



The Digital Future of Internal Staffing: A Vision for Transformational e-HRM

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THE DIGITAL FUTURE OF INTERNAL STAFFING:
A VISION FOR TRANSFORMATIONAL E-HRM

Through an international Delphi study, this article explores the new e-HRM regimes that are expected to transform internal staffing. Our focus is on three types of information systems: human resource management systems, job portals, and talent marketplaces. We explore the future potential of these new systems and identify the key challenges for their implementation in governments, such as inadequate regulations and funding priorities, a lack of leadership and strategic vision, together with rigid work policies and practices and a change-resistant culture. Tied to this vision, we identify several areas of future inquiry that bridge the divide between theory and practice.

Keywords: Internal staffing, Transformational e-HRM; Information technology; Government; Delphi method

INTRODUCTION

As digital technologies disrupt well-established work and employment patterns and provide for more fluid organizational structures and working modes, theories about traditional internal career structures and experiences are no longer as relevant as they once were (Ashford, Caza, & Reid, 2018; Bidwell, 2017; Cooper, 2014; Davis, 2016; Padavic, 2005; Wirtky, Laumer, Eckhardt, & Weitzel, 2016). Indeed, as Bidwell (2017) argues, while solid theories exist about the determinants of promotion and job mobility along structured career ladders, “we need a stronger understanding of the processes that have replaced [these career ladders]” (p. 295).

As a first step towards building this understanding, scholars and practitioners have mused that electronic human resource management (e-HRM) could transform organizations’ approaches to internal staffing (e.g., Al Ariss, Cascio, & Paauwe, 2014; Bryan, Joyce, & Weiss, 2006; Cappelli, 2008; O’Shea & Puente, 2017; Schweyer, 2004; Wirtky et al., 2016); which we define as filling a job by hiring a worker currently employed by the organization (Keller, 2018). Yet, what we know very little about is how, exactly, information systems (IS) can bring forth this transformational shift in organizations’ internal labor markets, and how the resulting e-HRM regimes can be actualized in the specific contexts in which they are applied (Wirtky et al., 2016).

Governments, too, face the challenge of orchestrating their internal labor markets (Mergel, 2016; Mergel, Yiwei, & Bertot, 2018) and make effective use of IS in this process (Chiavenato, 2001; Hays, 2004; Mishra & Akman, 2010). This challenge is fueled by phenomena such as the adoption of agile approaches in governments as part of their process redesigns, project management and software development, and the creation of fast-reacting teams like the US Digital Service (Janssen & van der Voort, 2016; Mergel, 2016; Mergel, 2017). Structures and systems in governments, however, have not kept pace with the dynamism of personnel needs (Hays, 2004; Ingraham, Selden & Moynihan, 2000). While notable reform experiments have

arisen in governments across the board, their ambitions often bounce against the structural rigidities that uniquely characterize HRM regimes in the government context (Hays, 2004). This challenge is further aggravated by the lingering upgrade cycle of legacy systems that support complex and outdated models of forecasting and succession planning—keeping transformational e-HRM efforts at bay (Cappelli, 2008; Ingraham et al., 2000). Altogether, these factors have caused the government context to resemble a complex maze for employees in search of permanent or temporary internal career opportunities. In light of these challenges, governments face the pressure to reinvent their internal labor markets and experiment with and institutionalize transformational e-HRM regimes at scale (Bondarouk & Ruël, 2013; Cheng, Dohrmann, Kerlin, Law & Sree, 2018). In this light, critical questions arise. What processes are replacing conventional approaches to internal staffing in governments? How will IS support this shift? Does the government context pose unique challenges for realizing this vision?

While the literature on e-HRM has expanded considerably, what is often missing in studies that focus on e-HRM—in the public and the private sector alike—is an explicit focus on the transformational character of e-HRM and the IS that drive such e-HRM regimes (Bondarouk & Ruël, 2009; Bondarouk & Ruël, 2013; Poisat & Mey, 2017). While numerous studies focus on specific types of IS—which they describe through a wide variety of different and overlapping labels—they often do not explicit the conceptual links between specific IS and transformational e-HRM (Wirtky et al., 2016). Conversely, the studies that do apply the notion of e-HRM often approach it as a high level and seemingly fuzzy concept, without probing into the IS that drive the HRM transformation (Poisat & Mey, 2017). As a result, and despite a handful of notable examples (e.g., Liang & Wang, 1992; Bellone, Merlino, & Pesenti, 1995; Petrakis, Hass, & Bichler, 2012), insights into how organizations in general—and governments in particular—can leverage the potential of IS to transform their internal labor market

organization, as a key aspect of transformational e-HRM (Strohmeier, 2012; Wirtky et al., 2016), are largely missing.

In this study, we synthesize the vision set out by an international group of experts on the future of internal staffing in governments, following the Delphi method (Skinner, Nelson, Chin, & Land, 2015). We do so, first by opening the technological black box of e-HRM through the exploration of three key IS that are expected to transform governments' internal labor market organization. We explain the transformational role of each of these IS, and how the dynamics they bring forth, challenge current theorizing on internal staffing. Second, we expose the main institutional challenges for realizing the vision set out in this paper in the overarching government context. This article also holds important managerial contributions. It offers human resource executives and managers a view into how IS can be leveraged to transform internal labor markets in governments, and informs them of the expected opportunities and challenges associated with this transformation.

This paper is organized as follows. In the first sections, we describe extant literature on e-HRM and frame the technological lens we used. Then, we explain how we operationalized the Delphi method, as well as the outcomes it produced. Finally, we use the study outcomes to shed new light on internal labor market organization and e-HRM and identify several future research avenues that bridge the divide between theory and practice.

EXTANT LITERATURE: TRANSFORMATIONAL E-HRM

While the definition of e-HRM still triggers a considerable amount of debate, Bondarouk & Ruël (2009) provide one of the most comprehensive definitions of the concept, by defining e-HRM as:

“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” (p. 507).

In light of the above definition, scholars have often associated e-HRM with achieving cost-reductions and increased levels of efficiency in basic administrative HR activities, such as payroll, personnel data management, and departmental record maintenance (Marler, 2009; Poisat & Mey, 2017; Ruël, Bondarouk, & Looise, 2004). In a rapidly changing world of work, however, a sole focus on digitizing administrative HRM activities does not suffice. As organizations are delayering, reducing bureaucracy, and moving to more fluid organizational structures to survive in today’s competitive business environment (Bidwell, 2017), the need arises to rethink taken-for-granted assumptions about traditional career structures and experiences (Ashford, George, & Blatt, 2007). Governments’ inability to adapt their internal labor market organization to these evolutions may cause them to lose today’s “war for talent,” as well as their image as a credible and modern employer (Cheng et al., 2018; Kellar, 2018; Neal, 2018).

To address the disruptive challenges that governments face, we adopt the specific lens of transformational e-HRM (Bondarouk & Ruël, 2009), by focusing on the “strategic activities of HRM” (Poisat & Mey, 2017, p. a862). More specifically, transformational e-HRM includes “an integrated set of policies and practices developed to execute the company’s implicit or explicit business strategy through the management of the firm’s human capital” (Poisat & Mey, 2017, p. a862). The scope of transformational e-HRM, therefore, comprises such activities as internal staffing, organizational development, talent management, and learning (Thite & Kavanagh, 2009; Wirtky et al., 2016). As this article focuses on how employees can be mobilized in function of strategic organizational objectives (Poisat & Mey, 2017), and through

e-HRM systems that hold the potential to transform the HRM function (Ruël et al., 2004), it is on this transformational goal of e-HRM that our focus lies.

Surprisingly, very few e-HRM studies have adopted an explicit, technology-centered viewpoint (cf. Poisat & Mey, 2017). IS, therefore, are often approached as broad, uniform systems that support the HRM function (e.g., Kettley & Reilly, 2003), and conceptualized through different—and often woolly descriptions such as “computerized human resource information systems” (Kettley & Reilly, 2003), “network structures” (Strohmeier, 2007), and “web technology-based channels” (Ruël et al., 2004). Despite the reluctance of scholars to dive beneath the technological surface of transformational e-HRM, disentangling the transformational impact that distinct IS-types have on different aspects of the HRM function, however, is critical to gain insights into how, exactly, technology evolves and drives the transformation of HRM (Wirtky et al., 2016). Further, given employees’ increasing expectations of customization—and even personalization—of HRM (Colbert, Yee, & George, 2016; Gruber, de Leon, George, & Thompson, 2015), and their needs for self-direction and self-management (Cappelli, 2008; Carson, 2005), we argue in favor of opening the technological black box of e-HRM regimes, for the specific purposes (e.g., internal staffing reforms) and in the specific contexts (e.g., in the government context) in which IS are put to work. Aligned with this ambition, we further elaborate in the following section on how we constructed a technological lens to study the future of internal staffing through transformational e-HRM in the government context.

HUMAN RESOURCE MANAGEMENT SYSTEMS, JOB PORTALS, TALENT MARKETPLACES

To provoke a discussion on the future of internal staffing in the government context, we structured the conversation around different types of general IS. Our selection was both theory

and data-driven. We used a proposition of three types of IS based on business, commercial, and academic literature and validated these through five exploratory interviews with a subgroup of the same study participants. In the first formal interview round, we also asked all study participants to comment on these definitions and to provide suggestions for alternative IS types. The second and third interview rounds were aimed at producing the vision statement for the IS types selected in the previous phases of the study. For this reason, we did not ask the experts to question the selected IS types in the second and third interview round of the study. This process identified three types of general IS: human resource management systems (HRMS), job portals, and enterprise social media. Based on participant input in the first round, and in line with the abductive nature of our analysis, we changed the category of enterprise social media to talent marketplaces, as the participants perceived the first to be too general. As we will explain further on in this section, talent marketplaces can be seen as a specific type of enterprise social media, for task- or project-based staffing (Aguinis & Lawal, 2013).

HRMS are defined by Gartner (2019a) as “business applications for the management of HR-related transactions, best practices and enterprise reporting.” HRMS focus on core HR tracking, payroll, and benefits. Their scope is extended to include recruiting, competency management, training, time management, performance management, and self-service offerings (Gartner, 2019a). The advent of the internet and new cloud-based technologies have shaped a new generation of HRMS that promise to help users achieve the critical goals of attracting talented applicants, streamlining selection processes, and facilitating the use of self-service technologies (Johnson, Lukaszewski, & Stone, 2016). HRMS frequently incorporate talent management systems, which are increasingly important to support talent management practices in organizations, including internal staffing (Burbach & Royle, 2010; Gartner, 2017).

Job portals are a second IS type, like USAJobs (cf. <https://www.usajobs.gov/>). They can be defined as “internet technologies that provide windows into enterprise information,

applications and processes” for internal and external staffing (Gartner, 2019b). In essence, portal solutions offer greater control and linking of candidates’ applications to existing applicant tracking systems (Allden & Harris, 2013). Their scope typically involves directing internal or external candidates through the application process (Buenger, 2006). While job portals have been used for a long time, significant potential exists for new uses of job portals in support of better internal staffing practices. As such, scholars have argued for a paradigm shift in developing portal solutions, where online job seekers are approached as consumers of employment information rather than as applicants that need to be screened (Selden & Orenstein, 2011).

Third, talent marketplaces are “websites where individuals interested in being hired and employers looking for individuals to perform some type of work meet” (Aguinis & Lawal, 2013, p. 6). In contrast to portals for full-time positions, talent marketplaces are often used as an enabler of a market of task- and project-based work opportunities (Aguinis & Lawal, 2013). They are characterized by aggregation, matchmaking, and facilitation (Boudreau & Lakhani, 2009). Most commonly, these systems have been applied in the so-called gig-economy, connecting freelance workers to standalone tasks or projects (Aguinis & Lawal, 2013; Ashford et al., 2018; Kuhn & Maleki, 2017). Increasingly, organizations are embracing similar marketplaces in their internal labor markets, allowing employees and project creators to seek matches across business units to collaborate on small chunks of work (Bersin, 2019).

METHODOLOGY

Intention of the study

We used the Delphi method, which is particularly suited to probe into a broad and relatively unexplored topic such as internal staffing in governments—and its future (Daniel & White,

2005; Powell, 2003; Skinner et al., 2015). To balance ambition with achievability of vision, we applied a time horizon of 5 years.

Identification and selection of experts

In line with the purpose of our study, five criteria determined the selection of experts: (1) active in or for a government context; (2) a digital-savvy attitude; (3) experience with internal talent sourcing and information systems solutions; (4) recognized by peers or industry commentators as an expert, visionary, or pioneer; (5) knowledgeable about all the IS types applied in this study. We used an iterative sampling approach (Miles & Huberman, 1994), first by searching the internet for individuals who attained the status of expert through contributions such as distinguished business and commercial publications or conference presentations. Social media, LinkedIn in particular, then helped to contact these experts. Additionally, we relied on connections at the Organisation for Economic Co-operation and Development (OECD) and the Belgian federal government, who assisted in identifying and establishing ties with experts, by leveraging their international network of country representatives. Several experts who agreed to participate also recommended other experts, who were then considered for participation. All authors contributed to the validation of the identified experts, in light of the selection criteria, and based on experts' roles and documented experience. In case of doubt, we asked the experts under consideration to provide additional evidence that supported their claim as an expert.

Study design and data collection

Data collection took place throughout 2018-2019. We considered that three rounds of data collection were suitable to balance consensus-building with the need to ensure that a significant proportion of participants complete the study. Round 1 and 2 consisted of individual semi-structured interviews conducted by phone or video call, lasting between 30 and 65 minutes. All interviews were audio-recorded and fully transcribed with permission. The third round consisted of an online survey. Each round of data collection served a particular purpose.

The first round served to elicit ideas and issues regarding the topic. We provided 26 participants with the IS types discussed earlier, which we selected based on an initial review of the literature and five preliminary interviews before the start of the first round. Based on the four IS types, we asked the experts to generate ideas and issues about the future of internal staffing in government and to name systems and functions that the categories did not capture. By using content analysis (Hussey & Hussey, 1997), we crafted a set of statements, reflecting common ideas and issues. In the second round, we asked the participants to express agreement or disagreement with the statements resulting from the first round and to give reasons for their stance. We also invited them to give suggestions for reformulating the statements. In the third round, we provided participants with the aggregate level of agreement (displayed as frequencies) resulting from the second-round interviews, asked if they wished to revise their answer and to give reasons for this revision.

In this paper, we synthesize the expert views that resulted from these consecutive rounds of data collection and build on their convergence to set out a vision for the future of internal staffing in governments.

Participation rate and non-response

We contacted 41 experts. Among these, 26 agreed to participate. Only participants in the earlier rounds could participate in the subsequent rounds (Rowe & Wright, 1999). Effective participation rates of the second and third round were respectively 92.3% and 84.6% of the full sample. We did not identify any systematic patterns in the role, organization, or geography of non-respondents in the three stages. Tables A1 and A2 in the appendix display the background of participants in terms of organization and position.

Data analysis

After being checked for accuracy by the researchers and interviewees, the transcripts of the interviews were loaded into the qualitative data analysis software, Nvivo, for analysis. The

coding process was operationalized through a process of discussion and consensus involving the three authors of this study (Patton, 1990), and was both theory-driven and data-driven (Gibbs, 2007). Initial codes originated from the identified IS types. Additional codes emerged in an iterative, grounded theory-like approach (Miles & Huberman, 1994), corresponding to the common themes and issues the experts identified for each IS type. In Table A3 in the Appendix, we further elaborate on and illustrate this grounded process.

In rounds 2 and 3, we reported the categorical responses (agree/disagree) as frequencies, following Daniel and White (2005). As the authors state, it may be tempting to consider this data as appropriate for statistical testing. However, as the Delphi method is a qualitative technique, its aim is not to draw inferences about a wider population, but to provide possible insights into a complicated phenomenon and its future. Our study results thus represent the insights drawn from a theoretically sampled group of experts, rather than inferences about a wider population.

OUTCOMES OF THE DELPHI STUDY

While HRMS have been around for a long time, the level of agreement with the first statement in Table 1 shows that the experts nearly unanimously envision governments to continue making considerable investments in these solutions in a 5-year timespan (HRMS1). Interestingly, and in line with observed trends in the private sector (Angrave, Charlwood, Kirkpatrick, Lawrence, & Stuart, 2016; Bidwell & De Stefano, 2019), the experts associate these investments in new HRMS with governments’ yearning for stronger analytics capabilities that could support internal staffing decisions. Besides supporting decision making, the experts further underscored how the analytical insights provided by HRMS should also help government employees to take hold of their careers and identify suitable internal career paths. One expert explained:

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3 “[Besides supporting decision making,] it’s about delivering insights to the employee herself
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5 or himself to—for example, discuss with their manager what could be the next career
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7 development goal—or even more simply, what could be an interesting learning course for
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9 the next six months.”
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12 Organizations like the US National Science Foundation (NSF), for example, are looking into
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14 new types of HRMS that will “help employees plot a path for changing careers or identify how
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16 to move forward in their current career path, while also facilitating continuous reskilling”
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18 (NSF, 2019). In 2019, the NSF set out its vision for Career Compass, a new HRMS system that
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20 (1) measures interests, values, personality, and workplace preferences with scientific
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22 assessments; (2) uses an algorithmic approach to recommend careers; (3) provides up-to-date
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24 information about required knowledge and skills for matched jobs; (4) guides users to relevant
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26 learning opportunities; and (5) identifies well-fitting job opportunities available both within
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28 and outside of the federal government. As this example illustrates, the NSF indeed realized that
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30 employees no longer stay on a linear career path in the same field for most of their careers, but
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32 instead branch out by making lateral moves into different fields (Bidwell, 2017). Moreover,
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34 the NSF recognizes that the changing pace of technology has increased dramatically over the
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36 past few years, which makes it difficult for agencies to identify and provide training for the
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38 workforce at the same rate of those changes – calling for new HRMS solutions like Career
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40 Compass.
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46 In imagining new solutions like NSF’s Career Compass, the study experts also emphasized
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48 the importance of governments to connect with “passive” internal candidates—that is,
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50 employees who are currently in a job, but who could make a good fit for a given role in another
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52 part of the government. As numerous experts underscored, building this analytics capability
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54 would require governments to capture deep knowledge of employees’ expertise and skillsets
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56 (HRMS3), and to invest in internal “pools” or “pipelines” that could facilitate matching the
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3 right people to critical or hard-to-fill positions (HRMS4). As one expert from the UK
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5 Government Digital Service explained, her organization recognized this need to “better reach
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7 people that we are not talking to today, and we don’t know who those people are.” She
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9 elaborated:

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12 “We don’t have the tools to date to help us do that, [to] reach those people that we are not
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14 talking to, the people who live outside of London, the people who haven’t heard of
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16 government transformation, the people who want to work part-time, are returning to work
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18 or want to make a career change. We’re going to be running focus groups and interviews
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20 with people who have got the skills but haven’t taken up the type of role that we are looking
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22 for to develop our capability. That will then inform how we go out in the process and how
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24 we are going to the market to get those people and to develop that strategy.”
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29 While governments’ appetite for analytics capabilities enabled by HRMS may be similar to
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31 private sector organizations, particular challenges characterize the realization of this vision in
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33 the government context. Due to these challenges, the expert group struggled to find consensus
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35 on the future of HRMS for internal staffing in government, as reflected by the relatively low
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37 levels of agreement with statements HRMS2, HRMS3, and HRMS4.
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41 First of all, and apart from the common challenge of accessing and integrating employee
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43 data from different HRMS designed to carry out different HR processes (Parry, 2011), the
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45 experts emphasized the siloed structures and cultures in governments, and the reluctance of
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47 distinct government entities to share data. One expert echoed this collective vision:
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49

50
51 “Government [entities are characterized by] siloed governance. They have competing
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53 objectives and goals. They are on different election cycles, and they want to protect their
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55 [employee] data. There is not a culture, and there is not a set of governance trust that is in
56
57 place to make that data sharing and data summarization possible.”
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On top of the issues of trust and governance, the expected tendency of governments to opt for a combination of standalone HRM modules or applications (HRMS2), because of their associated perception of providing superior functionality and user experience in comparison to comprehensive single-vendor HRMS, paradoxically, may further complicate data access and integration efforts. Since the choice for such solutions may lead to a “patchwork” of separate applications, numerous experts predicted this would render the access and integration of employee-related data even harder.

A second challenge relates to employee expectations for autonomy and self-direction. While employees’ cry for increased levels of autonomy is not new (McGregor, 1960; Morse & Lorsch 1970), evolutions in the external job market such as personalized job recommendations, and the ability to network directly with recruiters and hiring managers on platforms such as LinkedIn, have created an urge for more individually tailored approaches to staffing within organizations. However, this is a need that legacy HRMS commonly struggle to support (Cappelli, 2008). One expert resounded the expert group’s views of what, in their opinion, alternative solutions would look like:

“We want to see people having opportunities to move beyond both their personal social networks. We’d like to see people kind of coming together to form teams, to monitor teams, to potentially even find other talent that they want to learn from in the ecosystem. People will have a narrative library and a ledger of recognition for each of their skills. Their narrative library is where they keep track of all their skills and all their stories and all their evidence, and then their ledger of recognition is per skill. We’re hoping by creating these narrative libraries and these ledgers of recognition that that will create [a] massive network effect across the system.”

While the experts nearly unanimously supported the above view, at the same time, they expressed a pessimistic outlook by envisioning that governments’ experimentation with such

new systems will lag. Numerous experts cited a high level of risk aversion in the HR and procurement functions as the leading underlying causes. Two of them reverberated:

“A lot of governments, because of that risk aversion, will wait to make sure it’s proven out in other industries and has a much higher consensus. And [HR] will be more iterative in making sure that the workforce and the unions and everyone is fully comfortable before a paradigm shift is introduced in how the government might approach some of these issues.”

“Because we’re using very traditional procurement methods and we have very traditional thinking that continues to shape what we ask for and how it delivers, I would be stunned if we see anything but traditional results from the mainstream exercises that government is going through.”

To tackle the challenges emphasized by the above quotes, the experts noted the need for government leadership to break with the past and introduce bold changes in governments’ internal staffing systems. Numerous experts emphasized the importance to “establish funding priorities [in favor of transformational internal staffing reforms]” and to view “investing in both short and long-term workforce health as a significant funding priority.” In this regard, the experts widely underscored the need for governments to experiment with new, employee-centric types of systems, beyond traditional HRMS, and “to be out front in looking at some of these paradigm-shifting approaches,” rather than “being a trailer and waiting for them all to be tested out and fully socialized.”

Insert Table 1 about here

As public and private organizations alike have been seeking to delay, reduce bureaucracy, and move to more fluid organizational structures built on broader job descriptions, the career ladders that guided internal talent flows in organizations have become increasingly blurred

(Bidwell, 2017; Cappelli, 2008). In place of this traditional internal labor market organization, and for organizational flexibility and modern team working and communication technologies, organizations are embracing portal-like systems similar to Monster.com or LinkedIn that match employees to open positions (Keller, 2018). While such systems allow for mobilizing internal talent in an ad hoc manner, an essential consequence of these market-like systems is the transfer of control to individual employees to give structure to their internal career progression (Cappelli, 2008).

The statements in Table 2 reflect the experts' emphasis on the employee-centric shift associated with these new internal job posting systems and their expected consequences on internal staffing practices in the government context. Due to the market-like logic on these job portals, different entities within the government now find themselves competing for internal talent. As such, the experts envision that internal employer branding will become increasingly important in a 5-year time horizon, creating the need for different hiring entities to strengthen their employer brand and to propose a compelling value proposition to candidates in the internal labor market (JP1). While a focus on differentiated compensation packages is not possible given the standardized nature of employment levels in most governments, the experts underlined the need to compete on employees' needs for information about managers' leadership style, work demands, physical workplaces, and team culture during their application (JP2). An example is Talent Cloud, an experimental job portal currently being designed in the Government of Canada. The lead designer of Talent Cloud, as part of the expert panel, explained:

“Right now government puts up a poster, and applicants apply to that poster, and they put their biography into that poster and try and convince people that they fit in that shape, square, or whatever. For Talent Cloud, for our portal, we're looking at a five-factor match, so job applicants, the actual work being done, which has been completely re-crafted,

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3 manager's leadership style, operating environment, which includes the physical workspace
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5 and then the team culture. So on our portal, people can upload photos, literally see where
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7 the desks are going to be, where people are going to work, what their manager is going to
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9 be like.”

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11
12 Aligned with this example, the experts further emphasized that answering employees' needs
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14 requires a profound restructuring of the workplace based on in-depth user research and human-
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16 centered design principles, and to brand these differentiated workplace experiences online. To
17
18 this end, several experts like the Talent Cloud team cited how they had been working on
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20 reimagining portal solutions based on extensive user research in dedicated project teams—
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22 often outside of the purview of the HR department. These experts emphasized the importance
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24 of incorporating social networking features into the design of new job portals, allowing for
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26 new, online forms of matchmaking between posted jobs and internal candidates (JP4). As the
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28 experts envisioned, on top of the job posting and application functionalities, these new portals
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30 would include online employee profiles and search and matchmaking functions to allow
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32 candidates to find suitable job opportunities, to interact and collaborate with peers across the
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34 government, and to enable hiring managers to scout for profiles that match their specific needs.
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36 While some experts argued for using external social networks altogether, most were in favor
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38 of developing similar solutions internally (JP3), as they would allow for more elaborate and
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40 organization-specific information.
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47 This employee-centric use of online portals embodies a departure from existing ways of
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49 working for most governments, which made some experts critical about governments' ability
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51 to act on the full potential of job portals. One of the experts explained:
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54 “Right now, government is very good at telling the applicant, ‘You are now in an immersive
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56 experience,’ but they don't ask candidates, ‘Do you find this an immersive experience? Does
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58 this meet your standards for what that would mean?’”
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Other experts indeed echoed this more critical stance:

“We’ve seen that nowhere on the spectrum with the stuff that we see the main HR teams in the process of procuring, and yet the main HR teams are describing their portal as providing an immersive candidate experience.”

Insert Table 2 about here

This vision moves us beyond the staffing function of portals for full-time positions only, to an IS type the experts framed as talent marketplaces—an enterprise social media system where employees can find matches with part-time tasks or projects. One of the experts explained, in essence, what this system entails:

“[The system enables] tapping knowledge about who people are and what they can do in a more aggregated fashion. And then that could start to enable an internal marketplace where people are able to articulate in a way their own capabilities and have recognition in those capabilities, and people who are looking for people who have those capabilities can essentially exchange them.”

By aggregating rich information about both the project creator and the project itself, on the one hand, and the project applicant, on the other, a talent marketplace—as envisioned in the above quote—enables employees to post chunks of work online, to which other employees can apply as they see fit. Examples include the US Environmental Protection Agency’s (EPA) Skills Marketplace or the US Office of Personnel Management’s (OPM) Open Opportunities (Open Opps). As one expert explained, these early examples demonstrate the potential of:

“an online system where you got people, you’ve got profiles and managers who can search through a much more systemic and systematized set of skills and much more crystal,

granular set of skills and be able to connect people for short-term projects, for long-term projects, for new challenges. I think that is the future.”

Talent marketplaces indeed embody a departure from traditional notions to internal staffing and are defined by the following characteristics. First, a talent marketplace facilitates employees to chunk work into small pieces and to post these chunks online so that organization-wide talent could apply to them. As such, they connect talent supply and demand across business units and departments, around short-term tasks or projects to be completed (MKT3). Second, a talent marketplace is built on the notion of self-direction (MKT2). Engagement in this type of system is voluntary and driven by employees’ cravings for variety in their jobs and their urge to build skills in generic, multicore areas (Ashford et al., 2018). As employees can complete the tasks or projects part-time without leaving their jobs or physical work environments, these systems form a new digital environment in which employees can easily try out new types of work (Rogiers, De Stobbeleir, & Viaene, 2020).

As indicated in Table 3, while the experts nearly unanimously agreed that talent marketplaces will become more prevalent in governments (MKT1), the experts were skeptical that the successful implementation of talent marketplaces would occur in a 5-year timeframe (MKT5). They pointed to a key differentiation between intended and actual HRM practices, which is an area that current studies have not sufficiently addressed (Gallardo-Gallardo & Thunnissen, 2017). While the experts generally believed that HRM policies in governments are supportive of talent marketplaces, they pointed to actual workforce practices as the primary source of inertia in the government context, such as in this statement:

“For me, it’s about: will human capital officials in government entities align their employment models to make talent marketplaces work? Yes, talent marketplaces in and of themselves can be compatible with current employment policies. The issue is: will the HR

officials recognize the value and the benefit of a talent marketplace and put the work in that is necessary to create that compatibility?”

Indeed, scholars have pointed to the challenges the experts described, such as the crucial role of line managers in implementing HRM, and the failure of HR officials to support line managers in performing their HRM responsibilities (Gallardo-Gallardo & Thunnissen, 2017). While the experts widely recognize the value of talent marketplaces, they agree that successful implementation requires a profound shift in HRM practices and priorities in governments. They also reckon that this shift may extend beyond the 5-year time horizon. As one expert described:

“[To achieve change within five years will require] deep machinery change and deep culture change. That is very hard for public sector systems. So, whether or not it will work, for us, is still very much an unknown. We’re very much in the thick of the experiment we’re building right now.”

Insert Table 3 about here

DISCUSSION

As technology is entering the workplace at an unrestrained pace (Colbert et al., 2016; Gruber et al., 2015), new e-HRM regimes are arising that challenge classic internal labor market theory. The latter attributed internal job moves mainly to economic factors (i.e., the interdependency of skills built in lower-level jobs and the skills required for higher-level jobs along the corporate ladder) and institutional factors (i.e., tradition, fairness perceptions, and union influences). These factors formed structured job ladders that explained mobility in organizations’ internal labor markets (Doeringer & Piore, 1971; Osterman, 1987). Yet, as organizations are delayering, reducing bureaucracy, and moving to more fluid organizational

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structures, and individuals are given the tools to take charge of their individual development and career progression, these very same career ladders are being dismantled in many organizations (Bidwell, 2017; Bryan et al., 2006; Cappelli, 2008; O’Shea & Puente, 2017). What processes, then, are taking their place?

In this study, we contribute to the literature on internal staffing and e-HRM by exploring the new e-HRM regimes that are expected to transform internal staffing in the government context. We envision these e-HRM regimes as market-like structures that enable improvisation and provide “grey markets in enterprise self-organization” unanticipated by the organizations that provide them (Kane, 2015; Leidner, Koch, & Gonzales, 2010; O’Shea & Puente, 2017; Schrage, 2013). Three cornerstones make up these e-HRM regimes, supported by distinct but complementary IS.

The first cornerstone of the envisioned e-HRM regimes constitutes a shift in directive control (Cappelli & Keller, 2013), through data insights that empower employees to seek out new work and career opportunities. HRMS play a critical role in this process through their ability to capture and aggregate employee data and share actionable insights with employees. In this regard, organizations like the NSF are experimenting with recommendation engines and algorithms that can match employees to suitable work opportunities based on a large amount of heterogeneous and unstructured data of employee characteristics, their behavior, and past matches. Others are building an “internal LinkedIn-like system” (Bidwell & De Stefano, 2019). This online directory aggregates relevant information from numerous HRMS that enables employees to seek out peers to collaborate with. Underlying this shift in directive control, critically, lies the ability for governments to capture relevant employee data, to aggregate this data—often hoarded in different HRMS systems and organizational units—and to extract and share relevant and actionable insights with employees.

Given employees' yearning for self-direction and autonomy (Carson, 2005), a second cornerstone of the market-like e-HRM regimes envisioned in this study constitutes the way work is posted online. These new dynamics ask for governments to reimagine job portal design and to provide candidates with the opportunity to match their work preferences, desires, and aspirations with job features (Wirtky et al., 2016). Pioneers such as the designers of Talent Cloud in the Government of Canada have started to experiment with alternative job portals, empowering candidates to find the right matches based on metrics such as leadership style, work demands, physical workplaces, and team culture. Additionally, and not the least important, the societal impact of government work constitutes a key differentiator for candidates looking for a new challenge. For example, Open Opportunities, a talent marketplace for task or project-based work within the US federal government, exemplifies how "making a difference" characterizes the work on the platform (cf. <https://openopps.usajobs.gov/>). These examples further underscore our argument that internal labor markets are no longer mainly governed by economic and institutional factors (Doeringer & Piore, 1971; Osterman, 1987), but increasingly by employees' developmental and experiential needs. Therefore, actualizing this employee-centered approach to job posting is critical for activating governments' internal labor markets and hiring managers' success in competing internally for talent.

Third, new IS such as talent marketplaces afford the creation of new digital environments that allow employees to experiment with new areas of expertise and engage in career simulations in parallel to their day-to-day jobs. EPA's Skills Marketplace and OPM's Open Opps platform exemplify how federal employees can guide their development by engaging in short tasks or projects, for a maximum of 20% of their time, with peers across the federal government (Rogiers et al., 2020). Employees' engagement in such new digital environments, in turn, allows them to adopt new, self-chosen specializations in multicore areas such as user experience design or data science and reinvent themselves online. Therefore, providing

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employees with the opportunity to conduct such job experiments in an environment that stimulates out-of-the-box thinking, learning by doing, and that tolerates failure to learn, constitutes a third important cornerstone of the market-like e-HRM regimes described in this article.

The experts in this study also envision key challenges to the realization of their vision in the government context. Inadequate regulations and funding priorities, a lack of leadership and strategic vision, together with rigid work policies and practices and a change-resistant culture, remain significant hurdles for its actualization. We, therefore, argue against a starry-eyed view of transformational e-HRM. While IS afford the potential for radically changing HRM practices, the actualization of transformational e-HRM regimes requires taking into account the complex dynamics that arise from the interactions between people and technology in the workplace (Bostrom & Heinen, 1977; Leavitt, 1965). It is thus important to emphasize that the digital transformation of HRM is a continuous endeavor, not only in exploring the potential of new IS but also in facilitating the actualization of this potential at scale. Future research may build on our stance regarding the importance of industry-specific context, in line with other commentators (Boselie & Thunnissen, 2017; Gallardo-Gallardo & Thunnissen, 2016), to uncover what it takes to introduce transformational change in the actual HRM practices observed on the work floor.

Notwithstanding such challenges, the examples discussed in this article illustrate how a small number of governments are pioneering in developing new approaches to internal staffing, facilitated by new and often home-built technological solutions. Therefore, a clear opportunity exists for scholars to advise both theory and practice by conducting in-depth case studies into the dynamics and impact of these market-like systems on the nature and experience of work, the design of organizations, and the context-specific barriers and success factors associated with their implementation. Further, researchers could explore alternative research strategies,

such as action design research, to expose the design principles for these new technology solutions (Sein, Henfridsson, Purao, Rossi, & Lindgren, 2011).

At the same time, these examples also illustrate an essential challenge in connecting standalone innovations with “the machinery of government.” Indeed, connecting new internal staffing systems to legacy systems and aligning ways of working to seize the full potential of these new systems remains challenging. While some governments have excelled in exploring innovations in internal staffing systems, less attention has been devoted to exploiting these new systems at scale. As one expert commented: “The mechanics of moving [innovation in HR] from 20 people to 20,000 people, therein lies the problem.” Future research may build on these insights to explore these themes in more depth.

LIMITATIONS

Given the diversity of governmental organizations, we recognize our international approach both as a strength and a limitation, as it comprises a trade-off between selecting from a wider pool of experts and accounting for specific institutional and organizational configurations. Because of our access to top experts internationally in this study, we opted for the first approach. Future studies may opt for the latter while studying the impact of specific institutional and organizational contexts on internal staffing practices and e-HRM regimes, a viewpoint little considered in current literature (Boselie & Thunnissen, 2017).

In crafting this vision for the future, we recognize the influence of participants’ backgrounds on the outcomes of our study. Appendix A provides an overview of these. While we did not find systematic answer patterns based on geographic or organizational background, different combinations, however, may give different outcomes. Moreover, while we did not cluster the experts into separate subgroups, to guarantee all participants were provided with the same aggregate group results in each round, future studies may opt to make this division. Doing

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so may facilitate comparison between the groups, as well as facilitate the identification of systematic answer patterns.

We further recognize that a careful balancing act had to be made between writing a coherent vision while not overstepping our boundaries as researchers throughout the Delphi process. This balancing act led us to report on important visionary expectations and controversies centered on three key information systems (HRMS, job portals, and talent marketplaces) that emerged as key themes from the expert panel, rather than design one preferred vision; which is both a strength and a limitation of this study. In the discussion section, we link these visionary expectations to key discussions in the literature on internal staffing and lay out a path for future scholarship to build on.

Finally, we recognize the breadth of our study. Our choice to approach our topic in a relatively broad way was driven by our ambitions of providing a broad overarching vision of what may happen in the future. Future studies may build on each of the identified themes that comprise this vision. In particular, we point to the need to uncover why the trends our study identified would materialize or not. As such, scholars may expose the causal mechanisms underlying these trends. Such research would build on the current study and extend its impact.

CONCLUSION

Through an international Delphi study, we explored the new dynamics that are starting to characterize internal staffing approaches in governments, driven by transformational electronic human resource management. Our focus was on three types of IS that are expected to evolve and be used in function of transformative change in internal staffing systems: HRMS, job portals, and talent marketplaces. Together, these systems are expected to provide for new e-HRM regimes that afford matchmaking between employees and suitable work and career opportunities, as an alternative to outdated models of forecasting and succession planning. We

also identified key challenges for realizing this article's vision in a governmental context, such as inadequate regulations and funding priorities, a lack of leadership and strategic vision, together with rigid work policies and practices and a change-resistant culture. Finally, we explicated how the vision laid out in this article may inform future research by identifying several promising areas of future inquiry that bridge the divide between theory and practice.

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TABLE 1
Statements related to Human Resource Management Systems

Statement no	HRMS statements	Agree	Disagree
HRMS1	Governments will generally refrain from investing in new HRMS.	5 %	95 %
HRMS2	Governments increasingly will cherry-pick standalone modules over choosing single-vendor HRMS.	64 %	36 %
HRMS3	Governments will commonly use HRMS to aggregate deep knowledge of employees' expertise.	59 %	41 %
HRMS4	HRMS will increasingly be used in governments to seek candidates for hard-to-fill positions well before planned job openings.	59 %	41 %

For Peer Review

TABLE 2
Statements Related to Job Portals

Statement no	Job portals statements	Agree	Disagree
JP1	More than today, government entities will actively use job portals to strengthen their employer brand.	91 %	9 %
JP2	Government job portals will become centered on providing candidates with an immersive preview of the prospective work environment.	68 %	32 %
JP3	Reliance on proprietary job portals will reduce in government in favor of public social networking sites.	36 %	64 %
JP4	Job portals and social networking sites will become more integrated in government.	82 %	18 %

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TABLE 3
Statements related to Talent Marketplaces

Statement no	Talent marketplaces statements	Agree	Disagree
MKT1	Talent marketplaces will become more prevalent in governments.	95 %	5 %
MKT2	Talent marketplaces will unlock self-directed career pathways within governments.	86 %	14 %
MKT3	Talent marketplaces will create a dynamic talent repository for project-based work across participating entities in governments.	82 %	18 %
MKT5	By and large, governments will struggle to align its workforce practices to make talent marketplaces work.	82 %	18 %

For Peer Review

APPENDIX 1

TABLE A1
Participants by background (ordered by N of participants)

	Round 1		Round 2		Round 3	
Background of participant	N of participants	% of participants	N of participants	% of participants	N of participants	% of participants
National administration	11	44	10	42	10	46
International consulting firm	5	19	4	17	2	9
International administration	3	11	3	13	3	14
Entrepreneur	3	11	3	12	3	14
HRM software vendor firm	2	7	2	8	2	9
Research organization	1	4	1	4	1	4
Regional administration	1	4	1	4	1	4
Total	26	100	24	100	22	100

TABLE A2
Participants by position (ordered alphabetically)

Expert	Position	Professional orientation
A	HR Counsellor, Estonian Presidency of the Council of the EU	Estonia
B	Deputy Director General, Agency for Digitization, Ministry of Finance, Denmark	Denmark
C	Development Consultant, Directorate-General Recruitment and Development, Belgian Federal Public Service of Policy and Support	Belgium
D	Director, Performance, Strategy and Innovation at Architect of the Capitol, founder and former National Program Manager for Skills Marketplace (EPA), former lead of GovConnect	United States
E	Director of Capability, Digital, Data and Technology Profession, UK Government Digital Service	United Kingdom
F	Director of Human Resources - IT Department, French government	France
G	Founder and Advisor of GovLoop	United States
H	Founder of QuidProJobs	Belgium
I	Head of Division HR Development and HR Politics, German Employment Agency	Germany
J	Head of Register and Information Systems Division, Civil Service Department, Lithuania	Lithuania
K	Head of Research and Thought Leadership, CIPD	International
L	Lead designer of Talent Cloud, Government of Canada	Canada
M	Partner and Managing Director, Human Capital, OT&T Lead, Deloitte Consulting	International
N	Global EY Lead for Innovation in the Power & Utilities sector, EY	International
O	Global Public Sector HR GTM Strategist, SAP	International
P	Global team lead for Future Cities, Citizen Experience, Postal and the SAP Institute of Digital Government, SAP	International
Q	Leading Specialist, Public Sector Development, SITRA	International
R	Partner and Managing Director of Public Sector Practice in North America, The Boston Consulting Group	International
S	People Analytics Leader at Deloitte Consulting	International
T	Policy Assistant, European Personnel Selection Office	International
U	Project Manager HRIS Talent Management, Agency of Government Personnel, Flemish government	Belgium
V	Project Manager, Public Employment and Management, OECD	International
W	Senior Knowledge Management Officer and founder of SkillFinder, The World Bank	International
X	Senior Partner, McKinsey & Company, and co-founder of McKinsey's Public Sector Practice in the Americas	International
Y	Talent Manager Free Agents Canada	Canada
Z	Talent Manager Free Agents Canada	Canada

APPENDIX 2

Interview guide

- In a 5-year time horizon, how do you expect internal staffing systems to evolve in governments?
 - Examples of sub questions:
 - Can you describe the expected change?
 - What is the role of each information system (HRMS, job portals, talent marketplaces) in this change?
 - What is the main purpose of each of these systems in support of internal staffing reforms?
 - For each information system, which new functionalities do you expect for internal staffing? Can you provide examples?
 - Are there other information systems not captured by these categories that you deem important? Why? What would these systems look like?
- How can governments realize this vision?
 - Examples of sub questions:
 - What will it take to achieve this change in the government context?
 - Who benefits from this change?
 - Who or what will constrain this change?
 - To what extent do you already have initiatives in place to bridge the *as is* versus *to be* gap?
 - What challenges or constraints need to be overcome to reach this future vision? Which further actions and initiatives will be needed to reach this future state?
 - Does the government context pose unique constraints or challenges? If yes, which?

APPENDIX 3

TABLE A3
Illustration of data structure and coding process

<i>How we moved from raw interview data to summarizing statements</i>		
<i>1. We first acquainted ourselves with the data by reading and re-reading the first-round interview transcripts and by creating summarizing narrative reports for each study participant. At this stage, we also added rough initial codes in the margins of our transcripts, together with comments that allowed us to structure our thinking and make connections with other transcripts.</i>		
<i>2. After processing all the transcripts, we systematically re-coded the transcripts by merging different codes and adjusting code labels to reflect our developing insights.</i>		
<i>3. Based on the polished codes, we wrote summarizing statements that convey the experts' underlying rhetoric as closely as possible. In the second interview round, these statements were used as a discussion point (to trigger either agreement or disagreement) and were further refined toward a consensus view based on the experts' reactions and feedback. In the third round, revised statements were validated through scoring (in terms of the aggregate level of agreement or disagreement, displayed in frequencies).</i>		
<i>Exemplary interview excerpts for the talent marketplace category</i>	<i>Exemplary open codes</i>	<i>Exemplary summarizing statements</i>
<ul style="list-style-type: none">“I think a lot of public sector organizations are going to adopt [talent marketplaces] to fundamentally change the way we do horizontal and vertical mobility inside public sector organizations.”“I believe this is something which we use, hopefully very much, in the future.”“This is an area we’re still beginning to grow in but I’m seeing a lot of interest from public sector organizations.”	Increasing adoption/prevalence Future potential	Talent marketplaces will become more prevalent in governments.
<ul style="list-style-type: none">“So we’re talking about being able to keep people interested in their careers by giving them more options and more opportunities to self-manage their careers.”“That’s the kind of thing where a learning pathway wouldn’t just be a dry sort of here-to-there recommendation with courses or a specific job path, it would be a compilation of how you get the skills, and that opens up a whole other universe.”“It would help people to find jobs that they feel suit the skills that they have and that helps them to be motivated. It helps them to change things up once in a while. Small things that people are looking for and their careers and ultimately it can help on an aggregate level a significant amount of productivity to be able to ensure that if you’re using people to their full capacity and capability, and to really just creating a much more agile infrastructure.”	Career self-direction Giving more options New pathway	Talent marketplaces will unlock self-directed career pathways within governments.
<ul style="list-style-type: none">“Our big bold vision is that while governments will always have a permanent workforce, an indeterminate workforce, we envision that a lot more of the work that government does will move from these sort of 20-year positions to come-and-go work, so project-based work.”“An online system where you got people, you’ve got profiles and managers who can search through a much more systemic and systematized set of skills and much more crystal, granular set of skills and be able to connect people for short term projects, for long term projects, for new challenges. I think that is the future.”“[The system enables] tapping knowledge about who people are and what they can do in a more aggregated fashion. And then that could actually start to enable an internal marketplace where people are able to articulate in a way their own capabilities and have recognition in those capabilities, and people who are looking for people who have those capabilities can essentially exchange them.”	Internal marketplace Talent repository Matching needs and skills Project-based	Talent marketplaces will create a dynamic talent repository for project-based work across participating entities in governments.

<ul style="list-style-type: none"> • “I think the word ‘market’ is really great, because you have a lot of information flowing about both needs and skills, and so you really can drive a significant amount of internal mobility through a kind of sourcing platform or social platform.” 		
<ul style="list-style-type: none"> • “I like the idea. I think the administration of it could be challenging. You can never underestimate inertia.” • “Governments today are very much stuck in a classic, traditional process of sourcing [talent].” • “[To achieve change within 5 years will require] deep machinery change and deep culture change. That is very hard for public sector systems.” • “For me it’s about: will human capital officials in government entities align their employment models to make talent marketplaces work? Yes, talent marketplaces in and of themselves can be compatible with current employment policies. The issue is: will the HR officials recognize the value and the benefit of a talent marketplace and put the work in that is necessary to create that compatibility?” • “I think it would be fraught with difficulties for government. So if I think that we, for example, could have a talent [marketplace] of people, is it owned by government, is it owned in the private sector? How people get paid, how their terms and conditions work, how people work across projects in order that it doesn’t get lost, and how you manage competition in the private sector and knowledge sharing, it’s almost like conflict of interest. I think it’s an interesting model to watch. I think it’s something that right now, we’d be nowhere near ready to do it.” 	<p>Systemic inertia</p> <p>Lagging/incompatible workforce practices</p>	<p>By and large, governments will struggle to align its workforce practices to make talent marketplaces work.</p>