamics. Strong team-working capabilities lead to higher group cohesiveness and increased overall group effectiveness (Werbel & Johnson, 2001). Bill Hewlett and Dave Packard invoked the *HP-way*, saying, "*Successful businesses operate better when they operate as a team*" (Kouzes & Schmidt, 1985). This P-G fit can be used to assess how a new hire will fit within an established working group or in situations when working groups are formed out of existing employees (Werbel & Gilliland, 1999). P-G fit puts stress on the significance of successful internal communication for effective team function. Building trust, understanding of language, body language, and quality interactions leads to increased team working performance. This has been suggested by Montgomery (1996), as more critical gauges for evaluating individual and group performance than individual technical job skills.

For a strong P-G fit a balance between supplementary and complementary skills must be matched. A supplementary match is where a new hire has skills and attributes that are shared or similar to existing team members. A complementary match occurs when a new-hires skills and attributes are different than other team members, but add value and support to the other team members (Muchinsky & Monahan, 1987). Group dynamic harmony has a positive correlation to team productivity, and additionally experiments show that agreeability amongst the team on group's goals further enhances this relationship (Evans & Dion, 1991). Since each team member has strengths and weaknesses, the strongest teams have group dynamics where an individual's weaknesses are compensated by another team member's strengths.

#### **2.4.3 Person-Organization Fit**

In addition to a P-J fit and a P-G fit, the fit between person and organization (P-O fit) is also important. P-O fit is the compatibility match between a person's characteristics and needs in relation to a larger organization (Kristof, 1996). P-O fit was first conceptualized by Schneider's (1987) Attraction-Selection-Attrition (ASA) framework. In this framework, Schneider argued that applicants do not randomly apply for particular roles, but were more likely to actively seek

out particular roles within an organization where tasks were most attractive to them (Schneider, 1987). Schneider applies this ASA framework to explain the P-O fit importance. Candidates set out to be a part of a group in an effort to undertake particular challenges significant to them, finding like-minded co-workers, subordinates, and bosses. He further argues that employees can quickly find out if they are a good fit and stay in the organization if they are, or leave the company if they are not (Schneider, 1987).

The P-O fit architecture is based on four key relationships. First, one must determine the similarities in core characteristics between people and the organization. This is most commonly achieved by looking at the shared values between the people and organization (Posner, 1992). Second, is the relationship in overlap and match of goals between the organizational leaders and larger employee base (Vancouver & et al., 1994). This is to understand how likely employees will follow the executive orders of their leaders based on shared motivational values and beliefs. Third, is the balance between the needs and desires of the employee and the supporting networks and systems provided by the organization, demonstrating a desires-supplies fit relationship (Turban & Keon, 1993). The fourth relationship highlights the importance of individual personality characteristics and the organizational climate and character (Tom, 1971). The integration of all four relationships helps to understand if applicant and organizational characteristics results in a strong P-O fit.

#### 2.4.4 Person-Organization Environment Fit

When evaluating how an individual fits within an organization it is necessary to address all three fit levels: [P-J] + [P-G] + [P-O] = Person-Organization Environment fit (P-OE). Each fit framework helps to understand motivating factors and the resulting organizational effectiveness (Werbel & Johnson, 2001). **Table 1** below highlights different attributes in relation to type of fit with the added dimensions of motivational components and organizational effectiveness.

Type of Fit	Level of Analysis	Motivational Component	Components of Organizational Effectiveness
<b>Person-job fit (P-J fit)</b>	Individual	Self-efficacy	Job proficiency
<b>Person-group fit (P-G fit)</b>	Group	Social facilitation	Group cooperation Group synergy
<b>Person-organization fit (P-O fit)</b>	Organizational	Effective incentives	Retention rates Work attitudes

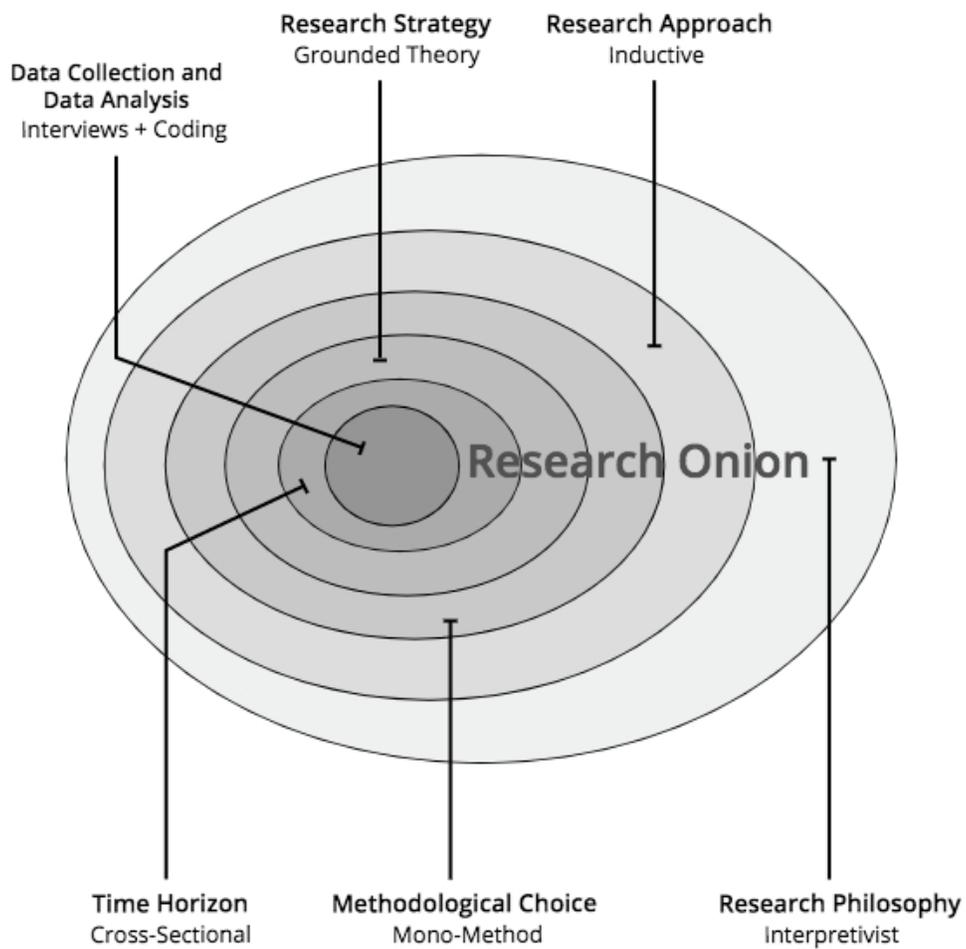
**Table 1:** A Comparison between Levels of Fit (Werbel & Johnson, 2001)

A P-J fit is an individual level of analysis aimed to understand best-fit applicants to a job's demands and necessary core skills. Strong P-J fits can result in self-motivated employees, which results in job accomplishment and expertise (Bandura, 1991). P-G fit is a level of analysis used to understand group working dynamics to fit individuals who have both complementary and supplemental skills to a team. A P-G fit motivates social facilitation to address team tasks and goals and helps an organization through team cooperation (Werbel & Gilliland, 1999). P-O fit examines how an individual fits into the larger organization culture and value system. Employees who have more similar and corresponding shared cultural and values with their organization tend to having higher retention rates, better performance, and higher overall job satisfaction (Kritsof, 1996).

# 3. Method

## 3.1 Introduction

Deciding on an appropriate research design is a crucial step in any research process, guiding research strategy and decisions that affect the conclusions you can draw from your research (Bordens & Abbott, 2005). To develop our research methodology we adopted the ‘research onion’, in which Saunders et al., (2012) present a multilayered approach to evaluate the whole research process. Our method chosen is presented in the framework below in **Figure 3**.



**Figure 3:** Our Research Onion, based on Saunders et al., (2012)

### **3.2 Research Philosophy**

When conducting research there were two major approaches to consider, either a subjective or an objective approach. These approaches are defined by several core assumptions concerning ontology (reality), epistemology (knowledge), human nature (predetermined or not), and methodology (Holden & Lynch, 2004). The researcher should be aware that their philosophical assumptions might have significant impact on decided phenomena of research, as well as being consequential to each other, e.g. view of ontology affects the perception of epistemological persuasion, and furthermore choice of methodology followed previous assumptions already made and affects the overall research design.

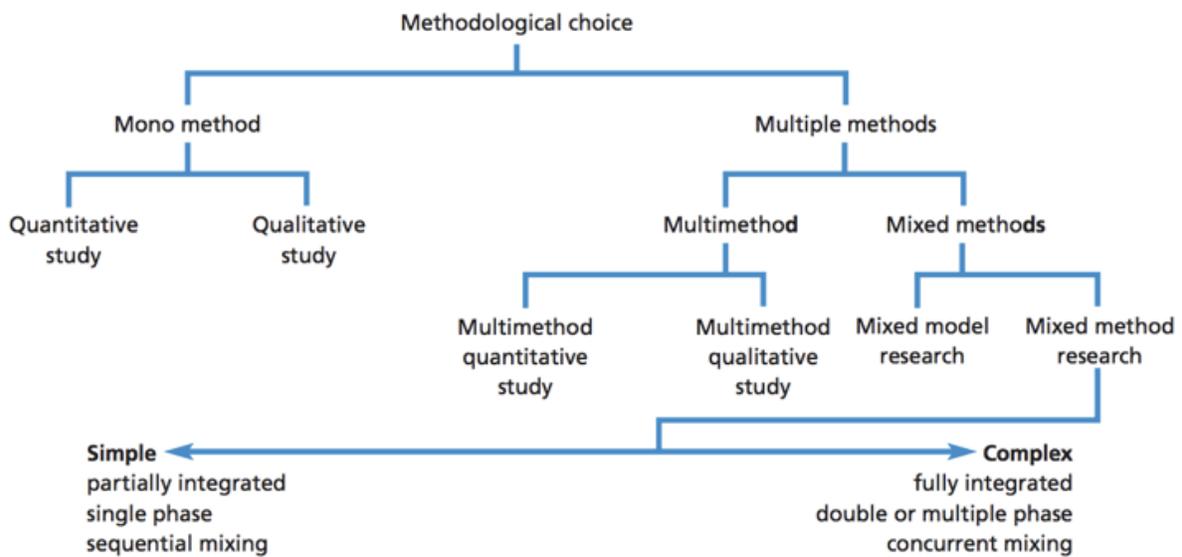
Our research was based on a relativist ontological point of view, which relates to the nature of reality and its characteristics, and embraces the idea of multiple realities. When collecting data about individuals, qualitative researchers conduct a study with the intention of exposing these multiple realities (Cresswell, 2007). By adapting a subjective approach, it was necessary to study the detail of a situation in order to understand what is happening, focusing on the meaning of social phenomena rather than its measurements (Saunders et al., 2012; Holden & Lynch, 2004). Furthermore, we adopted an epistemological interpretivist viewpoint focused on the details of a situation and the reality behind these details, where subjective meaning motivates actions (Cresswell, 2007). In line with these approaches a small sample qualitative study was performed, where subjective realities between interviewees was explored and analyzed to identify themes and patterns. This allowed for us as researchers to inductively draw generalizable conclusions from assimilating and analyzing data.

### **3.3 Research Approach**

Our study aimed to be conducted via an inductive approach, where theory was the outcome of research. Inductive research is described as the process of drawing generalizable inferences out of observations. Observational findings lead to an structuring of common categories and themes, in which theory can be generated (Saunders et al., 2012). This inductive approach was of interest to us because theory around how e-Recruitment tools impact accuracy of Person-Organization Environment recruitment was not well researched. The opposite approach would be a deductive study in which a theory would be used to make observations about particular instances (Bryman & Bell, 2015). However, while a deductive approach is more focused on verifying or falsify theories our inductive approach aimed to generate untested conclusions (Saunders et al., 2012). This was attempted through research into individual's perceptions of the e-HRM landscape, accumulating data in which we could then relate and cross-reference among all interviewees.

### 3.4 Methodological Choice

Multiple methods of data collection and research techniques exist including: mono method, multi method, and mixed methods. As diagramed below in **Figure 4**, methodological choice could be broken down into the following tree structure. Mono method simply means that one data accumulation method was used, either a qualitative or quantitative study. Multi method means that multiple approaches were conducted in data collection for the study. Our research strategy focused on using a mono method, defined as: using either a quantitative or qualitative research design. Qualitative research measures or relates the quality of data where quantitative research measures quantity (Saunders et al., 2012).



**Figure 4:** Methodological Choice Diagram (Saunders et al., 2012)

Our mono methodology used a singular data capture technique of formal interviews with diverse recruiters. Data of interest to us aimed to measure different perspectives and experiences of a targeted demographic. This made it of interest to us to focus the data on quality rather than quantity, defining our study as qualitative.

### 3.5 Research Strategy

Our thesis strategy followed the grounded theory framework, to first collect data from key participants, in an effort to help develop reasoning of an underexplored phenomenon. These key participants were HR recruiting managers from various companies and industries who have experienced the process of recruitment first hand. The goal of using a grounded theory was to

move beyond description of industry commonalities and formulate a theory ourselves by making sense of the views and experiences of the data gathered from participants (Strauss & Corbin, 1998). The discipline background that unified all participants lay in how recruitment practices affect business strategy. Our analysis studied the overall recruitment process, a linear pipeline in which a candidate moves from the initial application process to either receiving a job offer or not (as seen in **Figure 1**). In this process, recruiters assess multiple perspectives of fit, between the applicant and the larger organization environment.

Data collection occurred in the form of interviews to construct a holistic view of how recruiters measure and perceive Person-Organizational Environment fit within e-Recruitment processes. From our data, we organized and interpreted our findings into codes and larger themes. Coding involved compiling the data into smaller batches of common categories. Multiple methods of coding exist: open, axial, and selective (Strauss & Corbin, 1998). Depending on the commonalities between the information gathered we used the most appropriate manner to help build theory. These batches of common code categories then made up larger broad units of information, which was represented as four themes. The outcome of this strategy was to build a narrative statement (Strauss & Corbin, 1990), visual picture in the form of: a model, framework, or diagram, or a series of hypotheses (Creswell & Brown, 1992).

### **3.6 Time Horizon**

Mainly due to time constraints, a cross-sectional method was chosen. Even though a cross-sectional design often is positioned in the context of quantitative research (Bryman & Bell, 2015), it may also be used in qualitative studies, e.g. studies based on interviews conducted over a short period of time (Saunders et al., 2012). Since cross-sectional studies aim to be a snapshot at a particular time our identified patterns and observations were conducted accordingly, hence exploring a specific phenomenon at a specific point in time. This snapshot gave us an understanding of the current sentiment of how e-Recruitment tools impact recruitment to generate a current perspective of the industry.

### **3.7 Techniques and Procedures**

#### **3.7.1 Data Collection**

A qualitative exploratory study technique was used for data collection with multiple mid-length interviews, 25-50 minutes, from experienced recruiters in the human resources field. We were not bound geographically to our interviewees due to modern technologies such as Google Hangout, Skype, and the Internet. All interviews were completed over at least audio

communication and in some cases over audio and video communication. All interviewees were asked if their: a) name, b) company, c) current and past positions could be used in presenting the data and our findings. In one case a recruiter's name and company was changed for anonymity. The format for these interviews was considered semi-structured and in-depth with key themes and questions covered. The list of questions asked to our interviewees can be found in **Appendix 1**. Semi-structured interviews are defined as unstructured and non-standardized with an in-depth characteristic allowing us to probe answers building upon responses (Saunders et al., 2012). This gave us room to dig deeper into themes of interest and steer conversation as topics and insights emerged naturally to expose any commonalities that may have existed between interviewees. The time limits on each interview was not constrained, but a benchmark of at least 30 minutes was reached to achieve a general understanding of the recruiters range of activities, familiarity with e-Recruitment tools, and how e-HRM affects their daily work. Information was recorded digitally via phone and later transcribed as notes to review and extract pivotal codes and themes. In some cases, incoherent or unnecessary words were omitted from quotes when transcribing to increase readability and understanding. For example, when interviewees used redundant language, synonyms were found to preserve meaning and initial intention when transcribing interview audio.

Initially we reached out to respondents via LinkedIn through private messages and email introductions. Respondents of interest were users who had recruitment in their job title with three or more years experience and worked at a company size larger than 50 employees. In parallel we leveraged our contacts and existing social networks through emails, social posts, and messages to source similarly qualified recruiters that we were already in contact with. To source additional interview candidates we used a snowball sample approach, asking our current interviewee base for referrals. This was in an effort to find similar caliber respondents who may reside in the networks or social circles of the current candidates (Biernacki & Waldorf, 1981).

A few baseline constants were required for interviewee qualification. First, it was of primary interest to keep the tasks associated with a recruiter constant for all interviewees as an attempt to find commonalities between the knowledge in the field regardless of industry. If interviewees did not devote all of their time to recruiting they must have done so in a previous role. Second, we were interested in finding recruiters who use e-Recruitment tools in their recruitment and applicant selection process. We put emphasis on seeking out recruiters from software technology companies who would most likely be leveraging e-Recruitment tools the most, as well as, who would be most likely testing the latest technology integrations. With this in mind we were interested to interview individuals with different perspectives of the talent acquisition process. Although the understanding of the talent acquisition pipeline was universally understood not all interviewees spent equal amounts of time assessing fit in all points of the talent acquisition pipeline. For example, an executive level recruiter might spend more time assessing P-G and P-O fit than a high-volume sourcing recruiter who generally focuses heavily on P-J fit.

In **Table 2** below, we illustrated the interviewee demographics. Based on the interviewee’s position, a distinct frame of reference and relationship to the recruitment process was observed. Piecing together multiple perspectives allowed us to create a broad understanding of the e-HRM landscape and if digital tools were incorporated.

<b>Position</b>	<b>Perspective</b>	<b>Time Spent in Recruitment Process</b>	<b>Fit Focus</b>	<b># Interviewees</b>
<b>CEO</b>	Part-time recruiting perspective, recruiting for executive management	Interviews	P-G, P-O	3
<b>Recruiting Manager</b>	Inner organizational perspective, understanding company culture from within	All	All	7
<b>3rd Party Recruiting Managers</b>	Outer organizational perspective, focused on initial sourcing and handing off to company managers	All	All	2
<b>Data Scientist</b>	Understanding best available e-Recruitment tools, development, research, and future applications	None	All	2

**Table 2:** Interviewee Demographics

We then took a subjectivist approach to understand multiple perspectives of how e-Recruitment tools impacted different stages of recruitment and to what degree based on the recruiter or industry. The benefit of an open exploratory study allowed us as researchers to pivot our focus and build research questions as we uncovered interesting insights and information throughout the interview process (Saunders et al., 2012). Our phenomena of interest laid in understanding how recruiters measure and perceive P-OE fit within e-Recruitment processes, and the larger problem of how to find best-fit candidates for available organizational roles. Through these interviews we aggregated data from which we could sort common themes and establish an understanding of the nature of the problem. *“Data collection is used to explore a phenomenon, identify themes and patterns and create a conceptual framework”* (Saunders et al., 2012). This made sourcing quality interview candidates especially important because we relied heavily on the quality of contributions to help guide our research. In **Table 3** below, a list of all of our interviewees is presented.

	<b>Company</b>	<b>Position</b>	<b>Name</b>	<b>Country</b>	<b>Date</b>	<b>Length</b>
1	Ustertesting	CEO	Benetar, Darell	United States	23/2/2017	35 min
2	Darqi	Project Lead, Human Potential	Gilbert, Walter	United States	27/3/2017	34 min
3	Forrester Research	Principal Analyst, Infrastructure and Operations	Johnson, David	United States	29/3/2017	20 min
4	Ideal - AI for Recruiting	Head Data Scientist	Min, Ji-A	United States	5/4/2017	33 min
5	Augmedix	Talent Acquisition & Culture Specialist	Davis, Kimberly	United States	17/4/2017	32 min
6	Systems Integration Solutions	Technical Resource Manager	Lewis, Geoff	United States	21/3/2017	33 min
7	Thrive Talent Group*	Associate	Sarah, Andersson*	United States	25/4/2017	23 min
8	1Studentbody	CEO & Founder	Dhillon, Mandeep	United States	13/4/2017	18 min
9	Acando	Head of Trainee	Sidmar, Fredrik	Sweden	24/4/2017	45 min
10	KPCB	Human Resources Consultant	Sheehan, Maureen	United States	27/4/2017	24 min
11	Job MobZ	CEO & Founder	Tinsley, Jesse	United States	2/5/2017	30 min
12	Microsoft	Senior Commercial Recruiter	Mulholland, Zara	Ireland	5/5/2017	33 min
13	SEB	HR Talent Acquisition Partner	Granath, Anna-Caroline	Sweden	5/5/2017	37 min

\*The participants name and company were modified to protect anonymity

**Table 3:** List of Interviewees

### 3.7.2 Data Analysis

Once data was collected we used multiple processes for then sorting and analyzing the information. Using a grounded theory we used three phases of data analysis: organization of data into categories (open coding), recognizing possible relationships between the categories (axial coding), and integrating the categories in a meaningful manner to create a theory or conceptual framework (selective coding) (Strauss and Corbin, 1998). As interviews were a linear process, data from interviews could be combined and recombined with other data freely to help make sense and spot common categories and larger themes.

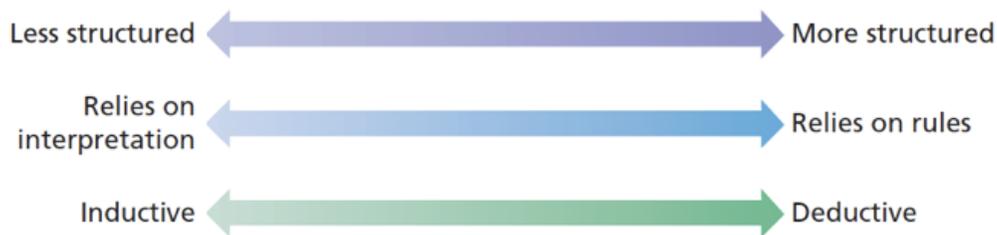
### 3.7.3 In-depth Interviews

In-depth interviews form an opportunity for us as researchers to deeply investigate and uncover new clues and dimensions of a problem or phenomenon, based on the interviewee's personal experience. Hence, the purpose of qualitative in-depth interviews was to collect information that captures the meaning and interpretation of phenomenon in relation to the interviewee's worldview (Easterby-Smith et al., 2008). This is in line with the epistemological interpretivist viewpoint we adopted, where we focused on the details of a situation and the reality behind these details, thus leading to the interviews subjective opinions to form our data collected.

The questions were categorized into five different categories; (1) introduction, (2) traditional recruiting, (3) e-HRM, (4) testing for fit, and (5) ended with open questions. The interview structure as a whole is found in **Appendix 1**. The interview guide, including all the specific questions, was sent to each interviewee prior the interview. This was done in order to provide more in-depth answers and more thoughtful insights during the actual interview (Bryman & Bell, 2015). When informing the interviewees about the structure of the meeting, we also explained

what topics the questions aimed to address, in order to generate clarity and understanding among the interviewees. The more the interviewees understood the purpose of our research, the higher the chance we were able to collect relevant and unified data.

A main challenge when assessing the data from our semi-structured and in-depth interviews was to build connections and find common themes that present valuable information towards answering our research questions. From our interviews we probed and guided conversation to try and extract relevant experience and knowledge from the recruiters. During data collection we transcribed and noted critical, key moments that added to a common storyline and understanding of the roles and implications of e-Recruitment tools on talent acquisition. As our qualitative data capture was subjective in nature, the analysis we choose relied on research interpretation, as show below in **Figure 5** (Saunders et al., 2012).



**Figure 5:** Dimensions of Qualitative Research and Analysis (Saunders et al., 2012)

Although interpretation was used primarily in data analysis, as a guide, five commonly known and general frameworks for qualitative data structure were used: 1) identify common categories in which to understand data, 2) integrate data from the differing interviews into a master common category list, 3) develop analytical categories to identify and address specific phenomena and patterns, 4) develop testable proposition, and 5) draw and verify conclusions (Saunders et al., 2012).

### 3.7.4 Overcoming Data Quality Issues

Saunders et al. (2012) discussed how we should consider various data quality issues and how they are associated to the preparation of an in-depth interview, i.e. reliability and validity. By thoroughly acknowledging these issues we strived to limit their impact on the conducted data, and furthermore have a positive effect on the conclusions we aimed to gather from this research.

In an attempt to overcome problems with reliability, we had decided to make notes during the whole research process, including everything from decisions made and reasoning that led to that decision. Since reliability is described as whether alternative researchers would reveal similar information when conducting the same study (Saunders et al., 2012), those notes aimed to make up for the lack of standardization within semi-structured interviews.

In order to reach a high level of validity in our interviews, we had carefully evaluated the questions we asked and in which manner we presented them. Due to our inductive nature, we had formed the structure around various open questions, since they encouraged the respondent to provide an extensive and developmental answer (Saunders et al., 2012). We also used aspects of probing, where we directed the respondent towards a specific area of interest while wording it as an open ended question, e.g. “How have digital tools helped you find job candidates?”. This question is open in nature, asking about how rather than searching for a binary answer, while still being specifically aimed towards the area of how tools might enhance the search for a best candidate or not.

## 4. Empirical Findings & Analysis

### 4.1 Indicators of High Performance When Sourcing Candidates

In light of our research questions, we wanted to investigate how recruiters assess and evaluate indicators of high performing candidates with digital tools, and which characteristics they are actively sourcing for. The research generated two main findings, as presented below.

#### 4.1.1 Past Experience

Many of the interviewees heavily focused on previous experience in order to predict future high performance within promising hires. Sarah Andersson, an Associate at Thrive Talent Group, stated that she often looks for *“people that are relatively senior in their career, someone with leadership DNA, someone who has led and built teams”*, reasoning that leadership qualities are mainly indicated through past experience.

*“I ask for concrete and detailed examples of past experiences. Past performance is the best indicator of future performance.” (Sheehan)*

Furthermore, most respondents also agreed that the initial assessment was done via pre-set criterias, for example, if *“they have to led a team of ten, they have to know performance marketing, they have to been in a start up, and other things [...] We make an initial screening call to check off all those requirements”* (Andersson), during the preliminary outreach. Further into the recruitment funnel, where in person interaction takes place, additional evaluation about personality traits and thinking patterns are assessed. *“You can definitely tell if people are who they say they are, or whether they have actually experienced this in their life”* (Tinsley), referring to the personality assessment during interviews. Jesse Tinsley of Job MobZ adds, *“what they have done in the past that shows conflicting values, which is an indicator of what they actually believe not what they are just saying in the interview”*.

#### 4.1.2 Personality

Another apparent indicator of future high performance was the discernable value of a candidate’s individual personality traits, and how these could create synergies throughout the organization on a holistic level. One interviewee portrayed every potential hire as a development opportunity for the organization, stating: *“Do you want to add something to the team, or only hire someone similar to that just left? Because every new hire is an opportunity to make a change and to challenge yourself as a manager”* (Granath). Mandeep Dhillon, previously a CEO and founder at

1Studentbody said, *"Every new hire is helping to build company culture"*, pointing out the importance of great personalities in the greater company culture. Some interviewees even stated that the value of a great personality could make up for other deficiencies a candidate might have, with the opposite being true as well, where a lack of attitude was difficult to instill.

*"Innate personality traits are hard to make up for. We want attitude and personality to come with the applicant, not something that we need to instill or teach. For example, effort and attitude are hard if not impossible to teach. Skills and experience of course can be made up for."* (Sheehan)

When Mandeep Dhillon of 1StudentBody gives his opinion on how to weigh personality compared to skillset, he states that *"Fit to me means personality [...] it has less to do with skill and more to do with will"*. Zara Mulholland of Microsoft furthermore explains how past experience and a great resume is one thing, but is not perceived as accurate indicators when assessing someone's cultural fit, stating *"Sometimes people are amazing on paper, then you speak to them and they are not a cultural fit at all"*.

Some respondents also mentioned the importance of consistency within the recruitment process, as a mean to assess a candidate's personality and character. Jesse Tinsley of Job MobZ motivated this as: *"Anyone can come in and fake it for a four hour interview, it is not very hard, but then when it is the fourth or fifth week and we are asking them some questions, and people's overall domineer may change [...] our entire interview process is the actual assessment test"*. The importance of a personality fit made Jesse's company strictly follow the acronym RRP (Resilience, Resourcefulness, Passion), in order to generate an introspection to further assess a candidate's personality and the indicators of high performance. Jesse states that, *"Those are the three traits we have found to correlate the most to high performance for candidates that we have hired in our own firm and that we have sourced for companies across the last couple of years"*, additionally stating that it is through evaluating these personality traits that you are able to understand if someone is a cultural fit or not. The perceived benefit of cultural fit was unanimous throughout all of the respondents, where some respondents even stated that it would be a disqualifying factor if not exhibited.

*"Skills and team working come first, but then I might disqualify them if I do not feel them to be a cultural fit. Cultural fit does not necessarily qualify them, but can disqualify them."* (Mandeep)

When discussing the importance of a personality that fits the organizational cultural, two of our respondents independently used the phrase *"do not hire as\*holes"* (Tinsley, Andersson). Asking about eliminating personality traits, Jesse Tinsley said not being a cultural fit represented the most important one, where *"You can hire the best person at the job, but if they bring down*

*everyone else around them then it is not going to be a good fit, or experience for anybody for that matter".* These traits could be visible in various ways according to Sarah Andersson of Thrive Talent Group, and could be assessed by simply noticing *"If someone is saying I, I, I, I... through the entire interview, instead of saying we, or my team, we will know that they are not a good cultural fit"*.

## **4.2 Digital Tools and Candidate Fit Assessment**

Different tools and methodologies are used when assessing a candidate's P-OE fit during the recruitment process. During our study we assessed what types of tools are used when assessing P-J, P-G, and P-O applicant fit, with our three main findings presented below.

### **4.2.1 Assessment of P-J Fit**

An increase in submission of digital resume applications in recent years has added time and resource burden to recruiters who need to sift through larger volumes to find suitable candidates. Digital tools were almost universally voiced as helpful in increasing efficiency when dealing with high volumes of digital applications. As a high-volume recruiter, Fredrik Sidmar from Acando stated, *"We started using digital tools around two and a half years ago, it makes the screening process almost incomparable to the way we did it in the past"*. As these tools have developed to assist recruiters in automated filtering and scanning, time can be saved without jeopardizing candidate quality. The benefits of digital tools for resume keyword scanning and filtering eclipsed any previous tools and methods that they used.

*"Imagine yourself sitting in a sea of 2,000 applications, where do you start even? You cannot do that as one person. I can say with 100% certainty we are doing it without losing any applicant quality. We save man hours, save calendar time, and sourcing at least with the same quality as before, probably higher. I would not want to go back in a million years to what we had before."* (Sidmar)

These tools can be leveraged by recruiters to reduce time burden and sift through higher volumes of applications than they would otherwise have to do manually. Mandeep Dhillon of 1Studentbody explained, *"For me, the recruiting tools help to open up the top of the funnel"*. Funnel in this statement refers to the initial sourcing undertaking within the recruitment pipeline. Opening the funnel relates to being able to take in higher volume of applications while being able to process and manage them in a timely manner. This becomes possible by scanning resumes for specific keywords or filtering candidates by tags such as location, years of experience, job title, or previous compensation. When asked about what types of filtering a recruiter might do, Maureen Sheehan of KPCB told us, *"Well... I knew that I was not going to*

*relocate the candidate. So, I can use LinkedIn to help me filter. I could get rid of about 2/3 of applicants because they were out of the country*". Digital filtering tools can reduce a pool of 1,000 candidates down to a target audience in a matter of seconds compared to what would take between days and weeks if done manually.

*"I can then further filter and scan the remaining really quickly. Because I know that I am looking for someone with certain skills, certain experience, and educational background."* (Sheehan)

When asked which digital tools recruiters used after the initial sourcing and assessment of P-J fit we encountered a majority of respondents whom either did not identify any tools, or only associated the digital tools for helping in the initial stages of the talent acquisition pipeline. Mandeep Dhillon explained, *"Although the recruiting tools help to open up the top of the funnel, [...] finding fit is another thing"*. We began to see a pattern emerge, where although recruiters would use these digital tools to help with efficiency issues concerning high volume application issues their use to further evaluate P-G or P-O fit did not occur. Walter Gilbert, a previous recruiter at SpaceX and now a Project Lead at Daqri explained to us, *"We use digital tools for qualification, not for personality assessment"*.

Recruiters voiced that they do not use standardized digital tools during the interview stages of the recruitment pipeline to assess P-G and P-O fit. What become a common occurrence is that company's either preferred their personal judgment or built specialized tests and unique tools in-house to help address the P-G or P-O fit.

#### **4.2.2 Assessment of P-G Fit**

To assess a candidate's group working fit, process and procedure was an overwhelmingly non-digital and in-person process that involved the recruiters and would be co-workers of the organization in both physical space and in person. Before even bringing in a potential candidate most company's first steps are to outline characteristics that the candidate had to manifest. To build a candidate profile, Maureen Sheehan of KPCB outlined, *"It depends on the job and the role, we initially sit down with the manager to talk about the job. What has worked in the past and what has not, to distill 2-4 core characteristics, skills, competencies that need to be in the candidate."* Recruiters then work with managers within the company to identify these required behavioral traits and core competencies.

One interesting phenomenon was that many recruiters administered personality tests. These tests were aimed to understand personality type, gauge logical thinking abilities, and to understand how candidates make decisions in team working environments. As Zara Mulholland of Microsoft explained, *"The important competencies that we measure are adaptability, collaboration,*

*customer focus, drive for results, influencing for impact, and judgment*". When asked who creates these tests, Sarah of Thrive Talent Group replied, *"We do. Depending what the criteria for the role is, we will come up with those questions in the beginning of the search. These will vary from search to search, but not from person to person. We want to assess all the candidates in the same way"*. Although most companies administered some type of test, these assessments were non-standardized, specific solely to the company, and in all but one cases created in-house. In two cases, standardized personality assessments were administered and not built in house. In the case of Acando and SEB, they used commercially available personality assessment questionnaires in which applicants were required to take before coming into an interview. Anne-Caroline Granath from SEB stated, *"It is a self-assessment tool to understand [...] ways of handling different kinds of situations and what kind of way of acting you prefer. We look at 32 ways of behavioral competencies"*. From this, similarly to all the other recruiters, they engage in a personal and in person interview to dive deeply into behavioral personality assessment.

*"I use this information to do deep personality interviews. Based on this report I conduct a deep interview, 1-2 hours, trying to really find the predicted behavior in certain situations that the person that will meet in this role."* (Granath)

In all other cases, recruiters administered assessment tests that they created manually, pulling from their best practices and previous experiences.

*"I create the tests myself, I do not know if there is a software... There seems to be a lot of stuff online but none of it seems to be automated."* (Sheehan)

*"Well me and the other recruiting managers create the selection questions and interview cases ourselves [...] We are looking for personality traits and interesting profiles with interesting experiences for example, student body president, sports played, etc."* (Sidmar)

Unlike digital tools that are happily adopted to increase efficiency, assessing softer skills and personality traits persists as a challenging human-to-human interaction and assessment. When asked if these personality and trait tests would be adopted if it was readily available and automated, recruiters tended to turn down the idea. Maureen Sheehan shared the importance of the in-person assessment and interview process stating that, *"Most of the candidates I have talked to, the research I have done, and the lecture's I have attended, have stressed how candidates prefer the human touch in the recruiting process"*. In addition to connecting with the candidate's, brand value can be built based on the process and experience that the interviewee has with the corporation. Fredrik Sidmar of Acando highlights, *"Would I want to automate that step? No, actually I would not. This interview process is actually a big branding stage for us as a company and for the candidates. We have a chance to show our values, beliefs, and core*

*company mission. We need that setting to make the candidates really interested in us. Maybe they will be hired later down the line, or maybe they will be our customers”.*

One thing rather subjective in our interviewee’s responses was the evaluation of how the recruiters assessed a candidate’s degree of P-G fit. They explained what traits they were looking for and how they would test for them, but the actual mechanism for evaluating if a candidate posed these desired attributes seemed abstract.

With quantitative tests, such as personality tests, it is easier to concretely assess a candidate, but with qualitative logical or situation tests fit assessment seems more subjective. We wanted to understand if the tests built by the recruiters were meant to immediately invalidate candidates or, if the tests were used as a ranking system. Fredrik Sidmar of Acando, who creates selection questions within his team of hiring managers clarified, *“It does not seem to make a difference if you are in the top 1%, 5%, or 40%, but if you are the bottom 20%, 30-40%, then we would see a problem”*. Fredrik continued to explain that to some degree the questions filter out candidates, where best-fit candidates emerge by means of their answers and reasoning. With Acando’s qualitative assessment when performing a group interview Fredrik best described his evaluation process as, *“If I (or we) remove the applicants from the group in which their are interviewing for, will the group perform better, worse, or be there be no difference? How does the candidate affect the group dynamic?”*. It is the evaluation of a recruiter to determine if the candidate is a fit using a number of observable data points through the evaluation prerequisites (Sidmar). This is line with the point Jesse Tinsley previously made stating that, *“Our entire interview process is the actual assessment test”*.

In addition to trying to assess a candidate at multiple data points throughout time, specifics on past experience helps in evaluating candidness and genuineness. Recruiters rely on behavioral analysis, Maureen Sheehan stresses *“I am a big proponent of behavioral interviewing, [...] tell me about a time where you were a team player, the key is to get specifics.. How did it happen? Where did it happen? What happened? Because if they can give you specifics there is less likelihood that they are making it up”*. Behavioral introspection during in-person interviews with the recruiting managers focused more on how and why they have done something, rather than what they have done. As, Zara Mulholland re-enforced, *“We focus on the behavioral part, rather than, can you tell me about your big win or tell me about your last deal, it is more having the ability to analyze their own behavior [...] being self-aware and sharing examples of times you have learned from previous experiences [...] and then take it a step further to see if whether they are a trusted advisor”*.

### 4.2.3 Assessment of P-O Fit

During this study no digital tools were mentioned that help to assist recruiters in determining a P-O fit. When asking recruiters to elaborate on how they would assess organizational fit, even less responded to having in-house tests or procedures to do this, as compared to how they evaluate P-G working fit. The best current practices to assess if a candidate is a compelling organizational match was through on-site shadowing with team members, once a group-working fit was first validated. In two cases, recruiters explained how would-be hires spend a day or more shadowing those that they would work closely with. Kim Davis of Augmedix explained their process as, *“Sometimes when we hire designers we have a specific design experiment we have them to go through on-site”*. Another way to evaluate applicants fit while getting them acquainted with the working environment is by shadowing managers or subordinates that they would be working with (Benetar). At SEB Anne-Caroline stated how applicants first meet with the team and managers, where the latter give the final approval for candidacy.

*“It is always the decision of the manager [...] they are the ones deciding, yes or no”*  
(Granath)

## 4.3 Current e-HRM Landscape and Future Implications

During the conduction of our interviews, certain recurring limitations and opportunities within the recruitment funnel were brought to light. Through implications and statements regarding current inefficiencies and upcoming possibilities, four major themes were recognized and will be uncovered in the following segment. These themes were discovered when data was coded, enabling us to construct logical narratives in line with answering our research questions.

### 4.3.1 Change in Company Climate

Irrespective of how accurate the recruiting practices are in identifying candidate fit, there is still a baseline percentage of candidates that drop off within their first year after hire. In addition to drop off, non-digital selection biases also presented themselves during the assessment of candidate P-G and P-O fit; affecting how an ideal candidate profile is sculpted.

Recruiters were confident in their ability to accurately source candidates for specific job roles. However, when asked if they had hired candidates that have turned out to not be a company fit, almost all responded with yes. As Jesse Tinsley from Job MobZ explained to us, *“No matter how good your process is, there are always extenuating circumstances that account for a 8-15% dropoff rate that you can not control”*.

To probe into why these candidates turned out to not be a larger P-OE fit, we asked questions to try and identify what points in the evaluation assessment was unreliable. As it turned out, no respondents mentioned flaws with digital tools in P-J fit assessment or in hiring candidates that were a misrepresentation of their skills or past experience. Recruiters also self-evaluated their judgement of P-G fit and P-O fit to be exhaustive enough to correctly filter for candidates of interest.

What surfaced as a main driver for candidate drop off was a change in demands by the company. Jesse Tinsley of Job Mobz continued to state, *“What we see happen a lot is that there is a process change in companies and what they ask for initially may change by the time a candidate is sourced”*. As we have learned, at the onset of candidate sourcing recruiters build an initial profile of a candidate that the company is looking at that specific point in time. Although these guidelines for a desired candidate stays set during the recruitment process, an actual company fit profile may be different once a candidate is sourced due to an evolving organization. This seemed to be without regard to company size as recruiters from both hyper growth startups to large corporations such as Microsoft and SEB voiced similar statements.

*“We work with early, mid-stage start ups that are changing every day, so sometimes they think that they want this person for “x” role, then the company gets acquired and the company changes, and it turns into not the right role.”* (Andersson)

*“Our environment is obviously quite ambiguous, we are a huge company that changes on a consistent basis.”* (Mulholland)

*“The track has been changing, the course for the company has been changing, suddenly you do not have the right competencies for the company.”* (Granath)

As candidates are hired using the initial candidate profile recruiters create, hires are invariably entering an environment that is to some degree different than when they were sourced, even if trivially different. To proactively combat this phenomenon a handful of recruiters once again rely on personality and trait assessment to be a predictor of company integration and onboarding ease. As Zara Mulholland of Microsoft stated, *“A lot of our growth mindset analysis is around individuals who are able to deal with change”*.

Additionally, recruiters spend a significant amount of time uncovering previous points of success and strengths in a candidate’s profile. However, in many cases low points, personality pitfalls, or causes for poor past job performance are not exposed.

*“From the interview we get a snapshot of who they are. References also tend to give best-of highlights showcasing the employee at their peak performance. The low points*

*tend to be overlooked. Long term behavior of a candidate is difficult to assess and hard to know.” (Sheehan)*

#### 4.3.2 Process Bias

Biases are present in the recruitment selection process and were voiced by recruiters in all steps of the candidate fit assessment.

In the initial P-J fit assessment recruiters were aware of how an applicant's name, gender, background, age, photo, and location could unfairly influence their selection. Fredrik Sidmar of Acando mentioned a process they have put in place to proactively combat this bias, *“We use a lot of predetermined questionnaires, for example, extracurricular activities or grade averages, things like that. We try to refrain from resumes and cover letters as much as possible. One part of it is efficiency, but I am afraid we had decide on the applicant on a nice resume or photo instead of basing the decision on hard facts”*. However, Maureen Sheehan of KPCB pointed to a drawback of personality assessment tools, especially digital ones in P-G fit assessment. She voiced her reasoning for creating her own tests in house and refraining from pre-made assessment tools:

*“Historically, I have had an issue with administering personality or logic tests because they can present a whole range of biases to minorities, classes, or gender. Proving that your test is fair is always part of our strategy in line with employment laws.” (Sheehan)*

Although both strategies aim to reduce selection bias by creating their own tools, it is unclear if the above processes actually reduce bias selection or just call attention to the fact that biases are present.

With regard to in person interviews, one recruiter highlighted human behavior as a subtle but underlying cause in biased candidate selection. In the P-G and P-O selection phases candidates are almost always judged in-person and in physical space. Sometimes accomplished or competent candidates that would be perfect fits are disregarded or deemed unfit by the interviewing teams. Mandeep Dhillon, who has had experience hiring for 5 different startups explained, *“If the current team is interviewing someone that they feel intimidates them, they may have insecurities. They may undervalue people that are higher performers because they do not want to be put in a position where they look worse than”*. This can pose a real problem for effective sourcing if an otherwise highly qualified contributor is brushed aside as unqualified.

### 4.3.3 The Need for Efficiency

It was apparent throughout all of our interviewees that the increasing volumes of applicants yields a desperate need for efficiency in the recruitment process, where the recruitment loop constantly has to be as short and accurate as possible. Fredrik of Acando illustrated this by crunching the numbers when he described the process of sourcing through 2,000 applicants, saying: *“It is about 10,000 man-hours. If we did not put those 10,000 hours into the recruitment process, we would probably be out billing our customers at [x] krona per hour, so it is a quite significant amount of money”*. Darell Benetar of Ustertesting added, *“time it is taken from our existing employees to meet with prospective hires who are actually not qualified”*. Furthermore, it was explained how this is not only costing the company a lot of hours, it also affects the applicants. In the current process of high volume sourcing, there is always a risk to lose a perfectly qualified candidate if not being efficient enough, *“because what happens here is that you could have a huge fall off, if candidates have been in the process for three or four weeks. Then you have not heard back in a week, or more, they are more likely to take another offer”* (Tinsley).

*“Time to market, from approaching a candidate to writing a contract needs to be shortened much more. We can not have a process that goes on for weeks and weeks, even months. We miss the candidates, because they can not wait for us to act.”* (Granath)

*“If you let the candidates go cold, then they are going to drop off in the end of the process.”* (Tinsley)

In the current war on talent among larger companies, Jesse Tinsley of Job MobZ, further illustrates the present landscape as a two-headed monster. Smaller companies do not have enough volume of high quality candidates and larger companies have too many applicants, making neither able to find the right candidates. It is time consuming to find the needles in the haystack, and *“If you look at it from a data perspective: out of ten candidates, you are looking at two out of ten being actually qualified and worth a phone screen”*. This portrays how more efficient time and sourcing management practices could be a key for more successful high quality talent allocation.

Many of the respondents point towards the current lack of, but need for, further developed digital tools as a mean to solve the existing problem on efficiency, as they can not keep up with surging volume of recruiting. Anne-Caroline of SEB states that: *“Social media is not enough [...] we are in a shift here, where we do not have the answer yet how to solve this problem”*, referring to the need of both navigating through the conditions of high volume, as well as reaching out to talented candidates during the “War On Talent”. Furthermore, Jesse Tinsley adds: *“Looking into*

*different technologies that could solve these problems, from sourcing the candidates to messaging them. Currently you cannot keep up with the sheer volume of recruiting*”, where the overall ability to connect every dot per candidate within the recruitment funnel to a greater perspective is something that is currently missing.

#### **4.3.4 Perceived Opportunities for Tomorrow**

The overall impression regarding current process limitations, between the majorities of our respondents, was the current lack of standardization between data sources. If their current recruitment practices were integrated with any form of IT-support, too much time is often spent on data administration. The lack of uniformity between digital tools causes inefficiency, where although each tool separately gives advantages, but are not fully integrated as part of a holistic recruitment funnel. Walter Gilbert of Daqri described this as: *“The best e-HRM tools pull points of data out of the massive digital ocean, but does not connect the information in a useful way”*.

*“All the system solutions we have today are just maintenance, it is storing information. It is a lot of manual work to make the process function as a whole.”*  
(Granath)

When asking Fredrik of Acando regarding his perception of e-Recruitment tools, he responded that he wanted to tighten the process as a whole, to be able to invite fewer candidates with higher quality. In order to be able to achieve this, he suggested: *“To get better tests and to combine this with the best algorithms, in order to combine references, case interviews, etc. We want to make the decision as mechanical as possible”*. Once again, the desire for a system that connects separate data points was voiced, and he additionally argued that this would be even more fruitful within the early stages of the recruitment funnel, when sourcing through over 2,000 applicants.

*“It would be incredibly beneficial to tighten the net at the earliest stages, to be more efficient on time and money in sourcing the qualified candidates for the positions.”*  
(Sidmar)

It is not just about making the current process more efficient; it is about make the whole process more integrated. Even with the most advanced tools the technologies are remarkably standalone. Sourcing technology is not currently linked to skill assessment, personality testing, scheduling, and reference checking. Although these best available technologies allow for data points to be pulled out of a growing data ocean, it cannot interpret multiple data points for valuable introspection. Zara Mulholland voiced how simple improvements in current systems and technologies can make a big difference.

*“To be able to do small things. Like download CV in masses, move candidates quicker through the whole pipelining process, being able to share candidates with managers through the system, rather than it being quite clunky at the moment.” (Mulholland)*

The improvements in recruitment process also do not have to be solely technology based or digitally heavy. Mulholland continued to explain that their process relies heavily on the human side of candidate assessment and will continue to do so. It is not necessarily about taking the humans out of the equation but supplying them with tools to make assessment more efficient and accurate.

*“It is not necessarily something that could measure what we are looking for. It is more about something that people are able to measure and if we could have tools that would make that quicker.” (Mulholland)*

This presents opportunities for linking standalone data in a more streamlined fashion, as well as developing tools that can assist rather than replace a recruiter’s cognitive assessment.

## 5. Discussion

In the following two sections, we will discuss each of our research questions using information gained from interviews parallel to previous academic literature.

### 5.1 How Do Digital Tools Influence the Recruitment Process when Assessing Levels of Candidate Fit?

Companies use various tools to assess all levels of a person's organizational environment fit. From our interviews, patterns emerged that highlighted how recruiters would use specific methods and routines to judge a candidate's value depending on their position in the talent acquisition pipeline. Corresponding, e-Recruitment tools may be leveraged in differing degrees to determine either a P-J fit, P-G fit, or P-O fit.

We observed that recruiters evaluate a candidate's fit in a specific sequence starting with the easiest to measure, P-J fit, followed by more complex and layered social context assessments pertaining to the P-G and P-O fit. While personality traits are the most powerful determinants of long-term success within team and company cultural fit, past experience is perceived as an indicator of future performance. Thus, a candidate's P-J fit is evaluated through one's past accomplishments, where the P-G/P-O fit is mainly assessed via the candidate's personality and traits.

#### 5.1.1 P-J fit

P-J fit has traditionally been a non-digital assessment of past experience and skills when assessing candidate job role fit (Werbel & Gilliland, 1999). During initial candidate sourcing for P-J fit digital assessment tools were described and utilized unanimously by our interviewees such as, e.g. LinkedIn, Glassdoor, Monster.se, or Angellist. The greatest leverage that these tools provide is in the initial stages of sourcing and candidate selection (Benetar, Dhillon, Sidmar, Sheehan, Lewis). What was once a fundamentally analog process of reading resumes can now be automated using digital analysis techniques to scan and filter resumes in a matter of seconds (Buettner, 2014). These tools are perceived as more efficient in time and cash expenditure than their non-digital counterparts. Not only can you "*open the top of the funnel*" to cast a larger net for initial applicants as Mandeep Dhillon stated, but you can source "*with same quality as before, probably higher*" according to Fredrik Sidmar. The P-J assessment process is more quantitative in nature than the P-O or P-G assessment where evaluation of a candidate is largely determined based on the demands of the job and the abilities the candidate provides (Edwards, 1991). Determining a match between applicant skills and the job requirement is quantitative. With metrics such as: work experience, age, gender, location, previous compensation, and previous roles being concrete in answer, it is easier for software to calculate or filter for a fit

based on objective input and output metrics. In contrast, more subjective social context analysis related to understanding P-G and P-O fit is harder to currently digitally assess.

### 5.1.2 P-G fit

Recruiters are looking for specific traits and behaviors to be demonstrated by candidates during the interview process. Common and standardized digital tools are not universally adopted when assessing P-G fit and recruiters voiced their need to build personalized workarounds specifically to suit their company's needs. The traits a person possesses and how they choose act with others in an ongoing team-working environment are key indicators of long term group-working success (Mount et al., 1998). As Jesse Tinsley of Job Mobz illustrated, *“Our test for resilience, resourcefulness, and passion (RRP) essentially gives us the introspection to understand if they are going to be a high performer”*. Assessment usually takes the form of pre-selected questions or situations to initiate a specific response from a candidate (Werbel & Johnson, 2001). Although these tests may be distributed in the form of electronic questionnaires, the tests themselves are initially created manually and by the hiring managers within the company (Sidmar, Sheehan, Tinsley, Davis). Not only are these tests created manually, but also the analysis of the respondents answers are primarily evaluated in-person and by a group within the organization.

Recruiters rely on the human introspection of behavioral psychology to validate or invalidate the primary findings from the administered tests. As Maureen Sheehan of KPCB explains, *“I am a big proponent of behavioral interviewing, where past behavior is an indicator of future behavior. Tell me about a time where you were a team player, the key is to get specifics.”* Through these interviews recruiters can assess if a candidate has the necessary complementary and supplementary skills needed to add value to the team. Fredrik Sidmar from Acando went as far to say that after the interview he weighs all the information, responses, and interpersonal skills pertaining to a team working fit to see if the applicant added to the group dynamic, made it worse, or did not affect it at all. The digitalization of the personality testing and questionnaires are not seen as a replacement as compared to the digital P-J tools that are adopted. In this case, P-G assessment tools are viewed and valued as enhancement tools to more accurately assess human behavior. When asked if recruiters would currently adopt the digital tools provided in the market, the majority of respondents were unsure about the added value. The assessment of human behavior by humans is considered to be both superior and favored by interviewers and interviewees (Sheehan, Sidmar, Johnson, Davis). Interviewees appreciate the personal interaction and rapport built by company recruiters who are careful to not treat the process solely as transactional. Companies on the other hand have a unique opportunity to build brand value with unique, effective, and pleasant recruitment process and practices (Sidmar).

### 5.1.3 P-O fit

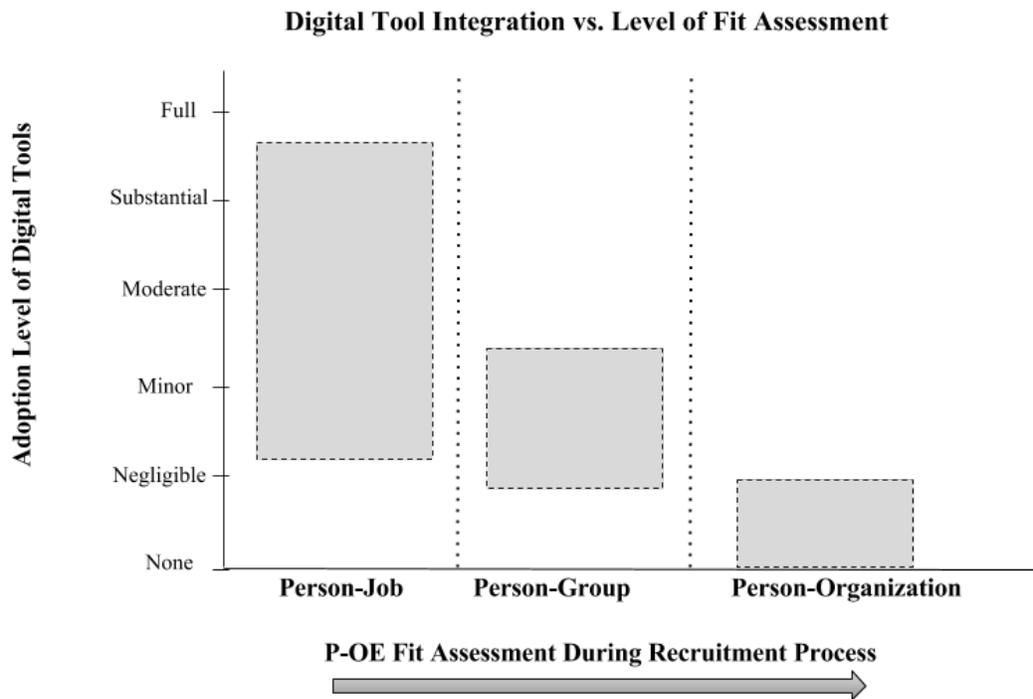
The importance in determining applicant to organizational fit was voiced unanimously throughout our interview pool. Two main points became clear from our discussions around assessing P-O fit: 1) recruiters have a non-standardized definition of organizational fit depending on the company's specific values and 2) recruiters did not have a digital test to determine fit. Once a group working fit has been determined between applicant and organization, the larger social context assessment between applicant personality and organizational culture is assessed. According to Buettner 2014, research suggests that employees are most successful within an organization when their personalities and larger organizational values and culture are aligned (Buettner, 2014). Individual personality manifests itself as preferred behavior over time where the company culture is established by mission statements, ingrained company values, and expected employee behavior (Anderson et al., 2008; Caldwell et al., 1991).

When understanding how to assess fit, recruiters highlighted different key indicators that they were looking for. In some cases it seemed that this being the last step of the recruitment funnel, assessment of P-O was both a formality to educate the hire on the company's mission statement and used as a disqualify step when assessing match of personal values. Mandeep of 1Studentbody stated, "*Cultural fit does not necessarily qualify them, but could disqualify them*". This step of the interview process was heavily focused on listening to the candidates, where recruiters look for explanations to holes in a resume and reason for leaving previous jobs (Sheehan). The recruiters then attempt to uncover misalignments to those values that could be red flags for a hire, Mandeep described this as, "*I have become aware of patterns in the interview process such as people talking poorly about previous bosses or job hopping*".

This organizational fit assessment tends to be evaluated in parallel with the P-G assessment where evaluation is less focused on learning about the personality of a candidate but in evaluating if their explanation of their values truly aligns with the company culture; being a strong predictor future job performance (Judge, 1994). This seems to be the most subjective assessment according to the recruiters where, they do not use digital tools and do not know how or what tools to build themselves. Not only can this step make or break an application, but is almost solely based on the explanation and storytelling skills of a candidate. As Zara Mulholland of Microsoft pointed out, "*A lot of it has to do with how the person represents themselves [...] growth mindset is all about being able to be flexible, not get stuck in the deep details, looking for help when and where you need to.*" If candidates cannot come up with good examples that they have either been prepared beforehand or created on the spot, they can be at serious risk of not landing the job.

## Summary

P-J assessment is the most quantitative and easily accomplished fit assessment, being based on hard facts and yes or no data. This level of fit analysis is at the front and widest part of the recruitment funnel, where digital tools currently provide the most leverage to recruiters in scanning and filtering. Once a sourced candidate passes the initial evaluation of skills and experience, the next phases of candidate assessment are primarily in person, subjective, non-digital, and in a social context. This step from quantitative to subjective fit assessment was where we observed the first noticeable difference between digital and non-digital tools usage, illustrated in **Figure 6** below. A difference in spread between grey boxes and fit assessment denotes the differing range in level of digital tool adoption when assessing candidate fit. The spread was approximated based on the responses from our interviewees.



**Figure 6:** Digital Tool Usage Based on Fit Assessment

P-G assessment starts with understanding an individual's personality, traits, and supplementary and complementary skills. Although digital tools can initially be used to discover these attributes, validation of the attributes is performed non-digitally, in a social setting, by the hiring team.

As the candidate is further assessed on P-O fit, recruiting teams continue to use non-digital behavior analysis to understand if an alignment exists between candidate and company values. At this step of a candidate's P-O assessment, recruiter's voice that digital tools are not widely

known or used. Thus, we have found that current e-Recruitment tools are at most substantially leveraged during P-J fit assessment, but only minorly to negligibly leveraged when evaluating attributes within the social context associated with P-G and P-O fit.

## **5.2 What Are The Perceived Boundaries Associated With Digital Tools in Current Recruitment Practices?**

Even though there was a consensus among our interviewees regarding the initial efficiency benefits of digital e-Recruitment tools, e.g. scanning and filtering (Furtmueller et al., 2011; Stone et al., 2015) and the ability to source through high volumes of applicant data, the recruitment process as a whole was still not perceived as streamlined enough to the desired need. However, interviewees voiced how many of the applied e-Recruitment tools hold great monetary advantages, where they were able to reduce costs and to some extent shorten the recruitment loop. These factors assist them in staying competitive in the current rapidly evolving landscape of talent acquisition.

When asking the interviewees their perspective on the “War on Talent”, close to all recognized this as a factor pushing for innovative adoption of technologies. When the price for talent is drastically rising, due to higher leverage and expectations among applicants (Michaels et al., 2001), it was clear that recruiters found it necessary to keep the recruitment loop time to a minimum in order to not lose qualified candidates.

Many interviewees voiced the benefits within each of the separate e-Recruitment tools that they are currently using. Nonetheless, due to high maintenance between the data sources the overall efficiency was perceived as suboptimal. With the words of Michaels et al. in mind, time is of the essence when ensuring to not lose highly qualified candidates due to passiveness. When discussing the risk of an prolonged recruitment pipeline; many of the interviewees underlined the risk of “*missing out on candidates*” (Granath), or letting them “*go cold*” (Tinsley). So even though studies suggest that various forms of e-Recruitment may reduce the hiring cycle by as much as 25% (Dineen et al., 2002), opportunities for even greater efficiencies seems to be desired among recruiters.

When analyzing the root of the problem, many of our interviewees described a lack of ability in connecting data points, where the data sets do not interact with each other. In other words, the different e-Recruitment tools do not talk with one another, leaving this job in the hands of recruitment managers, leading to high maintenance when making sense of the individual data. This seems to point at the development of artificial intelligence (A.I.), where deep learning is one of its main advantages. The algorithms of A.I. aim to understand large, complex, and highly varying sets of data, as well as develop learning with scale (Bengio, 2009). This makes the advantage of digital tools not just about pulling individual data sets from a larger pool, but

understanding how each of the independent sources interacts with each other to create a more comprehensive understanding throughout the whole recruitment process.

In light of the fact that an increasing amount of job seekers are turning to the Internet (Furtmueller et al, 2011), change in the HR functions as primarily a strategic asset has occurred (Marler & Parry, 2016). These factors seem to spur motivation and demand among hiring companies, where intelligent filtering through candidate volumes is viewed as a critical step in the recruitment funnel. The more false positives that you can disqualify earlier in the talent acquisition pipeline, the more company time and resources are saved in subsequent P-G and P-O assessment stages. Not all desires in efficiency improvement is aimed towards technological replacement, but seem to be desired in enhancing human analysis capacity as digital tools facilitate better evaluation and understanding of traits, skills, and potential organizational fit.

In regards to the overall quality of applicants, there have been some contradicting aspects when comparing theory and conducted data. There are studies that suggest that while e-Recruitment attracts a higher volume of applicants it does not necessarily correspond to a higher quality of candidates (Chapman et al., 2003). This refers to the quality of applicants entering the funnel, while the perceived accuracy within the funnel appears to be at least as high as traditional recruiting (Sidmar). It seems like most of our recruiters are satisfied with the level of quality that they are currently able to attain from the process. The key desire is to be able to manage the process quicker and more intelligently, as well as connecting data source further into the funnel. This would advance the assessment of P-G and P-O fit into a more mechanical procedure, which in the long run would gain advantages in both shorter recruitment cycle times and increased interconnection of digital applicant data.

## **Summary**

Throughout all of our interviews, we were met with curiosity and an overarching enthusiasm regarding our chosen research topic. Even though the degree to which the interviewees actually had integrated digital tools to their recruitment process varied, the attention concerning its apparent advantages were consequent among all interviewees. Most of the limitations, and therefore also opportunities, were surrounding efficiency in any regard. The degree of digital integration could be viewed as tightly correlated to the advancements of technology, where the introduction of artificial intelligence may yield an answer to our interviewees desired needs. Recruiters are able to see the advantages of current technology, but are also well aware of the possibilities of tomorrow, leaving them wanting more in efficiency, intelligence and accuracy.

The main restrictions with current practices lie within the struggles of substituting, automating, or supporting person-to-person interactions when assessing candidates fit in the social context. Great efficiencies are already established within the evaluation of binary data, e.g. experience or

attained skills. Either the candidate holds the requirement needed, or they do not. But further into the funnel, where these data points could additionally assist in assessments of how candidates work in a team, or fit to the company culture, digital tools currently do not integrate, as our interviewees desire them to be. The main opportunities for future software developers lay within developing intelligent tools that cover the entire recruitment process.

## 6. Conclusion

Our study aimed to build an understanding of how digital e-Recruitment tools aid in finding accurate job applicant fit, based on multi-level fit assessment. In the pursuit of this understanding, we interviewed thirteen professionals within human resource management and recruiting. From our conducted interviews, we were able to explore multiple perspectives of fit assessment, as well as how current recruitment practices could be enhanced.

Digital tools are predominantly used in the front of the recruitment funnel when assessing P-J fit during sourcing and short listing of qualified candidates. As job applicants increasingly turn to the Internet, companies receive an increasing volume of candidate applications that must be processed and evaluated. The main benefits electronic recruitment tools provide are with time reduction in the processing and review of these candidate's applications. The digital tools we discovered give leverage to a recruiter chiefly when analyzing extensive volumes of digital quantitative data. Recruiters stated that assessing a candidate's P-G and P-O fit is concentrated around social context evaluation through behavioral analysis..

Furthermore, our findings suggests that while all of our interviewees adopt digital support at separate steps of the recruitment funnel, no one holds a complete solution that encapsulates the process from start to finish. Although recruiters were all familiar with the talent acquisition pipeline, standardized and universal commercial tools were not available. The main arguments for future developments within e-Recruitment tools were the consequent eagerness to increase efficiencies between isolated segments of the recruitment pipeline. Currently, too much time seem to be spent on aligning information, which makes both applicants and companies spend an unwilling amount of time inside the recruitment loop.

However, recruiters did perceive current digital integration to generate great advantages compared to the analog past practices. Great efficiencies were created among the initial steps of the process, promoted through apparent benefits in both monetary and accuracy measures. The fundamental opportunities lie within the need for a more intelligent digital support, where technical maintenance and assistance is kept to a minimum.

In conclusion, recruiters see value in enhancing human decision making by integrated digital support systems. However, a desire not to substitute the human aspects of social context analysis was voiced, as they found the in-person behavioral analysis to be an essential perceptive key to accurate P-G and P-O assessment. While the opportunities do not appear to lie within the digitalization of human perception, a substantial opportunity presents itself from the desire to streamline data input, processing, and analysis. Thus, linking siloed data from within the recruitment process would enable recruiters to leverage a more intelligible introspection of

interconnected data, leading to a digital assistance in assessing candidates, rather than replacing the recruiters with a digital substitute.

### **Recommendations for Future Research**

This thesis aimed to be a starting point in understanding how current digital tools assist recruiters in acquiring best-fit candidates. Due to our relatively small sample size, it would be of interest for future researchers to interview a larger sample size of recruiters. This is in an effort to generate a broader and more detailed understanding of current e-Recruitment practices. It would be especially interesting to gain further understanding if and how digital tools could be better integrated into current applicant assessment when evaluating within the social context, i.e. P-G and P-O fit.

In light of contemporary developments within the field of artificial intelligence, it would be thought-provoking to research how software could surpass in-person assessments of behavioral attributes of candidates, e.g. personality or values. Currently, tools do not holistically connect digital data sources while providing the introspection that is considered on par or superior to human capabilities. The real desire seems to be in connecting and making sense of currently isolated data, hence it would be interesting to further research how A.I. tools could be leveraged to better assist human decision making.

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# 8. Appendix

## Appendix 1.

Questions for Interviewees during in-depth and semi-structured interviews:

<b>Larger research question?</b>	<b>Macro perspective -&gt; Micro Perspective</b>		
<b>Introduction</b>	<b>Who we are</b>	Educational background, purpose of thesis	
	<b>Description of terminology</b>	A.I, e-HRM, e-recruitment, P-J fit, P-OE fit etc. Discuss flow of interview, from traditional, e-HRM, fit, ending in open.	
<b>Traditional Recruiting</b>	<b>What do you look for in a perfect candidate?</b>		
	<b>What are the first qualifying steps?</b>		
	<b>Do certain skills make up for deficiencies?</b>	If yes, what areas are more important than others? What can be learned on the job, what cannot? Is it more technical skills or behavioral?	
	<b>How does e-hrm affect recruitment?</b>	How have digital tools helped you find job candidates? What tools do you use? Where in the application process do these tools help? Do these digital tools help find better fit candidates? Where are digital tools most helpful in addressing fit? Do tools help determining an over all fit?	
<b>Testing for Fit</b>	<b>How do you test for a "role" fit?</b>		
	<b>Do you test for a group-working fit?</b>	How do you test for a teamworking fit or assess if the candidate will work well with the group they will be assigned to? How do you measure supplementary and complementary skills of a candidate to the established employee base? Is the individuals beliefs, values, and ethics important to be similar to the companies? How do you test or assess if it will be a good cultural or larger organizational fit, what key indicators do you look for?	
	<b>Open Questions</b>	Have you ever hired someone that wasn't a fit? If yes, how did that turn out? Why did it happen? What's your perception of the accuracy of digital tools in recruiting? What's the strongest/weakest attributes of digital tools?	