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**BRIDGING THE GAP: AN EMPIRICAL ANALYSIS
OF INFORMATION MANAGEMENT REALITIES
IN RECRUITMENT VS. THEORETICAL AMBITIONS**

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Abstract: *This study addresses the gap between the theoretical development in the field of digital recruitment and its reality in organizations. While literature focuses on the possibilities of Artificial Intelligence (AI) and Big Data, the practical implementation of Information Management (IM) systems is very different. Using the qualitative research method, a total of seven semi-structured expert interviews were carried out with HR professionals from various sectors with multinational corporations, public administration and SMEs. The findings show a large “digital divide”: while large enterprises are using integrated ERP systems for data-driven decision-making, SMEs tend to rely on fragmented and manual processes because of their resource constraints. Key novelties of this study include the identification of certain barriers to valid recruitment such as data integration issues and lack of data governance that prevent the effective use of advanced analytics. The findings indicate that before embracing AI, organisations need to focus on basic information management practices to ensure data quality and process consistency. This research adds to the existing literature by presenting its empirical evidence on the state of the IM in recruitment; it offers practical implications for HR practitioners in terms of optimizing their selection strategies.*
Keywords: *information management; personnel selection; recruitment validity; digital divide; HR practices*

INTRODUCTION

The effectiveness of personnel selection processes is an important issue for organizations that want to create high-performing teams. Effective recruitment doesn't just look at filling vacancies, and as Breaugh (2008) established it also encompasses strategic goals such as improved employee retention and job satisfaction. In the past few years, the increased focus on data-driven decision-making has pushed information management to the forefront of these strategies. Current literature suggests that digital transformation specifically the use of Artificial Intelligence (AI) and “Talent Intelligence” has the potential to revolutionize how candidates are selected (Rutten & Verhoeven 2024).

The motivation for a digital transformation is given by the promise of a great efficiency increase. Mask and Pearl (2024) point out the fact that AI-powered tools, such as automated resume screening and chatbots, can reduce the average amount of time spent per candidate from hours to minutes. Technologically speaking, this covers a broad set of applications. As defined by Wilke and Bendel (2022), this spectrum goes from pre-selection chatbots to the automated analysis of application documents.

However, while such theoretical improvements were made, many organizations find the practical application of them challenging. The process of moving from conventional, manual hiring methods to a fully automated process poses formidable challenges (Laumer, Maier & Eckhardt 2015). While the large corporations with multiple branches, multinational corporations may have the resource capabilities to apply Complex Applicant Tracking Systems (ATS) for many applications, the Small and Medium-sized Enterprises (SMEs) may have the limitation of resource capability for technological adoption (Appio et al. 2024). Furthermore, as Stone and Dulebohn (2013) noted, often in the implementation of e-HRM empirical work on its effectiveness is implemented far behind. In a comprehensive review, Potocnik et al. (2021) identify technology as a meta-trend but warn of the lack of rigorous validity evidence.

This paper addresses this gap by investigating the operating reality of the management of information in recruitment. It looks at the current state of affairs: How do organizations actually handle recruitment information? What are the real world barriers to valid and data-driven selection?

THEORETICAL BACKGROUND

In order to understand the difference between the technological potential and reality, it is necessary to analyze the current situation with respect to research on e-HRM and adoption of AI.

Evolution from e-HRM to Talent Intelligence

The digitization of human resources has changed a lot. Initially, Stone and Dulebohn 2013, explained the shift towards electronic Human Resource Management (e-HRM) as the mean to reduce administrative burdens and costs. Today, the focus has become the use of “Talent Intelligence” which, according to Rutten and Verhoeven (2024), is the strategic use of data to predict future skill gaps and the automation of decision-making. However, this evolution postulates an achievement of a level of data maturity that is not yet available for many organizations.

Barriers to Adoption in SMEs

While large multinational corporations often have the resources in place to implement sophisticated Applicant Tracking Systems (ATS), Small and Medium-sized Enterprises (SMEs) are faced with very unique challenges. Appio et al. (2024) note that SMEs are frequently constrained by small amounts of financial and human resources, which make the implementation of complicated digital ecosystems difficult. Furthermore, Baum and Kabst (2012) state that SMEs’s recruit employees through informal channels (e.g., employee referrals) that are less digitalized than standardized job postings.

The Part Played by Process Management

One of the key insights presented by Laumer, Maier and Eckhardt (2015) is that technology is not an independent solution. They maintain that Business Process Management (BPM) - the documentation, analysis and optimization of business flows - must be done before technological implementation. Without this foundation digital tools often will not show the promised efficiency increase.

RESEARCH METHODOLOGY

Semi-structured expert interviews with N=7 HR professionals were the source of data. The interview guide was modeled in such a way that it addresses the important areas of information management such as system usage, quality of data and perceived validity. The stratified sampling strategy was used in selecting the sample to provide maximum variation in the variables of organizational size, industry and structure. This enables one to make a comparative analysis of highly regulated settings (public sector) and agile or resource-constrained organizations (SMEs).

The overview of the interview partners (anonymized) is presented in Table 1:

Table 1: Overview of Interview Participants

ID	Sector	Organization Type	Role
I1	Public Administration	Large City Administration (Vienna)	HR Manager
I2	Public Administration	Large City Administration (Zurich)	HR Professional
I3	Automotive	Multinational Corporation	HR Specialist
I4	Education	Public Kindergarten	Management and HR Lead
I5	IT Services	Mid-sized IT Provider	HR & Talent Lead
I6	Transport	Bus Transport Company	HR Manager
I7	Non-Profit / Religious	Church Diocese	HR Administrator

Data Analysis Procedure

The interviews were transcribed and analyzed by qualitative content analysis based on Mayring (2002). The analysis was carried out in the form of a deductive-inductive approach: initial categories were taken from the literature (e.g. “efficiency,” “validity”), while sub-categories (e.g. “data silos,” “gdpr concerns”) emerged directly from the interview material.

RESULTS

The Technological Divide

The findings show a distinct difference in the situations of large organizations and SMEs. Interviewees from the large public administrations and the automotive sector reported on the use of sophisticated and integrated systems such as SAP SuccessFactors. These systems enable a high level of automation, ranging from applicant tracking to onboarding (Interview 2, Interview 3). On the other hand, smaller organizations use basic tools. For example, the kindergarten association mainly uses email and cloud storage (Dropbox) for the management of applicant data and processes evaluation manually (Interview 4).

While Wilke and Bendel (2022) depict a sophisticated stage of digital recruiting based on artificial intelligence matching, our empirical data indicate that most organizations are still in the process of basic digitization. Only the IT service provider (Interview 5) expressed ambitions to implement advanced “intelligent agents”, confirming that widespread adoption of AI is a theoretical vision for many.

Challenges of integration of Data and Quality.

A theme that ran throughout the interviews was the difficulty of data integration. Even when ATS solutions are in place, they are often not connected in a seamless way. The bus transport company (Interview 6) said they had challenges in merging their recruitment software with outside job boards, causing data inconsistencies. Similarly, the IT company (Interview 5) presented the challenge of trying to integrate data gathered from different subsidiaries into a holistic system.

Data Privacy and Security as a Double Edged Sword

A key finding from all the interviews was the influence of data privacy regulations (specifically GDPR) on the adoption of new technologies. Interviewees from bigger organizations (e.g., Interview 2, City of Zurich; Interview 5, IT Services) stressed that strict compliance rules tend to slow down implementation of innovative tools. For example, the integration of external AI tools is often obstructed or slowed down by internal data protection officers because of concerns about data sovereignty. Conversely, smaller organizations often have problems technically implementing security standards. While they do know what needs to be done, there are no sophisticated ATS roles and permission concepts, so there are workarounds. However, Wilke and Bendel (2022) claim that data autonomy is one of the most important ethical requirements. Our data shows that while large firms solve this via rigid systems (“Security by Design”), smaller firms rely on trust and manual deletion of data which poses potential compliance risks and limits the usability of data for long-term analytics.

Competence and Training Shortfalls

Another obstacle to successful information management from the interviews is the lack of digital competence of HR staff. The HR manager from the bus transport company (Interview 6) added that when implementing new interfaces in the system, constant readjustment and technical understanding that is not always available in traditional HR roles is required. Similarly, the IT service provider (Interview 5) emphasized the need for “data literacy” - the ability to read and interpret data on the dashboard - as a skill that must be trained. This attests to Jäger (2018) finding that the shift to “Recruiting 4.0” brings with it a fundamental upskilling of the HR workforce. Without this competence, even the most sophisticated information systems are used under-utilized because users return to well-known, manual processes.

The Effect of Data Analytics and Validity

While there is much literature advocating for predictive analytics (Bhushan 2024), the empirical outcomes reveal a restricted use of predictive analytics in practice. Most interviewees use descriptive statistics as opposed to predictive metrics. Furthermore, the validity of selection decisions in smaller organizations is often based on subjective “gut feeling” and cultural fit as opposed to standardized data points (Interview 7).

CONCLUSIONS/DISCUSSION

This study examines the significant gap between the theoretical development of digital recruitment that is frequently mentioned in literature and operational reality that is present in organizations today. The analysis shows that the so-called “digital transformation” in recruitment is not an equal evolution that affects all companies equally. Instead, it is a fragmented landscape where there is a major digital divide between large corporations and smaller entities.

The Innovation Paradox and the reality of operations

Our results take the form of what Rutten and Verhoeven (2024) call the “innovation paradox.” This term describes the situation that many organizations have this dream to implement high-end technologies such as “Talent Intelligence” and prediction models that use artificial intelligence, but often overlook the basics that must be operated to get them to run. Specifically, companies often do not have good data structures or consistent workflows.

This disparity, but especially noticeable in the case of large enterprises compared to SMEs, is explained by the hypothesis of “joint impact” proposed by Laumer et al. (2015). Their research argues that the full potential of recruitment technology is only realized when implementation of IT is accompanied by rigorous Business Process Management (BPM). In more simple words: technology cannot repair a broken process. Our interviews confirm this theoretical assumption: large organizations with dedicated process owners (e.g., Interview 2, City of Zurich) are able to derive value from their systems because they have standardized their workflows. In contrast, in smaller organizations where the process governance is not defined, the use of digital tools is not fully optimized, leading to workarounds that are often manual, and data inconsistencies.

Resource Constraints and Strategic Fit in SMEs

The challenges facing Small and Medium-sized Enterprises (SMEs) are very different compared to the ones faced by multinational corporations. As Appio et al. point out (2024), SMEs are often struggling to succeed because of their limited financial and human resources, which means they cannot invest in costly software ecosystems. Our findings corroborate this “resource scarcity”: although the market is full of high-tech solutions, smaller organizations (e.g. Interview 4, Kindergarten) often choose pragmatic and cheap solutions such as cloud storage or simple email management.

It is very important to realize that SMEs are not just smaller versions of large enterprises and this is emphasized by Baum and Kabst (2012). Their use of informal channels and subjective assessment of “cultural fit” is not necessarily a deficit. Instead, it is a strategic adaptation to their own specific context. This approach often produces high candidate quality from the use of personal networks, despite the lower technological maturity of the process.

The Conflict between Compliance and Innovation

Our results point to a tension between wanting to be innovative and the need to comply. As noted by Bujold et al. (2024), responsible AI calls for the most rigorous observance of privacy rules. In our study this adherence often acts as a brake on innovation especially in the public sector. Organizations are facing a dilemma; they would like the efficiency of AI (as described by Mask & Pearl 2024), but they would not use cloud-based or “black box” solutions because of their strict interpretation of data privacy requirements. This implies that for European organizations, “GD-PR-compliance” is a more crucial success factor of software selection than the ability to predict.

Ethical Considerations and Human Supervision

A significant barrier that has been identified at all organizational sizes is a lack of trust in automated decisions, sometimes called the “black box” problem (Mask and Pearl 2024). This metaphor is used to explain the challenge of understanding how an algorithm comes to make a particular decision (e.g., dismiss a particular candidate). Interestingly, this aversion to fully automated decision-making corresponds to issues of ethics raised by Hunkenschroer and Luetge (2022), in terms of “obfuscation of accountability”. If an AI makes a mistake, nobody knows who is responsible.

Our participants’ insistence for human supervision is a validating action for the principle of “Human-centered AI” as identified by Bujold et al. (2024). In their opinion, humans need to be kept in the loop to ensure fairness and accountability. Furthermore, Tippins (2015) is warning that

digital testing, particularly if it is done without supervision (unproctored), can introduce new risks for validity, such as cheating or technical glitches. This suggests the caution that we see in our sample, in favor of checking manually rather than blindly using automation, is scientifically justified.

CONCLUSION

This research paper set out to address a gap between the promise of AI in recruitment and the reality of HR professionals. By examining the qualitative data of seven expert interviews, this study presents empirically sound arguments that robust information management as a foundation prerequisite is a valid personnel selection basis. The main conclusion is that technology is an enabler, not a solution in itself, without the standardization of underlying processes and data governance, advanced tools fail to provide validity.

Practical Implications

Based on the empirical findings, this study makes specific contributions for HR practitioners and organizational leaders:

1. Data Governance First: Data Governance First: Organizations need to focus more on the quality of their data rather than on the acquisition of new tools. As highlighted by *Stone and Dulebohn (2013)*, efficiency is often the main reason for e-HRM, but efficiency without accuracy is useless. Practitioners should define some clear data governance frameworks before AI algorithms is put to work.

2. Process Standardization: Technology cannot solve the problems of a broken process. Following *Laumer et al. (2015)*, before digitizing their recruitment workflows, companies should first map and optimize the workflows.

3. Strategic Selection: Instead of attempting to court “hype” technologies, organizations should select tools that match their maturity level (*Jäger 2018*). For smaller companies, simple but well-setup ATS can provide more value than complicated analytics suites.

4. Human Element: To help overcome anxiety in the applicant, and to ensure production is conducted ethically, the role of the human recruiter still plays a central role. Automated tools should be placed in a role of decision-support systems to ensure accountability.

Directions for Future Work

Whilst this study gives us deep qualitative insights, future research should seek to quantify these results, and over a larger sample size. Longitudinal studies could monitor the effect of the introduction of structured information management systems on the quality of the long-term hire and retention of employees. Furthermore, research should focus on developing specific, scalable frameworks of information management geared to the resource constraint of SMEs to help them bridge the digital divide without the need for enterprise level budgets.

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ПРЕОДОЛЯВАНЕ НА РАЗЛИКАТА: ЕМПИРИЧЕН АНАЛИЗ НА РЕАЛНОСТИТЕ В УПРАВЛЕНИЕТО НА ИНФОРМАЦИЯТА ПРИ ПОДБОРА НА ПЕРСОНАЛ В СРАВНЕНИЕ С ТЕОРЕТИЧНИТЕ АМБИЦИИ

Резюме: Това проучване разглежда разликата между теоретичното развитие в областта на цифровия подбор на персонал и реалността в организациите. Докато литературата се фокусира върху възможностите на изкуствения интелект (AI) и големите данни, практическото приложение на системите за управление на информацията (IM) е много по-различно. С използване на качествен метод на изследване бяха проведени общо седем полуструктурирани интервюта с експерти – специалисти по човешки ресурси от различни сектори, работещи в мултинационални корпорации, публичната администрация и МСП. Резултатите показват голяма „цифрова пропаст“: докато големите предприятия използват интегрирани ERP системи за вземане на решения на базата на данни, МСП са склонни да разчитат на фрагментирани и ръчни процеси поради ограничените си ресурси. Ключовите новости в това проучване включват идентифицирането на определени пречки за валиден подбор на персонал, като проблеми с интегрирането на данни и липса на управление на данните, които възпрепятстват ефективното използване на усъвършенствани аналитични методи. Резултатите показват, че преди да преминат към AI, организациите трябва да се съсредоточат върху основни практики за управление на информацията, за да гарантират качеството на данните и последователността на процесите. Това проучване допълва съществуващата литература, като представя емпирични данни за състоянието на IM при подбора на персонал; то предлага практически импликации за специалистите по човешки ресурси по отношение на оптимизирането на техните стратегии за подбор.

Ключови думи: управление на информацията; подбор на персонал; валидност на подбора на персонал; цифрово разделение; практики в областта на човешките ресурси

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