LIFTING THE VEIL ON HRIS ADOPTION: THE ROLE OF VENDORS AND CONSULTANTS IN THE DIFFUSION OF HR INNOVATIONS[1]

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ABSTRACT

<u>Purpose:</u> The paper analyzes the adoption process of *Human Resource Information Systems* (HRIS) from a supply-side perspective emphasizing the practices of HRIS vendors and consultants. It aims to counterbalance the existing literature on HRIS, which has overwhelmingly studied HRIS adoption from the customer organization's viewpoint, hence systematically downplaying the active role of vendors and consultants in adoption processes.

<u>Design:</u> The research has been conducted on the HRIS market of the Benelux (Belgium-Netherlands-Luxemburg) from a constructionist and exploratory perspective. The structure and dynamics underlying the market are gradually unveiled through open interviews with HRIS vendors and consulting firms (n=22).

<u>Findings:</u> The paper reveals how the social shaping of HR innovations takes place and identifies nine types of pressures exerted by HRIS vendors and consultants on customer organizations: assessing, advising, advertising, case-building, demonstrating, configuring, accompanying, sustaining, and supporting. Taken together, these pressures demonstrate the systematic presence and active role of external actors throughout the adoption process of HRIS within firms.

<u>Research implications:</u> It is suggested that further supply-side studies of innovation diffusion processes of HRIS should be conducted to complement the existing, demand-side literature. In this view, emphasis should be set on technology providers and their ongoing interactions with customer firms.

<u>Originality:</u> The analytical precedence given to supply-side actors allows to conceptualize HRIS adoption as the dynamic result of negotiations between three groups of actors (HRIS vendors, HRIS consultants, and customer firms), hence resulting in a more comprehensive and holistic view of HRIS adoption processes.

<u>Keywords:</u> Human Resource Information Systems (HRIS), adoption, diffusion of innovations, diffusion work, consultants, HRIS market

INTRODUCTION

The last decades have witnessed radical changes in many business functions due to the emergence of technological innovations and the fast development and spread of information systems. From the traditional transaction processing systems developed in the fifties to contemporary cloud-based solutions, one of the last functions in organizations to benefit from information systems was human resource management (HRM) (Johnson *et al.*, 2016). Ever since the eighties, a growing body of research has underlined the potential benefits of information systems for HR, among which the most discussed is undoubtedly the "strategic transformation" of the HR function (Dery *et al.*, 2013). Today, it has become increasingly commonplace for HR managers to implement HRIS (Angrave *et al.*, 2016). As a consequence, studies dedicated to HRIS have flourished in the fields of HRM (e.g. Bondarouk and Ruël, 2009), IS studies (e.g. Maier *et al.*, 2013), and management studies (e.g. Kassim *et al.*, 2012). Existing research has emphasized the intricacies of *designing* HRIS (e.g. Mueller *et al.*, 2010; Strohmeier and Piazza, 2015), of *implementing* them in organizational contexts (e.g. Ahmer, 2013; Dery *et al.*, 2013; Mauro and Borges-Andrade, 2020), and of *using* these systems adequately (Begum *et al.*, 2020; Kassim *et al.*, 2012; Maier *et al.* 2013). In the last decade, the literature has thus considerably advanced our general understanding of HRIS design, implementation within firms, and implications for organizational actors (Qadir and Agrawal, 2017).

In this paper, we argue that a missing piece in this picture that has yet to be explored is the dynamics underlying HRIS diffusion. At best, existing studies have paid some attention to HRIS "adoption" (Ahmer, 2013; Kassim *et al.*, 2012), that is, to the motives and rationalities of top managers considering implementing HRIS. Many factors are expected to weigh upon HRIS adoption, such as perceived competitive advantage, compatibility with organizational values and culture, complexity, accessibility, anticipated impacts, and resources needed for sustaining the implementation process (Kassim *et al.*, 2012; Lippert and Swiercz, 2005; Troshani *et al.*, 2011). Yet, these studies do not account for what happens beyond client organizations' perimeter. In particular, they rarely investigate the work that HRIS consultants and vendors do to pressure organizations to adopt HRIS. The absence of these actors in HRIS studies is all the more surprising since organizations are notoriously outsourcing IT skills and knowledge in many cases (Erdogmus *et al.*, 2018) and commonly resort to technology vendors and consulting companies for implementing new information systems (Kavanagh *et al.*, 2009; Peled, 2001). Given their experience both in designing and implementing ever-evolving technologies, HRIS vendors and consultants hold a unique yet under-researched positioning at the intersection between the HR

function and innovative technological solutions. There are reasons to assume, therefore, that these actors can substantially weigh on firms' decisions to implement HRIS.

It should be noted that the lack of research on the role of supply-side actors in the diffusion of innovations is not a peculiarity of HRIS studies. In the IS literature, attention to technology providers in adoption processes has, overall, been lacking (Mola *et al.*, 2021; Swanson, 2010). This is notably because prevalent theories on the diffusion of innovations, such as Rogers' diffusion of innovation theory (1995), primarily focus on the *adoption work* that customer firms do to implement and assimilate new technologies, while overlooking *diffusion work*, understood as the practices deployed by external firms to promote an innovation and support its adoption within organizations (Stamm, 2017). As diffusion work has received scant attention in existing studies, technology providers have often remained portrayed as shadowy outsiders or external sources playing an evasive role in IS adoption processes (Marsan *et al.*, 2012). A wider view of how diffusion work is being performed by technology providers at a field level is lacking, which leads to unsatisfactory understandings of how IS innovations diffusion effectively unfolds.

The paper, therefore, sets out to extend the theory of IS diffusion through a field-centered study that considers the roles and practices of supply-side actors involved in developing, marketing, and promoting HRIS to client companies. The first objective of the paper is to explore how HRIS consultants and vendors contribute to the diffusion and adoption of HRIS innovations through an exploratory, qualitative investigation of the Benelux (Belgium-Netherlands-Luxemburg) HRIS market. Understanding these practices is particularly important since HR professionals usually rely on the technical expertise of HRIS vendors and consultants who, in turn, disseminate controversial marketing discourses filled with the promise of a strategic transformation of the HR function (Dery *et al.*, 2013). Second, looking beyond the particular case of HRIS, the paper aims to contribute to supply-side studies of IS innovation diffusion by developing a field-level perspective on diffusion. In contrast to the few empirical studies which focus on supply-side agents of diffusion (e.g. Mola *et al.,* 2021; Mustonen-Ollila and Lyytinen, 2003), the paper does not look at how one specific innovation spreads, nor at the process through which a new technological system is implemented in a given organization: rather, it analyzes the complex interrelations between vendors, consulting firms, and client organizations. This is particularly significant to better grasp the role that vendors and consultants play in the diffusion and adoption processes of IS innovations.

LITERATURE REVIEW

The diffusion of HRIS: why it matters

With the changing nature of businesses, an increasingly widespread assumption is that HR should not only be viewed as a traditional, cost-driven partner, but also as a strategic partner of the organization (Masum *et al.*, 2018). In order to assert their strategic expertise and to sustain their legitimacy as strategic partners, HR managers have increasingly looked into HR information systems and e-HRM as supports (Maier *et al.*, 2013). While both topics have gained significant traction over the last decade, scholars have usually distinguished e-HRM, platforms through which organizational members may access and manage HR information and data (Bondarouk and Ruël, 2009; Stone and Dulebohn, 2013) from HRIS – sophisticated information technology tools designed for HR professionals that look to improve the HR function (Al-Dmour *et al.*, 2017; Beulen, 2009). Expected benefits of HRIS commonly include reduced time spent on transactional activities, saving of costs, automation of repetitive tasks, increased efficiency, more effective view and processing of HR data, and support to decision-making (Begum *et al.*, 2020; Gupta, 2013; Ngai and Wat, 2006; Strohmeier and Piazza, 2015). HRIS would expand HR managers' scope of action by offering them new opportunities in terms of automation, enabling organizations to perform administrative work at reduced cost and increased speed, hence "*freeing*" HR employees from their traditional functions (Begum *et al.*, 2020, p. 188; Menant *et al.*, 2021; Strohmeier and Piazza, 2015). Moreover, with the emergence of HR analytics, organizations could supposedly cross-check a large amount of data and information in order to assist HR professionals in decision-making processes (Beulen, 2009).

While these changes might appear to be promising for the HR function, several scholars have warned against the risks and dangers of hasty implementations (Mauro and Borges-Andrade, 2020), of the high level of complexity of HRIS projects (Delorme and Arcand, 2010), and of the lack of trust that HR professionals usually place in HR information systems (Lippert and Swiercz, 2005). As it has been pointed out, there have been many cases in which HRIS systems seemingly failed to "work properly" and as intended (Kassim *et al.*, 2012, p. 604; Mary and Nayagi, 2012). Notably, several organizations have been struggling with integrating various solutions and ensuring seamless data transfers between the different modules of HRIS (Johnson *et al.*, 2016). Empirical studies also illustrate more detrimental consequences of HRIS adoption, such as the loss of organizational knowledge resulting from the adoption of vendor-provided solutions (e.g. Wiblen *et al.*, 2010). More strikingly, there is evidence of cases where the implementation of HRIS lowered

the ability of HR professionals to contribute to strategy instead of increasing it (e.g. Dery *et al.*, 2013). The somewhat "rosy" and "naively optimistic" view of HRIS as a strategic enabler of the HR function has thus been actively debated by scholars, who have emphasized the actual challenges of implementing and sustaining these systems in organizational contexts (Constantiou and Kallinikos, 2015, p. 53; Lippert and Swiercz, 2005; Mari and Nayagi, 2012). As a result, it appears that the promised transformation of the HR function towards a strategic business partner role has often remained a myth rather than an observable empirical reality (Dery *et al.*, 2013).

Despite these calls for caution, HRIS continue to take center stage in the profession, to the point that those tools have been reported to be a 'must have' capability for HR professionals willing to broaden the strategic influence of the HR function (Angrave *et al.*, 2016). Above all, HRIS continue to sell, as a report estimated the HR software market to grow by 8.8% on a yearly basis between 2017 and 2022[1]. Somewhat paradoxically, HRIS seemingly continue to gain traction, even while their actual benefits for organizations are questionable. It has been argued that software developers and vendors played a major role in creating and sustaining the hype around HRIS, claiming to sell groundbreaking innovations such as systems supported by artificial intelligence and new integrated suites (Angrave *et al.*, 2016). The ongoing work accomplished by these "fashion setters" (Abrahamson, 2016) to promote HRIS would partly explain why they continue to disseminate even if the academic literature has repeatedly deconstructed the promising marketing discourses underlying HRIS (Dery *et al.,* 2013; Lippert and Swiercz, 2005). As such, we believe that it is both important and timely to explore the role played by vendors and consultants in the adoption of HRIS.

When looking at the literature on HRIS, one could be surprised by the relative absence of these external actors in the debates. At best, studies have only displayed a marginal interest in the work that vendors and consultants do to promote HRIS, merely emphasizing the importance of selecting them adequately (e.g. Kanthawongs, 2004), of guaranteeing their availability (e.g. Al-Dmour *et al.*, 2017) and of securing post-adoption support (e.g. Troshani *et al.*, 2011). Many conceptual frameworks and literature reviews on HRIS implementation and adoption overlook vendors and consultants entirely. For instance, Menant and colleagues (2021) argue that HRIS acceptance is related to three levels that are the technology (i.e. intrinsic characteristics of HRIS), the individual (i.e. attitudes towards HRIS) and the organization (i.e. organizational culture and HR department roles), which leaves no room to account for external pressures exerted by vendors

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[1] Markets and Markets Research Report (2017). Core HR Software Market by Software, 132p.
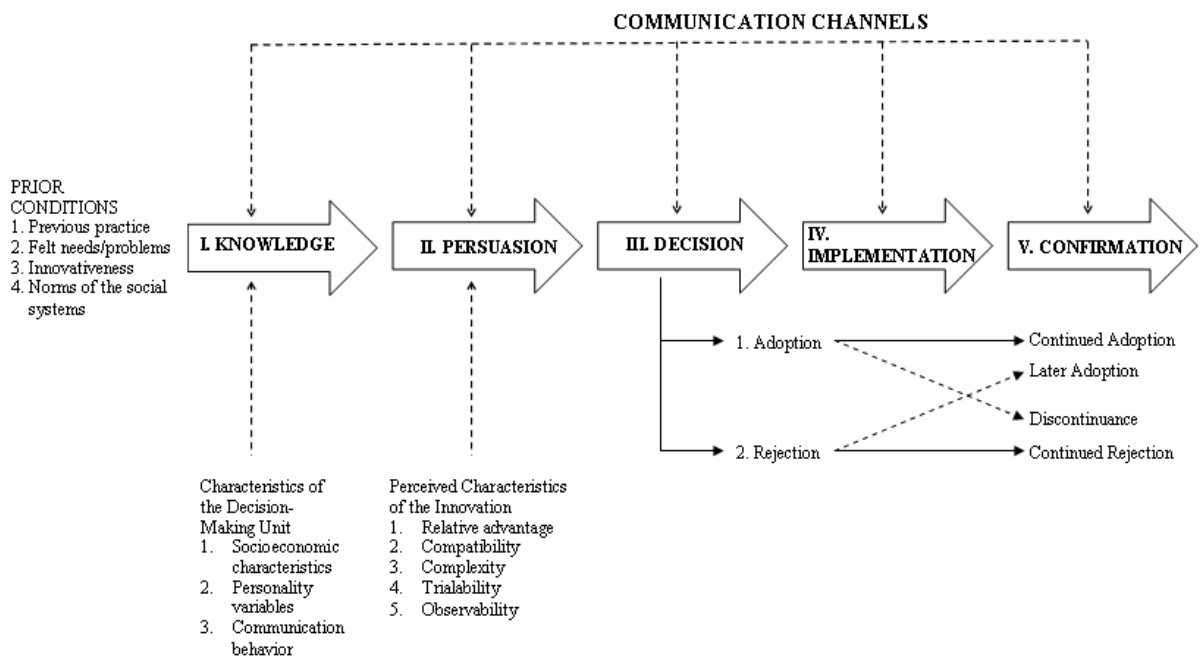
and consultants. Yet, there is a growing market for HR software, on which multiple competing firms actively develop and sell their innovations, advise customer organizations, support implementation processes, and offer maintenance services; this market, however, has been left understudied so far, and its role in the diffusion of HRIS unproblematized.

Consequently, we develop the argument that studies of HRIS have overwhelmingly embraced a demand-side perspective focused on the adoption process within and by the customer organization, at the expense of a supply-side perspective emphasizing the activities and practices of innovation providers themselves. Building on an emerging research stream in the IS literature that increasingly acknowledges the role and power of external actors in the diffusion of innovations (e.g. Marsan *et al.*, 2012, Mola *et al.*, 2021; Swanson, 2010), we argue that empirical investigations of these supply-side actors are needed to better understand the work that they do to promote technological innovations. While the reasoning could be extended to other types of IS innovations, HRIS provide fertile ground for a supply-side study because of three main reasons. First, HRIS are now largely supply-driven, as firms' proprietary systems are increasingly giving way to vanilla HRIS developed and sold by external vendors (Wiblen *et al.*, 2010). This suggests that vendors play an increasingly important role in elaborating new standards and norms for the HR profession. Second, HR professionals do not always have the adequate technological skills and training to properly grasp HRIS implications (Maier *et al.*, 2013), which increases their reliability on external information and knowledge provided by vendors and consultants. Third, because guaranteeing the support of external experts is commonly viewed as a good practice and a key factor to succeed in the implementation of a HRIS (e.g. Al-Dmour *et al.*, 2017), we could expect that many HR professionals will attempt to resort to consultants to assist them in the adoption process. Taken together, these motives support the need for developing a clearer understanding of how HRIS systems diffuse among organizations by focusing on the supply side of the diffusion process of HRIS and on the work that vendors and consultants do.

From adoption work to diffusion work

For decades, innovation diffusion has been routinely understood as "*the process by which an innovation is communicated through certain channels over time among the members of a social system*" (Rogers, 1995, p. 5). The main focus of diffusion studies in the IS field lies in the dynamics allowing a particular object – a product, an idea, a program, or a policy – to spread among firms (Ali *et al.*, 2020; Mola *et al.*, 2021). Following Rogers (1995), it has become increasingly accepted that diffusion involves (1) an innovation, (2) a social system that the innovation travels,

(3) communication channels crossing that system, (4) an evolution through time, and (5) a final act of adoption (Ashley, 2009; Kautz and Larsen, 2000; Taesung, 2015). Central to Rogers' theory lies the idea that diffusion is a process unfolding over time, commonly depicted as a sequence of five consecutive stages (Figure 1).

COMMUNICATION CHANNELS

PRIOR CONDITIONS
1. Previous practice
2. Felt needs/problems
3. Innovativeness
4. Norms of the social systems

I. KNOWLEDGE II. PERSUASION III. DECISION IV. IMPLEMENTATION V. CONFIRMATION

1. Adoption → Continued Adoption
Later Adoption
Discontinuance
2. Rejection → Continued Rejection

Characteristics of the Decision-Making Unit
1. Socioeconomic characteristics
2. Personality variables
3. Communication behavior

Perceived Characteristics of the Innovation
1. Relative advantage
2. Compatibility
3. Complexity
4. Trialability
5. Observability

Figure 1: Rogers' five-stage model of the innovation-decision process (1995, p. 163)

In Rogers' view, which has been highly influential in the IS literature (Ali *et al.*, 2020; Kautz and Larsen, 2000; Marsan *et al.*, 2012), diffusion appears to be a function of the adoption process. Indeed, a condition for diffusion to occur is that customer firms actually make the decision to adopt a given innovation (Mola *et al.*, 2021). Following this assumption, several studies have focused on the internal processes of implementation, assimilation and acceptance of new technologies within firms (e.g. Ali *et al.*, 2020; Wu and Chen, 2014). This line of work has offered valuable insights into the rationality of decision-makers within organizations, underlining adoption factors such as perceived usefulness, perceived ease of use, and perceived relative advantage of the innovation (Mamonova and Benbunan-Fich, 2021). They set out to better understand the "adoption work" performed by organizational members seeking to implement new technologies in their work contexts (Sisaye and Birnberg, 2010; Troshani *et al.*, 2014). This line of research, prevalent in studies of IS diffusion (Melville and Ramirez, 2008), has endorsed an organizational

level of analysis that emphasizes the activities of organizational members who enact technological innovations in their local contexts.

However, in this view, the activities and efforts of external actors, such as vendors and consultants, to develop, promote, and disseminate new ideas or products are barely accounted for. At best, external actors are seen as "sources" making it possible for client organizations – who remain the locus of researchers' attention – to demystify IS innovations (Marsan *et al.*, 2012). The focus on the adoption work conducted within client organizations makes it difficult to keep an eye on what vendors and consultants actually do. Even when external actors are recognized to "play a role" in the diffusion of IS innovations, what this role amounts to has often remained evasive and understudied (Swanson, 2010). Yet, as recent research has suggested, the practices of supply-side agents of diffusion are critical to secure the adoption of new technologies within organizational contexts (Mola *et al.*, 2021). In this paper, therefore, we offer a supply-side view of diffusion processes that primarily focusses on *diffusion work*, understood as the activities which aim to promote and disseminate an innovation and support its adoption within organizations (Stamm, 2017). The conceptual implications of shifting away from adoption to diffusion work are summarized in Table 1 and discussed below.

	ADOPTION WORK	DIFFUSION WORK
Perspective of analysis	Demand-side	Supply-side
Level of analysis	Organization	Field
Key actors	Adopters	Innovators
Key issues	Decision-making Implementation Assimilation	Development Sales Dissemination
Role of external actors	Mostly passive, peripheral	Active and central

Table 1: Disentangling adoption and diffusion work

Perhaps the best way to emphasize the significance of developing research on diffusion work is to go back to the underlying assumptions of Rogers' theory, as it is widely considered to be authoritative in the field of IS diffusion (Ali *et al.*, 2020; Kautz and Larsen, 2000; Mustonen-Ollila and Lyytinen, 2003; Yoo *et al.*, 2005). As illustrated by Figure 1, Rogers' model of the innovation-decision process considers knowledge or awareness from individuals in organizations

(Stage 1) as the departure point of innovation. Rogers has argued that individuals in organizations became aware of innovations "*by accident*" or because of their "*individual predispositions*" to expose themselves to new ideas (1995, p. 162). However, an alternative view would be to consider the practices of software developers who make innovations available on the market and of consultants who actively promote and advertise them (Kautz and Larsen, 2000). Similarly, persuasion (Stage 2) mostly refers to the perceived benefits of a given innovation by the adopter himself (Rogers, 1995). Yet, the involvement of supply-side agents involved in this process, who are likely to "push" given innovations depending on their own interests, should not be neglected (Mola *et al.*, 2021). Similar arguments could be brought for the other stages of Rogers' diffusion model: external actors' capacity to weigh upon adoption has received scant attention in Rogers' theory and, as a consequence, has been systematically downplayed in later studies. Even the constitutive elements of the diffusion process as theorized in Rogers' book do not address the role of vendors and consultants who, nonetheless, actively contribute to disseminate ideas, beliefs, and products (Perkmann and Spicer, 2008) and who, through their actions and decisions, impact adoption processes within firms (Mola *et al.*, 2021). As pointed out by some scholars, supply-side actors have often appeared to be "*shadowy figures around the periphery of the stories told*", "*outsiders not so sympathetically portrayed*" (Swanson, 2010, p. 18).

To a certain extent, the lack of scholarly attention paid to HRIS providers and consultants has largely been mirrored, on a larger scale, in the IS literature on innovation diffusion. Looking beyond Rogers, the observations above could also apply to other well-known models of technology adoption, such as the technology acceptance model (TAM) (Davis, 1989), the innovation diffusion theory (IDT) (Moore and Benbasat, 1991), and the unified theory of acceptance and use of technology (UTAUT) (Venkatesh *et al.*, 2003). Indeed, these models seek to grasp demand-side challenges and concerns (e.g. technology acceptance, technology usefulness, expectancy) that organizational members – adopters – face when adopting a given innovation. Given the popularity of these models within the IS literature (Hedman and Gimpel, 2010), it is not surprising that many contemporary studies have repeatedly focused on motivational drivers for adopting specific IS solutions (e.g. Gholami *et al.*, 2013). Adoption has remained commonly viewed as depending upon the characteristics of the innovation, as well as upon other factors pertaining to the adopting organizational itself, such as financial barriers, risks, competence gaps, perceived usefulness by individuals, etc. (Ali *et al.*, 2020; Shih *et al.*, 2017; Wolverton and Thomas, 2015; Wu and Chen, 2014). Yet, because many IS innovations are supply-driven, the engagement of external actors in pushing technologies and encouraging their adoption should be taken

seriously (Sisaye and Birnberg, 2010; Mola *et al.*, 2021). However, studies of IS diffusion processes have repeatedly emphasized the *adoption work* performed by organizational members while, by contrast, the *diffusion work* conducted concomitantly by supply-side agents has remained a grey area (Mola *et al.*, 2021).

While supply-side studies of IS innovations have been scarce, they are not inexistent. Swanson (1994) drew attention to the role of external parties in IS innovation almost three decades ago, and dedicated later a whole paper to discussing IT consultancies in greater depth (2010). In this essay, he identified five contributions of IT consulting firms to their clients – to business strategy, technology assessment, business process improvement, systems integration, and business support services (Swanson, 2010). However, his paper was mostly of conceptual nature and did not build on any empirical material. In the meantime, Mustonen-Ollila and Lyytinen (2003), in a longitudinal study of IS innovation processes, identified "*external demand factors* [driving] *the IS process innovation*" (p. 277) and noted that such factors were "*not accounted for by the DOI theory*" (p. 294) – without, however, offering conceptual guidance to study them in greater detail. Later, Scarbrough and colleagues (2015) suggested that field-level studies could result in greater explanatory power for understanding diffusion. It is not until most recently that, building on that idea, Mola and colleagues (2021) offered an investigation of a diffusion process from a supply-side perspective, in which they underlined the role of external agents in adapting technology, empowering and facilitating adoption, and handing over the diffusion process (p. 14). By doing so, the authors highlighted the complex involvement of multiple supply-side agents in the diffusion of innovations (Mola *et al.*, 2021). However, it should be noted that the methodological design adopted in the study – a single, longitudinal case study – fosters an organizational perspective over a field study, and emphasizes the dynamics of diffusion in a given case over the wider network of interrelations that brings together competing vendors and consultants. As a consequence, we argue that there is room to develop further studies of diffusion work that are not anchored into a given case, but that explore the field or the market of an IS innovation instead.

Developing new field studies of the diffusion work performed by supply-side actors could significantly contribute to renew the theoretical underpinnings of the innovation diffusion theory, to the extent that it would provide new insights into the practices that these actors deploy to develop and sustain IS innovations (Mustonen-Ollila and Lyytinen, 2003). The pressures that vendors and consultants exert on the innovation process and client organizations are indeed likely to encourage and facilitate the diffusion of innovations (Swanson, 2010). A comprehensive

understanding of the adoption of new information systems by firms can, therefore, hardly disregard these pressures as well as the interactions between field-level actors and adopters (Scarbrough *et al.*, 2015). Vendors and consultants might very well raise an organization's awareness of a given technology in the first place, and, from there, play a leading role in diffusion and adoption processes (Swanson, 2010). This is why we posit that adoption work and diffusion work are two faces of the same coin, which can complement each other and result in a more thorough understanding of how new technologies are adopted by organizations.

The disentanglement of adoption work and diffusion work further offers an opportunity to rethink the conceptual and methodological principles underpinning research on innovation diffusion. We argue that the study of diffusion work calls for adopting a constructionist view (Czarniawska, 2009) that builds on three considerations. First, diffusion processes are shaped by the interactions between demand-side and supply-side actors. The researcher's focus should, therefore, be set on the actors playing in the "diffusion arena" – in our particular case, on HRIS vendors and consultants (Lyytinen and Damsgaard, 2001). The locus of attention, then, is not so much the organization as the recipient of a new technology, as it is the case in studies emphasizing adoption work; rather, it becomes the work accomplished by innovation providers themselves. Second, researching diffusion work can be achieved through emphasizing meticulous descriptions and avoiding taking a moral stand on whether innovations are beneficial, unavoidable, or merely fashionable (Boullier, 1989). As noted by several scholars, a major limitation of mainstream theories of innovation diffusion pertains to the underlying idea that innovation is desirable and that ideas ought to diffuse (McMaster and Wastell, 2005; Weeks, 2015). In this line, adoption processes can turn into "failures" or "successes" (Scarbrough *et al.*, 2015). Instead of praising innovations and viewing progress as desirable, the study of diffusion work should rather seek to contribute to understanding the processes supporting innovation, illustrating "*how things are done without expressing an opinion on whether it is good or bad*" (Czarniawska, 2009, p. 130). Finally, contrary to prior research (e.g. Rogers, 1995), the study of diffusion work claims no predictive ambition, as it acknowledges the poor predictive power of the diffusion of innovation theory (Weeks, 2015). Rather, it aims to deconstruct the nebulous, often taken-for-granted contribution of supply-side agents in promoting innovations, and to shed light on their rationality and practices (Swanson, 2010).

The purpose of the paper, therefore, is twofold. First, it aims to better understand the pressures that HRIS consultants and vendors exert on client organizations to sustain the diffusion and the adoption of HRIS. This is especially significant as it could contribute to explain the

sustained craze for HRIS (Angrave *et al.*, 2016) that persists despite warnings that these systems alone could not lead to the promised transformation of the HR profession (Dery *et al.*, 2013; Lippert and Swiercz, 2005). Second, and more broadly, the paper seeks to complement Rogers' model of the innovation-decision process (1995), as well as other studies of adoption work, by examining the diffusion work carried out by supply-side actors – vendors and consultants. To do so, the paper builds on a qualitative, abductive, and empirically-grounded study of the HRIS market of the Benelux (Belgium-Netherlands-Luxemburg), with a focus on HRIS selling and consulting firms.

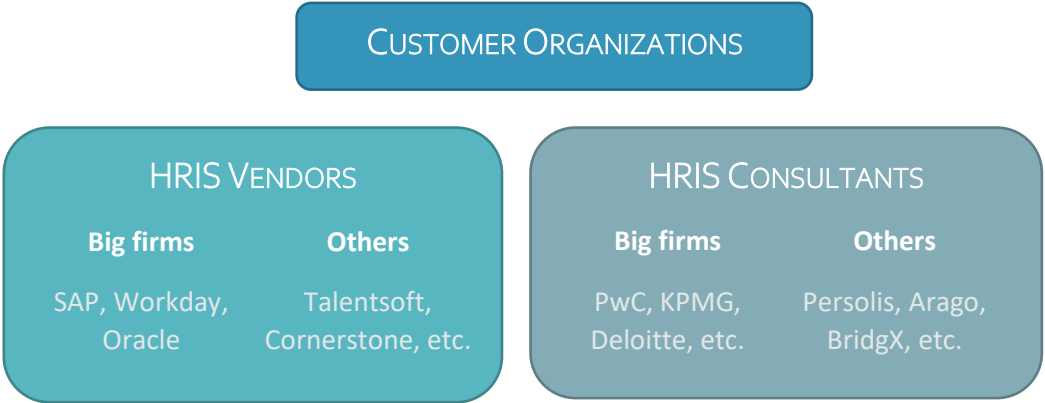## METHODS

Exploring the elusive market of HRIS

Studying the diffusion work performed by HRIS sellers and consultants implied, as a first step, to identify them. This is why the research process began with an exploratory stage aimed at mapping HRIS vendors and consultants. This stage was necessary as, while several vendors compete on the Benelux market of HRIS to promote their products and solutions, no data is publicly available on their market shares. At best, some market studies conducted by independent analysts suggest that five key players are currently distinguishing themselves from the rest (SAP, Workday, Microsoft, ADP, and Oracle). However, since the market leader, SAP, was estimated to have no more than 11.1% of the market shares in 2018[2] (worldwide), it is likely that the market is highly fragmented and invested by several dozens of smaller-size vendors. This observation is all the more true for HRIS consultants, who form a highly heterogeneous population. The HRIS market being characterized by high degrees of complexity and opacity, exploratory interviews were conducted with the aim of mapping the market more precisely. Nine interview requests were sent via the social network LinkedIn to individuals defining themselves as "HRIS consultants" in the Benelux region, and three interviews (n=3) were eventually conducted.

These exploratory interviews were useful at three levels. First, they revealed that nine firms were essentially sharing the Benelux market of HRIS. The exploratory interviews disclosed that three larger companies - SAP, Workday, and Oracle – were commonly viewed as being the "big players" in Benelux. Smaller players on the market included Talentsoft, Cornerstone, Infor, Metrilio, ADP, and Kronos. Moreover, other actors had been developing "on point" solutions covering specific aspects of HR but which could hardly be considered as HRIS - such as Skeeled and

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[2] Source: https://www.appsruntheworld.com/top-10-core-hr-applications-vendors-market-forecast-and-customer-wins/

Hirevue, which are talent acquisition software, or Zapiens, a training and learning platform. To the extent that the present study focuses on HRIS, these on-point vendors have not been investigated in the paper. The HRIS market as subjectively perceived by the interviewees could, therefore, be circumscribed around nine principal firms. Second, interviews also revealed the difficulty to delineate the HRIS market, because of the lack of unicity and comparability between the solutions being developed. Whereas some firms claim to sell HRIS, others, such as Oracle and Workday, rather speak of a HCM suite (Human Capital Management); still others, such as SAP, claim to sell HXM suites (Human Experience Management). In the paper, and in line with the literature review developed above, the generic term "HRIS" will be used to encompass these products, regardless of their commercial names. Finally, regarding HRIS consultants, the interviews disclosed a fairly traditional divide between four big firms (PwC, Accenture, Deloitte, Ernst & Young) and many smaller ones (consulting boutiques and freelancers). Following the exploratory stage, a map of the HRIS selling and consulting markets was established as represented by Figure 2.

CUSTOMER ORGANIZATIONS

HRIS VENDORS		HRIS CONSULTANTS	
Big firms	**Others**	**Big firms**	**Others**
SAP, Workday, Oracle	Talentsoft, Cornerstone, etc.	PwC, KPMG, Deloitte, etc.	Persolis, Arago, BridgX, etc.

Figure 2: Simplified representation of the Benelux HRIS market

Following the exploratory stage, in-depth interviews were conducted with HRIS vendors and consultants. Faced with a hard-to-reach population, we followed a snowball sampling strategy in which we used the social media LinkedIn as the primary means for identifying respondents and sharing interview requests (Dusek *et al.*, 2015). Resorting to LinkedIn appeared to be particularly appropriate since HRIS vendors and consultants do usually sustain some degree of presence and activity on the platform. In total, interview requests were sent to fifty-eight (58) HRIS vendors and thirty-six (36) HRIS consultants, eventually resulting in nine interviews with HRIS vendors (one interview per vendor, hence covering the nine firms identified in the exploratory stage) and ten additional interviews with HRIS consultants (n=19). Representatives from vendors/developers were either directors or sales managers. Consultants were either directors of a consulting firm,

managers of a consulting team, or consultant themselves. A purposive sampling strategy was adopted to ensure that all interviewed consultants had at least ten years of combined work experience and were still active in the Benelux region, as we assumed that experience would allow respondents to have a better understanding of the HRIS market. All interviews took place in the midst of the COVID-19 pandemic and were thus conducted at a distance from May 2020 to June 2020. The calls were fully recorded and transcribed to faithfully preserve the integrality of the informants' discourses.

In the absence of foundational research on HRIS diffusion and HRIS markets, the paper was built iteratively, following a logic of abduction and surprise (Nubiola, 2005). Consequently, the separation between HRIS vendors and consultants is, in itself, a product of the research process. Indeed, the literature has often confused or paid scant attention to the distinction between both populations (Peled, 2001). Therefore, in this paper, we define a HRIS vendor as a company responsible for the technical job of developing, testing, providing support and maintenance, and selling HR technology solutions, whereas, on the other hand, an HRIS consultant is either advising an organization on which HR technology they should choose to or accompanying them during the implementation process. However, the distinction between vendors and consultants is not always that clear-cut, since consultants can also act as resellers and vendors can take over implementations. The main difference that we rely on in the paper is that the development of HRIS solution can be classified as a vendor-specific task, whereas advisory services usually remain a consultant-specific task.

Finally, the sample was completed with various documents provided by the interviewees and with additional scans of companies' websites. Notably, several market analyses provided by respondents or found on the Internet were added to the dataset. These market analyses consisted of benchmarks conducted by various consulting firms and were identified as playing an important role in HRIS diffusion. The most popular and almost systematically referred to in interviews, the "Gartner Magic Quadrant", was published and regularly updated by Gartner, an IT-consulting firm. These market analyses offer straightforward visualizations and comparisons between the available HR information systems available on the market. As such, HRIS vendors and consultants firmly believe that they play a major role – real or imagined – in the diffusion processes of HRIS.

The dataset was coded following the seminal methodological principles of the grounded theory (Corbin and Strauss, 1990). Transcripts were analytically broken down around three main categories that are 1) the activities of HRIS vendors and consultants (i.e. the work that they do

and their main activities); 2) the relationship between them (the nature and structure of their interactions) and 3) their practices within customer organizations (how they participate in HRIS diffusion). Further categorizations allowed for the identification of nine types of pressures exerted by HRIS vendors and consultants to sustain diffusion. As an example, product demonstrations were often emphasized by HRIS vendors as a key moment of the adoption process for building a trusting relationship with the customer organization. Because contacts between HRIS vendors and customer organizations are occasional, the act of demonstrating appeared to be, in the eyes of HRIS vendors, a valuable opportunity of getting a foot in the door and sparking the adoption process. Consequently, "product demonstration" was retained as a key aspect of the diffusion work performed by HRIS vendors. In the following section, we first describe the dynamics of the HRIS market of the Benelux; we then develop and analysis of the social shaping of HRIS diffusion that relies on the nine aforementioned pressures exerted by HRIS vendors and consultants.

The dynamics of the HRIS market

As explained above, the HRIS market of the Benelux is structured around three groups of actors that are 1) HR software vendors, 2) HRIS consulting firms and 3) customer organizations. The first of these actors, the vendors, have as their objective to develop, sustain and merchandise HR software and platforms. The systems developed by the vendors cover different functional areas of HR, including payroll, staff evaluation and development, workforce planning, recruitment and onboarding, reporting and analytics, and talent management. For their part, consulting firms act as advisors (providing client organizations with assistance relative to the adoption of a HRIS), resellers (partnering with vendors to offer a range of products), and implementers (working with client organizations to install the software and make it work). The HRIS market is thus largely organized around the three-way relationships between vendors, consultants, and customer firms. In the following sections, we successively examine the social dynamics between HRIS vendors, consultants, and customer firms, and explore the effect of these relations on HRIS diffusion and adoption.

HRIS vendors: between competition and partnerships

Nine HRIS vendors were identified in the course of this research, including three "big players" – SAP, Workday, and Oracle – and six smaller firms. HRIS vendors stand at the forefront when it comes to the diffusion of HRIS, since they are continuously looking for embedding technological innovations into their products and promoting their solutions on the market. HRIS vendors are currently competing on a number of important fronts: cloud solutions, platform-as-a-

service, automation, learning modules, chatbots, and analytics were identified as being the six most boiling innovations in interviewees' discourses. It is partly by pushing these innovations that vendors try to differentiate their solutions and increase their sales. The world of HRIS vendors, however, is not merely about competition. Indeed, as interviewees indicated, "*people are often switching from a vendor to another one*", making it a "*fairly small world*" (HRIS vendor). Moreover, interviewees reported nascent logics of partnerships through the rise of "best of breed" solutions, which consist of a HR/IT landscape comprising several products developed by different vendors which are interconnected so that the solution adequately covers all the functional domains of HR:

> "*Funny thing is, we are partnering with SAP, Oracle, Workday, and yes, they hate us, but at the same time they also have to love us, because they need us to cover the weaknesses in their software*" (HRIS Vendor)

It appears that vendors are well aware that they cannot possibly compete at every level and that these partnerships are essential to ensure that sales are made. Smaller vendors are especially interested in establishing partnerships with larger firms:

> "*It is a door opener. The sales force of SAP is about a hundred times bigger than our own sales force in Europe. So, yeah, there are definitely opportunities in these alliances with those big names*" (HRIS Vendor)

The interconnection of different systems has, in fact, gradually become a necessity for HRIS vendors to sell their innovations successfully. Contemporary solutions increasingly operate around a middleware, a system that acts as an intermediary and interconnects various applications together. Vendors are thus forced to react accordingly by developing software and platforms that can interact with others. In commercial terms, more and more vendors are providing a "marketplace", some sort of application store where customers can acquire various add-ons and applications to develop their HRIS ecosystem. Prebuilt certified integrations are provided by the vendors, which means that customer firms only need to pay additional licensing fees to benefit from the applications that they wish to implement. In short, partnering with other vendors is a strategy that offers increased visibility and participates in the diffusion of innovations:

> "*Imagine that a customer of our partners decides to acquire a new HR system. There is a high probability that he will also want to change his payroll system, so we benefit from a market opportunity that we would have missed without the right partnership with another vendor*" (HRIS Vendor)

HRIS vendors and customer organizations: an intermittent relationship

Since they are developing and selling HR software, HRIS vendors are logically in contact with customer organizations when it comes to sales and maintenance. They are notably invited by potential customers to organize demonstrations of their products. Demonstrations constitute key moments in the course of which vendors can prove the viability and relevance of their product to the customer organization. However, it is also described as a show of some sort: many customers do not always understand how the software operates, and tend to view "_innovations such as artificial intelligence as some kind of magic_" (HRIS Vendor). Demonstrations thus leave room for vendors to deploy various strategies and rhetoric of persuasion that build on modernity, innovation, and efficiency. In addition, it is common for vendors to participate in events such as HR fairs in which their products and software are given increased professional exposure.

As technologies are increasingly evolving towards cloud-based solutions, clients are more and more buying a service rather than a product, so that a successful partnership with a client organization usually results in a three to five years contract - a "_small marriage_", as a HRIS vendor put it. In the course of this "marriage", vendors might have to perform various operations of maintenance and support:

"_Our customers can rely on our helpdesk twenty-four hours a day and seven days a week. Through our ticketing system, customers can access a certain environment in which they can describe their problems_" (HRIS vendor)

The interviews disclosed that the sales process (including solutions advertisement and demonstrations) and the maintenance operations constitute the two key moments in which vendors interact with customer organizations. The relationship between both parties, therefore, is intermittent rather than regular. As a consequence, vendors are frequently lacking valuable information on customer organizations, the problems that they face, and the obstacles they encounter. However, several vendors recognize the need to include customer organizations when considering future developments of their products. Consequently, they try to create sorts of "_communities where all customers can interact, ask questions, and rate concerns between them_" (HRIS vendor). Development teams are closely following these communities to collect ideas for future developments.

It should be noted that, from the vendors' point of view, the landscape of customer organizations is increasingly diversified. A major challenge for HRIS vendors consists in identifying

correctly the level of technological maturity of the client organization, since these might range from "*using paper or Excel to using an on-premise solution to being a fourth-time buyer of technologies*" (HRIS Vendor). Beyond that, the underlying motivations of a firm to invest in a HRIS may vary considerably. Vendors usually do not have the occasion to get beyond their traditional roles of sales and maintenance, which means that their knowledge of customer organizations remains fairly limited. As a consequence, they are fundamentally dependent upon HRIS consultants to convey information.

HRIS consultants: a ubiquitous implementation partner

Many companies of various sizes provide consulting services to organizations willing to implement a HRIS. These consulting firms may intervene at different stages: first, they can help them finding the HR solution that best fit their requirements, hence supporting organizations in acquiring a clearer view of the market and available solutions; they can also assist companies with the change process itself, or provide them with additional technological developments to complement the functionalities of the chosen platform; they may further provide additional support when important updates are scheduled. To summarize, consulting firms play a major role in the diffusion of HRIS through three main activities that are advising, implementing, and reselling.

Advising customer firms is the first task that consultants do. Because the market of HRIS software is both technically and socially complex, and by fear of falling for the marketing discourses of HRIS vendors, customer firms increasingly "*feel the need to rely on external advice to make HRIS-related decisions*" (HRIS Consultant). However, the extent to which HRIS consultants may actually weigh upon these decisions is closely related to the strategy that firms adopt for approaching HRIS. In a first scenario, organizations partner with a consulting company that will proceed to identify the solution that best fits their requirements and take over the implementation process. In this scenario, it is the consulting company that takes the central role and acts as an intermediary between the client firm and the HRIS vendor. However, it happens regularly that customer firms directly contract with a vendor of their choice, and that the vendor will then instruct a consulting firm to lead the implementation process. That case is not ideal and more complex for consultants, who might face additional challenges in the implementation process since they were not involved in the decision-making stage at all. Yet, it should be noted that advisory services are costly, and not all organizations may afford to hire a consultancy company at early stages of the adoption process.

Some consulting firms also provide more generic advice in the form of market analyses and benchmarks. A handful of consulting firms have managed to pose as independent analysts of which the mission is to evaluate, rate, and rank HR solutions and HRIS vendors. For instance, the most widely cited analysis in interviews, the "Gartner Magic Quadrant", ranks HR solutions into four categories that are the "leaders", the "challengers", the "visionaries", and the "niche players". Market analyses provide a visual representation of the market that is immediately comprehensible and easy to read. They also include further statistics such as satisfaction rates of customer organizations who are already using the evaluated systems. It follows that, in a complex market in which customer organizations have to either trust HRIS vendors or rely on HRIS consultants, market analyses offer a third path by providing information that might directly support customer organizations in their decision-making. HRIS vendors are paying particular care to these analysts, with whom they are "*in regular contact*" (HRIS vendor) to prevent bad press and attempt to promote their solutions.

Second, consulting companies frequently act as HRIS implementers, although this is a contested terrain, since implementation for "*strategic clients*" (HRIS vendor) might also be handled by vendors themselves. Because HRIS are complex solutions, the work to make them fit organizations' internal processes is usually consequent. Moreover, as stated by a HRIS consultant, the implementation process is "*not so much about technology than about change and people*", which explains why vendors sometimes prefer to let specialized consultants handle the change process. As one of the interviewed vendors put it, "*vendors are the technology owners and consultants are owning the change management process*". In the course of implementation, consultants will usually design processes that can be transposed into the HRIS software.

At last, HRIS consultants occasionally act as resellers. However, reselling is strictly controlled by the vendors, who enforce several conditions to be respected by consulting firms willing to distribute their products. When allowed to sell licenses, consulting firms logically receive a commission from the vendor or include a margin in their final price. It should be noted that not all vendors allow their products to be sold by consultants. In that case, consulting companies can advertise a software, but have no other choice than to go through a vendor to finalize the sales process. Being entitled to act as a reseller grants the consulting firm more freedom and power in the negotiation process, as they can directly contract with the customer organization without resorting to the vendor.

HRIS vendors and HRIS consultants: a negotiated balance

Inevitably, HRIS vendors and HRIS consultants are expected to work together and establish strategic alliances. Both parties have an advantage in collaborating: partnering up with consulting companies can help vendors to perform more implementations and to increase their sales; on the other hand, consultants can expect good relationships with vendors to result in more missions and long-term stability. As formulated by a HRIS consultant, "*partnering with vendors allows you to better advise your clients and to get access to valuable information*". Establishing trust between both parties, however, is not always an easy task, because vendors and consultants may act as competitors at times: as mentioned earlier, consultants can act as resellers, hence competing with vendors who directly sell their licenses; vendors are sometimes willing to take over the implementation process, hence excluding consultants from specific missions. Two main factors determine the relationships between vendors and consultants: the control mechanisms deployed by the first, and the independence of the second.

From the perspective of the vendors, the main problem of their collaboration with consultants lies in the fact that they will most often take the blame if the implementation of their solution ultimately fails. Indeed, HRIS vendors are held responsible for the success of their innovations, and wish to avoid adverse publicity at all costs, as it could negatively impact the diffusion of their solutions. It follows that HRIS vendors have designed mechanisms to guarantee the quality of the work performed by consultants:

> "*Consultants can only implement our software if they are certified, and we perform skill checks every three months* (…) *We also have what we call an alarm procedure that triggers if a customer is not satisfied by a consulting partner* (…) *In this case, there is a risk that we will end our collaboration with this partner or oblige them to undergo new training programs*" (HRIS Vendor)

Certifications and regular training are thus used as constraining means to monitor the quality of the work that consulting firms do. Because HRIS evolve rapidly, most vendors consider that staying up-to-date is a necessary condition for their consulting partners, and organize mandatory training sessions each time new features are released. Controlling HRIS consultants is, therefore, a recurrent concern for the vendors.

For their part, consultants manoeuver with and around their own independence. Independence is a central ingredient of HRIS consultants' work practices: it is often argued that

the added value of consultants lies in their ability to provide customers with neutral, impartial advice on the product that would best fit their needs and requirements:

> "*HR professionals will maybe acquire a HRIS, two, let's say three times in the course of their whole career. They lack the necessary knowledge to make proper decisions, and they are relying on consultants to provide them with objective information* (…) *Which is why the independency of consulting firms is crucial*" (HRIS Vendor)

Multiplying partnerships with different vendors would theoretically guarantee a more diversified product portfolio on which HRIS consultants could build to assert their independence. However, in practice, consulting firms have preferred partnerships with a limited number of vendors. This is explained by two factors: first, in order to convincingly advise customers and carry out implementations, consultants have to develop an in-depth knowledge of the product, and mastering more solutions means that consultants have to dedicate more time and resources into learning these solutions. Moreover, even if consultants have several partnerships with vendors, it is unlikely that these partnerships are equally beneficial; notably, smaller vendors note that they cannot possibly compete with the conditions (e.g. margins on reselling) that bigger vendors offer to their partners. At the end of the day, vendors are well aware that "*some consulting firms are just totally biased towards vendors that they prefer to work with*". As a result, vendors may threaten to withdraw from collaborating with consulting firms if they feel that these firms are not respecting technological independence.

THE SOCIAL SHAPING OF HRIS DIFFUSION

The findings underline the ubiquity of external actors (HRIS vendors and consultants) throughout the adoption process of HRIS solutions. They suggest that the diffusion work that these actors do contribute to initiating, sustaining and supporting the adoption of HRIS by customer firms. On the basis of the empirical material presented above, Figure 3 illustrates nine types of pressures that HRIS vendors and consultants can exert on customer firms in the five stages of Rogers' innovation-diffusion model (1995).
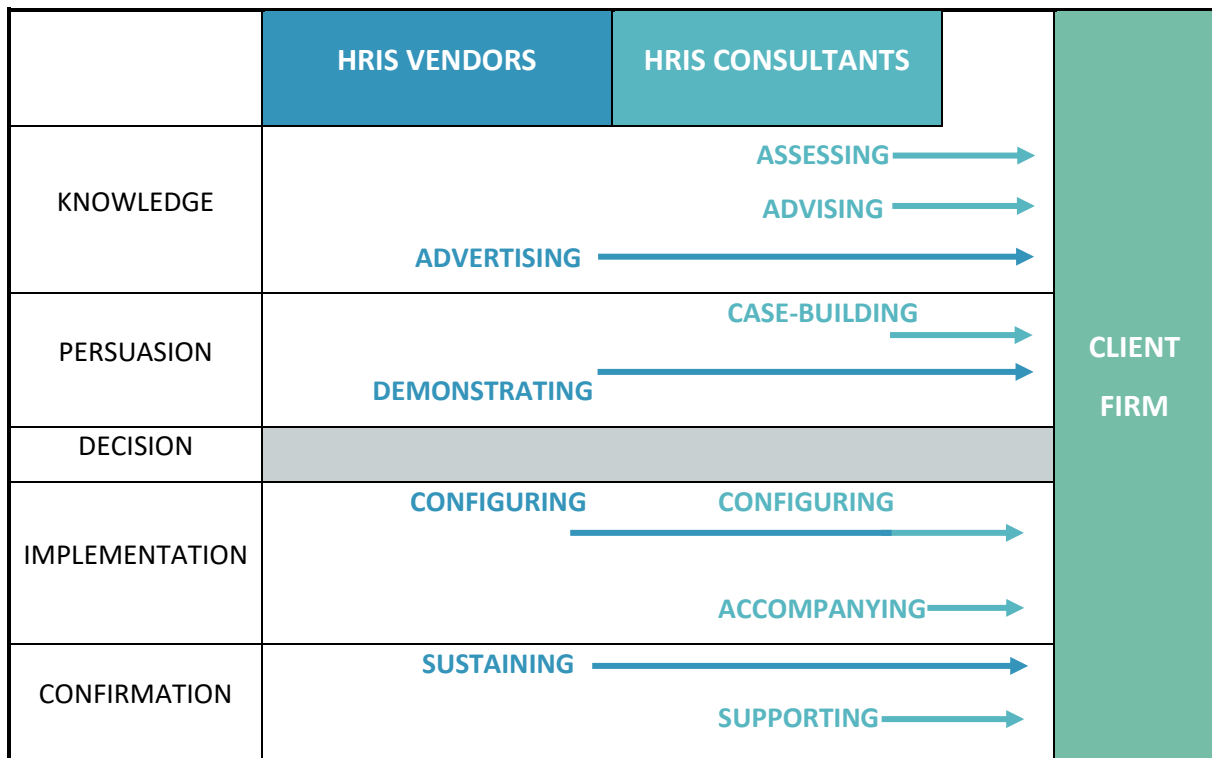
Figure 3 – Pressures exerted by external actors on client firms

Nine types of external pressures were identified as participating in the diffusion and adoption of HRIS by customer organizations. In the knowledge stage, client firms may be supported either by consultants or vendors. In the first scenario, the customer firm will decide to collaborate with a supposedly "independent" consultant who will guide them in the course of the adoption process. Here, *advising* refers to consultants' practices aimed at providing initial knowledge and information on HRIS to the client firm, hence assisting them in the selection of a product. Organizations may also directly seek information from HRIS vendors, who are constantly looking to *advertise* their products through their website, active marketing campaigns, and social networks. Client firms may further lend an ear to market analysts, who are regularly *assessing* the existing solutions on the market, providing functional comparisons and guidance to select a HRIS. At the end of the day, when it comes to acquiring knowledge on HRIS, client firms frequently rely on external experts. This may be explained by the increased complexity of the HRIS market, the lack of technical expertise in HR departments, and the uncertainty that firms face when they have to opt for a HRIS – a costly decision that is likely to have major implications down the road.

However, the role of HRIS consultants and vendors does not stop there. Consultants are not only mandated to provide information, but also to help the company building a convincing business case. The practice of *case-building* refers to the co-construction by the client firm and the HRIS consultant of a detailed proposal for the adoption and implementation of a HRIS that

can be submitted to the deciding authorities of the firm. In other cases, firms proceed by shortlisting the HRIS vendors fitting with their requirements, and ask for product demonstrations in order to make a decision. *Demonstrating* is thus a crucial practice for HRIS vendors, in the course of which they have an opportunity to convince new customers by promoting the capacities of their solutions, most often by exhibiting their most innovative features (e.g. artificial intelligence, voice control, etc.) Both HRIS consultants and vendors, then, actively participate in the persuasion stage, although their logics of action are not entirely similar. Indeed, unsurprisingly, HRIS vendors seek to convince customers of the merits and benefits of their system; conversely, HRIS consultants have usually more room for maneuver, as they can theoretically advise different solutions based upon customers' requirements.

In all logic, vendors and consultants do not directly intervene in the decision-making stage, which remains the prerogative of the deciding authorities of the client firm. However, once the software selection has been formally approved, both vendors and consultants suddenly reappear to guide the implementation process. *Configuring* involves handling the technical aspects of the process, such as setting up the solution, migrating databases, and performing the initial parametrization of the HRIS. Whereas vendors will usually limit themselves to these operations, consultants go one step further by taking over the change management duties. *Accompanying* encompasses the additional work that they do to guarantee the success of the implementation process, by adapting employees' ways of working, offering additional training, and sharing best practices and recommendations with the users of the software. Through these actions, HRIS vendors and consultants participate, once again, in the adoption of the HRIS within the firm.

Finally, in the confirmation stage, new efforts are being deployed by external actors to guarantee the long-term success of the HRIS. This is, according to the interviewees, all the more true since the advent of cloud solutions, as vendors are increasingly leasing a service rather than licensing a product. For their part, vendors usually look at ways to *sustain* their solution by providing regular updates, handling maintenance, and developing new features. Consultants offer additional *supporting* work, liaising between the client firm and the vendor, sharing their expertise, and creating connections between the HRIS and other technological projects. Ultimately, both vendors and consultants usually continue to interact with the client firm months and years after the solution has been implemented.

DISCUSSION

The findings illustrate that organizations do not adopt and implement HRIS in a vacuum: rather, they are permanently interacting with HRIS vendors and HRIS consultants. Moreover, these actors are not merely reacting to firms' requests and demands, but do constantly exert various sorts of pressures to foster the diffusion of HRIS. This paper suggests viewing HRIS adoption as the result of dynamic and continuous relationships between HRIS vendors, HRIS consultants, and client firms. By adopting a constructionist perspective on diffusion work, we further highlight several crucial features underlying the HRIS market: the nascent partnerships between vendors, the supposed independence of consultants, the mandatory training developed by vendors, and the power of market analyses. We argue that the paper contributes to the literature in two ways. First, by providing a detailed understanding of what HRIS vendors and consultants do, it offers a more accurate picture of how HRIS adoption is sparked and supported by external actors. Second, by giving pride of place to external actors' role in the adoption of technological innovations, the paper complements Rogers' theory of innovation-decision processes (1995), which mostly focusses on how innovation, in a demand-side perspective, "*is adopted by members of a social system*" (p. 22), with insight into diffusion work performed by supply-side agents.

The role of HRIS vendors and consultants in HRIS adoption

The study departed from the observation that, in the field of HRIS studies, research emphasizing the intra-organizational logics and processes of adoption has traditionally shadowed supply-side studies of HRIS diffusion. The role of HRIS vendors and consultants is often reduced to simply being an "*external facilitating condition*" of a successful HRIS adoption (Al-Dmour *et al.*, 2017, p. 151), or a "*factor*" likely to "*positively impact organizational adoption of HRIS*" (Troshani *et al.*, 2011, p. 479). Such statements conceal all the work conducted by HRIS vendors and consultants to trigger and promote HRIS diffusion and adoption. Rather than being passive actors reacting to organizational demands, HRIS vendors and consultants actively shape adoption processes. The first develop and sell products that they intensely advertise, organize demonstrations, configure HRIS in collaboration with client firms, and sustain the solution through time. The second offer advisory services, help HR professionals to build convincing business cases, lead the implementation process, and support the organization even after the software is adopted.

Nowadays, HRIS are widely viewed as necessary means for HR professionals to gain administrative and strategic advantages (Beulen, 2009). The crucial role of external actors in HRIS adoption processes should not, therefore, be left unstudied. Through the pressures that they exert

on customer firms, vendors and consultants are able to disseminate controversial marketing discourses, such as the promise of a radical transformation of the HR function (Dery *et al.*, 2013). Studies have often depicted a potentially problematic relationship between firms implementing HRIS and their external partners, the first depicting the latter as "over promising and under delivering" (Kavanagh *et al.*, 2009). The present paper provides new insights into the role of HRIS vendors and consultants in promoting and disseminating HRIS, and the challenges that they face in doing so.

When it comes to the implications of the study for future research in HR, we believe that the field would greatly benefit from more insight into the diffusion and adoption processes of HR-related technologies. While several studies have emphasized the challenges of implementing these systems within firms (e.g. Dery *et al.*, 2013; Kassim *et al.*, 2012; Mauro and Borges-Andrade, 2020), the interactions between demand- and supply-side actors have barely been discussed in the literature. This is surprising, given the tendency of HR professionals to rely on external advice and knowledge, which makes them reliable, to a variable extent, upon vendors' and consultants' discourses (Maier *et al.*, 2013; Schramm, 2006). Consequently, there is room for deepening our analyses of the relationships that HR professionals develop and sustain with external actors, i.e. technology providers. While the present study has been conducted in a strictly supply-side perspective, we argue that further research conciliating the viewpoints of HRIS vendors, consultants, and customer firms would be helpful to further advance our knowledge of HRIS adoption processes.

From adoption work to diffusion work

Traditional models of innovation adoption have been criticized for their inability to grasp the challenges of commercializing and diffusing innovative technologies (Cho *et al.*, 2009). Central to this critique lies their surprising silence when it comes to accounting for the work accomplished by external actors in the dissemination of new technologies (Kautz and Larsen, 2000). To overcome this critique, the paper suggests disentangling adoption work and diffusion work in the study of innovation adoption processes. While the two research objects focus on different actors and rationalities (the ones who seek to adopt a new technology, and the ones who seek to sell it) and call for distinct orders of analysis (the organization and the field), the key argument of this paper is that they are complementary and could help building a more faithful account of innovation adoption processes. While diffusion cannot occur without adoption (Rogers, 1995), diffusion work is nevertheless continuously performed by vendors and consultants, who do not cease to develop

and advertise new products. Indeed, these external actors have an immediate interest in supporting diffusion, since they need technological innovations to diffuse in order to survive on the market (Mola *et al.*, 2021).

Building on a handful of studies in the IS field that share a concern for the lack of attention paid to supply-side agents in the study of diffusion processes (Mola *et al.*, 2021; Mustonen-Ollila and Lyytinen, 2003; Scarbrough *et al.*, 2015; Swanson, 2010), the paper offers to disentangle adoption work from diffusion work on the conceptual level. It provides empirically-grounded illustrations of what diffusion work consists of through the identification of nine types of pressures exerted by external firms on customer organizations. By doing so, the paper illustrates how Rogers' model of innovation diffusion (1995), designed and used in an adopter-centric perspective, can also be used to seize the practices of vendors and consultants throughout the diffusion process. Taking diffusion work into consideration makes it possible, in turn, to avoid some pitfalls of Rogers' theory (1995), such as over-emphasizing lines of argument based upon diffusion rates, success indicators, and correlations between technological features and adoption outcomes (Lyytinen and Damsgaard, 2001), as well as sticking to a deterministic and positivistic view of diffusion in which involved actors and the innovation itself remain fairly static and stable throughout the innovation process (McMaster and Wastell, 2005; Noel *et al.*, 2019). Indeed, diffusion is seen as the result of purposeful attempts from external actors to market and sell innovations and to pressure adopting organizations. What is more, recognizing the active role of external actors in the diffusion of innovation allows avoiding simplistic views of diffusion plagued by technological determinism (Dery *et al.*, 2013; Grant *et al.*, 2006). Conceptualizing the innovation-decision process as a two-sided coin that entails adoption work as well as diffusion work appears, therefore, to result in a more accurate picture of how diffusion unfolds.

At the same time, the paper also expands on existing studies of IS innovation diffusion by exploring diffusion work from vendors' and consultants' points of view, whereas former studies have remained anchored into case studies focusing on specific organizational contexts and/or have sought to explore a given innovation (e.g. Mola *et al.*, 2021). As exemplified by this paper, the study of diffusion work is not limited to one single customer organization or to one specific innovation. Rather, it is acknowledged that vendors and consultants constantly interact with multiple customers and play with competing innovations that are developed concomitantly, which means that the study of diffusion work calls for a shift in research methods and conceptual assumptions. Most notably, taking distance with the "organization" as the preferred level of analysis and moving away from local problems and challenges to market-level competition and

interrelations makes it possible to provide comprehensive insights into the political realities underlying the diffusion arena (McMaster and Wastell, 2005). In this view, considerable work remains to be done to understand the evolving dynamics of "coopetition" taking place between IS vendors, between vendors and consultants, and between consultants (Walley, 2007). Similarly, investigating the complex relationships that professionals in organizations – in our case, HR managers – sustain with vendors and consultants over time could also be a promising avenue of research that could lead to a better understanding of the success and failure conditions of HRIS/IS projects.

The study also supplements extant research in the IS literature that has emphasized the crucial role of external actors' "capabilities" in innovating with new information systems (Heusinkveld *et al.,* 2009; Swanson, 2010). It shows that vendors and consultants, beyond the necessary expertise and skills required to develop and sell innovative solutions, are also embedded into complex networks of interrelations. In the present case, while vendors are in direct competition with each other, they are also increasingly inclined to find ways to work together. They seek to partner with – yet exert control over – consulting firms, with whom they can also compete when it comes to implementation. At the same time, vendors are also fearing powerful consultancies who assess their products (such as the "Gartner Magic Quadrant"). These findings illustrate that diffusion work takes place in a highly politicized arena, in which the attention paid to the individual and organizational "capabilities" of vendors and consultants (e.g. their tools, experience, methods, and solutions) (Swanson, 2010) should not overshadow the complex relationships that tie them together. This observation pleads for conducting further studies on the dynamics underlying supply-side agents, as the impact of various regulatory market-level mechanisms (e.g. coopetition, intermediation, subcontracting) on the diffusion and adoption of IS innovations remains largely overlooked.

Finally, the study questions the significance of some sort of "technological isomorphism" for diffusion studies of HRIS (Di Maggio and Powell, 1983). On the one hand, it could be argued that, because HRIS vendors are developing and selling cloud-based solutions that are increasingly standardized, they are directly pressuring organizations to become more and more homogeneous (Dery *et al.*, 2013). HRIS consultants further participate to increase these pressures as they promote best practices, replicate work processes from their prior experiences, and make sure that users adopt the system as it was designed. At the end of the day, both vendors and consultants would contribute to sustaining technological uniformity across client firms. Conversely, the emergence of partnerships between vendors through "marketplaces" opens up new customizing

possibilities for client organizations. Likewise, consultants are increasingly pressured to act independently and avoid promoting a single solution in the name of convenience. In this view, HRIS vendors and consultants would constantly challenge technological isomorphism by seeking to provide organizations with an ever-diversified HR technology landscape. We believe that further studies would be helpful to investigate how HRIS vendors and consultants participate in sustaining technological isomorphism or, on the contrary, in overcoming it.

CONCLUSION

Human Resource Information Systems (HRIS) have become a popular trend among many organizations, and their adoption, implementation, and usages from the customer organization's point of view have been extensively studied. However, the literature has remained relatively silent on the role of external actors in the diffusion and adoption of HRIS. This lack of insight into vendors' and consultants' work practices is misleading, as their influence in the adoption process of HRIS is often downplayed or even concealed. Departing from and expanding on Rogers' theory of innovation diffusion (1995), the paper offers to distinguish between adoption work – the efforts of organizational members aimed at implementing new technologies in their work contexts – and diffusion work – the efforts of external actors aimed at promoting and disseminating innovations and supporting their adoption within organizations. An exploratory, qualitative research conducted among HRIS vendors and consultants illustrates that vendors and consultants are ubiquitous in the adoption of HRIS within customer firms, as they exert nine types of pressures throughout the process (assessing, advising, advertising, case-building, demonstrating, configuring, accompanying, sustaining, supporting). Ultimately, the study emphasizes that the adoption process of HRIS is largely dependent upon external actors (vendors and consultants) who have their own logic of action. On the theoretical level, the paper underlines the merits of constructionist and supply-side approaches of technological innovations for understanding the dynamics of innovation diffusion. The study has practical implications for HR professionals, who are encouraged to increase their awareness of the work that vendors and consultants perform in the adoption process of HRIS.

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