Convergence or Divergence in Global e-HRM?
General Foundations and Basic Propositions

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Abstract. Though increasingly adopted in different countries our current knowledge concerning the global adoption of electronic Human Resource Management (e-HRM) is limited at present. In particular, it is unclear whether e-HRM is a universal management practice or whether there are regional differences in the organizational adoption of e-HRM. The present paper therefore aims at an initial examination of this question, by a) elaborating the general foundations of global e-HRM and b) developing some basic propositions on global e-HRM. Discussing the foundations uncovers an ambitious and voluminous research task. Based on an analysis of basic institutional and cultural influences major results are the digital divide, contextual openness, and functional congruence of e-HRM.

1 Electronic Human Resource Management – A Global Management Practice?

Generally defined as the application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR functions [59], electronic Human Resource Management (e-HRM) represents an area of amplified importance. As a basic explanation for the increased adoption of e-HRM diverse positive outcomes may be quoted [e.g. 44] that can be aggregated to the general advantages of automating, informating, and collaborating (within) HRM [60].

In accordance with this, diverse empirical studies in various countries uncover high levels of e-HRM adoption (respectively of one of its functional subsets such as e-recruiting) [e.g. 2, 4, 20, 24, 25, 29, 33, 39, 41, 45, 52, and 62]. This basically demonstrates that e-HRM in the interim should be seen as an internationally well established management practice rather than a passing fashion. However, initial cross-national studies – though generally also confirming high adoption rates – hint at clear cross-national differences. A recent study of e-HRM adoption in Europe, for instance, reveals national adoption rates from less than twenty to nearly ninety percent of organizations [59]. Hence, facing the ongoing academic debate on convergence vs. divergence of HRM [e.g. 5, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 46, 47, 48 and 58] the question arises whether e-HRM is a universal management practice or whether there are regional differences in the organizational adoption of e-HRM. So
far, this question is only parenthetically addressed in previous conceptual [36] or empirical [60] work. The present paper therefore aims at an initial examination of this question. Concretely, a) general foundations of global e-HRM are elaborated, and b) basic propositions on global e-HRM are developed. This should increase the current understanding of e-HRM in a global context, and, hopefully, offers a basis for future comparative research in e-HRM.

2 Foundations of Global e-HRM

Within the frame of comparative management research there are two major paradigms: Universalism quotes that ubiquitous factors of globalisation and competition will enforce cross-national comparable management practices. Universalism hence stands for convergence of management practices. Contrarily, contextualism supposes nationally and/or culturally differing factors that are accountable for lasting differences in management practices. Contextualism hence implies lasting divergence of management practices [e.g. 1]. There are diverse theoretical approaches that directly or indirectly support the respective positions [e.g. 10, 46, and 48]. Universalism, for instance, is supported by transaction cost economics or neo-institutionalism, by claiming that minimization of transaction cost or global coercive pressures will enforce universal management practices [e.g. 22, 66]. Contextualism, for instance, is supported again by institutionalist or else anthropologist theories, by claiming that lasting differences in national institutions and/or cultures will enforce and preserve divergent management practices [e.g. 38, 65].

Applying the above positions to e-HRM, universalism would postulate some general competitive and/or institutional influences that will lead to a globally converging adoption of e-HRM. Contrarily, contextualism would expect a diverging adoption of e-HRM due to some spatially differing institutional and/or cultural influences [e.g. 10, 46]. Hence, identifying and weighting such influences on convergence or divergence seems to be an essential initial step to increase our understanding of e-HRM adoption in a global context. However, before naïvely speculating numerous imaginable influences, some general foundations have to be discussed in more detail so as to get a more instructed view.

Firstly, the identification and categorisation of possible contextual influences on e-HRM require a thorough discussion. Cross-national research literature repeatedly reveals as a rough but sustainable categorization that institutional and cultural influences could be distinguished. However, it is also quoted that both categories may not be selective, since culture may well be conceptualized as institution, while contrarily institutions may be understood as manifestations of culture [10]. Besides, the explicit examination of cultural influences brings about a well recognized problem of cross-cultural research, i.e. whether to choose an “etic” or “emic” mode of theorizing [e.g. 45, 61]. The “etic” mode would suggest that theorized cultural influences apply in all cultures. This would limit the complexity of influence identification, however also may incur the critique of an ethno-centric and hence biased way of theorizing contextual influences. Contrarily, the “emic” mode assumes
differences in cultural influences while therewith however clearly increasing effort and complexity of research. Moreover, the dichotomy of institutional and cultural influences is blocky and still comprises an (over-)abundant set of generally conceivable influences. It becomes mandatory to select and categorize relevant institutional and cultural influences in an appropriate manner [14]. Strictly speaking, relevant influences should be selected based on recognized theories that are able to justify the accruement, process, and intensity of proposed influences on e-HRM adoption. However, since a single comprehensive theory of global (e-)HRM is missing, this may as well lead to an eclectic accumulation of numerous influences, while at the same time the overlooking of relevant influences cannot be excluded. As an interim solution, identification of influences may be based on different existing (however “etic”) frameworks [5, 13, 14, 31, 49], that could also be modulated and/or completed so as to match peculiarities of e-HRM. Furthermore, also potential interaction effects between different influences should be regarded. For instance, there well may be interaction effects between institutional and cultural influences such as that per se comparable legal influences on e-HRM are distinctly more important in uncertainty avoiding cultures than in uncertainty tolerating cultures [for a discussion see 14]. Though the consideration of these aspects will add intricateness, it is necessary to assure proper identification and categorization of possible influences.

Secondly, even if being mainly interested in the organizational adoption of e-HRM, the multilevel character of adoption should be considered when theorizing contextual influences. Customarily, the micro-level (adoption by individual users) and the macro-level (adoption by entire organizations) of e-HRM adoption can be distinguished. It is also agreed that there are – or at least may be – level interaction effects, that however are not well understood at present [60]. For this reason, theorizing a certain influence on e-HRM should carefully decide on the level(s) that actually is/are influenced. For instance, supposed a certain cultural influence, it should be explained whether this factor influences the individual level, the organizational level, or both, and also whether and – if appropriate – which interaction effects exist. Interestingly, this consideration of levels may also reveal the simultaneousness of convergence and divergence, since there may be convergence on the macro-level and divergence on the micro-level [e.g. 48]. Therefore, it may well be that organizations in different countries adopting similar technologies offered by the same international vendor thereby converging on the macro-level, while individual level adoption may show marked divergence due to cultural differences. Being another complication at first sight, theorizing contextual influences will finally profit from considering different levels and their interactions.

Thirdly, the demarcation of the spatial entities to be used for comparing e-HRM adoption needs further deliberation. Since even termed “cross-national research” the usage of nations respectively countries as adequate spatial entities is widely taken as given and potential divergences hence are explained based on national institutions and national culture. Basically, this may indeed constitute a satisfactory procedure, since particularly institutional influences usually are rather homogeneous within a country. However, concerning cultural influences there are calls for a more refined conception. On the one hand, there may be quite divergent subcultures within one country, while on the other hand there may also be cultures that are shared by several
countries [e.g. 50]. Generalizing this, sometimes sub-national spatial entities will prove adequate, while contrarily, sometimes also supra-national spatial entities will be sufficient. Yet, which spatial demarcation is actually adequate crucially depends on the kind of considered influences. It is foreseeable that a sufficient conception of spatial areas with (rather) homogenous influences will turn out difficult. If for pragmatic reasons countries still are used, this will imply that there may be intra-national divergences in e-HRM adoption as well as regional convergence of diverse countries together with global divergence [10]. There are examples concerning both phenomena in general cross-national HR research [see the overview in 10, 46] that hence could be tested regarding their additional feasibility for e-HRM research.

Fourthly, the dynamics of divergence and convergence should be regarded [47]. Convergence and divergence should not be conceptualized as static and unchangeable situations but as dynamic processes. So as to illustrate this point, the above mentioned empirical results of clearly divergent national adoption rates within Europe [60] may indeed represent a divergence process with lasting or even increasing differences. Otherwise, it may represent a convergence process towards final similarity as well. Accepting that major influences may change, it is even imaginable that convergence processes change to divergence processes et vice versa. Proper theorized influences on global e-HRM should certainly consider such developments in time.

Finally, it is necessary to reflect e-HRM and its adoption in more detail. Frequently, e-HRM is parenthetically treated as a “new” HR practice, while its adoption usually is seen as a binary matter of either implementing or not implementing respective technologies within an organization. As in other HR functions, cross-national adoption of e-HRM therefore is frequently measured in quantitative adoption rates, i.e. the percentage of organizations of a given country [e.g. 60]. This is only a very rough concept that does not allow distinguishing major differences in adoption. To offer a more nuanced basis for theorizing contextual influences the quantity (“how much?”) and the quality (“what?”) of e-HRM adoption should be distinguished (see Fig. 1).

![Fig. 1. Categories of e-HRM adoption.](image)

The quantity of adoption can be split into the dimensions of width and depth of adoption. For this, it has to be recalled that e-HRM should not be considered as a
conventional HR function such as recruitment, compensation, or performance management etc. Rather, it is a certain technology-based way of organizing and performing such functions, while meanwhile almost every HR function can be organized and performed as e-function, such as e-recruitment [e.g. 42], e-compensation [e.g. 23], or e-performance management [e.g. 15]. Consequently, within the group of e-HRM adopting organizations there may be organizations with few or even only one e-function. There also may be organizations which perform all HR functions as e-functions. Hence, the width of adoption considers which HR functions of a given organisation are e-functions. Furthermore, e-functions may show a different extent of “electronization”. For instance, within the group of organisations that perform e-recruiting there may be organizations that perform only a small extent of their recruiting activities as e-function such as publishing job offers electronically, while other organisations may perform the entire recruiting process electronically. The depth of adoption hence considers the extent of a given e-function that actually is performed electronically. Beyond the mere quantity it is additionally useful to consider the quality of adoption. Adoption quality refers to the basic kind of adoption (e.g. the concrete practices performed, the specific methods implemented, the very actors incorporated etc.) that is actually taken up in the e-HRM concept of a given organization. Though uncommon in comparative HR research this distinction of quality and quantity of adoption will refine the theorizing of divergence or convergence since there may well be situations of quantitative convergence, but qualitative divergence of e-HRM adoption.

3 Propositions on Global e-HRM

Based on the above deliberations, it becomes clear that properly theorizing contextual influences on global e-HRM is both a difficult and a voluminous research task. It is difficult since basic problems (which influence categories, which procedural mode, which spatial entities, etc.) are unsolved. All the more it is difficult, since plain patterns of either global divergence or global convergence that could be easily expressed in a few non-competing propositions are not to be expected. It is voluminous since predictably a larger number of influences have to be reasoned for a larger number of different spatial entities. Aggravatingly, cross-spatial information concerning possible influences – such as for instance trade union attitudes and activities regarding e-HRM in different regions of the world – is largely missing at present [60] and hence has to be laboriously ascertained. Given this, it is evident that a single study cannot achieve a comprehensive and detailed analysis of comparative global e-HRM. Preparing and supporting future studies, the following section hence aims at deriving some basic propositions concerning contextual influences on global e-HRM. These may be concretized, complemented, and modified so as to achieve more specific statements in future work. Aiming at basic contextual influences on e-HRM, political, educational, legal, co-determinational, and cultural systems are selected and analyzed [13, 14]. For pragmatic reasons, cultural influences are theorized in an etic mode, the micro-level adoption is blinded out, and, countries are used as approximations of adequate spatial entities.
3.1 Political Influences

Firstly, the national political systems, in particular the information technology related policies should be of interest. Information technology policies determine kind and extent of technological infrastructures necessary for e-HRM. They range from the reliable provision of electricity to the availability of Internet infrastructure. By now, some comparative research into information technology policies is available [e.g. 21, 37]. Yet, the state of knowledge is far from a comprehensive overview that would allow a simple derivation of influences on e-HRM. Results reveal numerous diverging detail policies which need to be laboriously analyzed concerning supporting or restraining influences. In general, most countries value information technology. Explicit and generally technology-hostile national policies could not be identified [21, 37]. Even countries that seemingly disesteem technology, for instance by notoriously restricting access to Internet content, such as practiced in China, promote information technology for their purposes [e.g. 67]. Hence, there seems to be a basic convergence of IT-relevant positive political attitudes. Accepting this convergence, there should be nonetheless marked divergence due to the simple fact of marked divergence in the national resources necessary to execute technology supporting programs [16]. Especially, developed countries should be able to invest in information technology infrastructure what subsequently implies a “digital divide” also in e-HRM. Hence:

P 1: Divergences in national infrastructural preconditions will lead to divergences in quantitative adoption (“proposition of infrastructural digital divide”).

3.2 Educational Influences

The national educational systems should exert influences on e-HRM adoption, since they are in charge of general as well as special information technology literacy. General information technology literacy is necessary to use technology for instance as employee or applicant [e.g. 44, 60], while special e-HRM literacy is necessary for HR professionals and line managers [e.g. 30, 35]. Broader general and in particular broader specific information technology education within a country therefore should doubtlessly further e-HRM adoption. Again, cross-national knowledge concerning information technology education is rare [e.g. 40, 53], while knowledge concerning specific e-HRM related education is completely missing at present. In a rough overview, there seems to be convergence in valuing information technology since most countries have incorporated information technology as educational subject in one way or another [see the results in 53]. Replicating the argumentation of infrastructural digital divide, there seems to be marked divergences in educational resources and intensity due to divergences in the economic development of countries. Hence:

P 2: Divergences in national general and specific educational preconditions will lead to divergences in quantitative adoption (“proposition of educational digital divide”).
3.3 Legislative Influences

As a third area, national legislation customarily influences HRM. Usually, national labour legislation is focussed. However, since analyzing e-HRM there may be additional influences of data protection legislation. Though there again is some comparative work on labour law [e.g. 7, 57] it is still described as a “confusing patchwork” of countless international treaties, conventions as well as national laws, contracts, and voluntary codes of conduct concerning numerous aspects such as individual contract making, dismissal protection, wages, working conditions, etc. [57]. Doubtlessly, these multifaceted regulations will manifoldly influence national adoptions of e-HRM. Again, this requires a laborious detail elaboration. Aiming at basic propositions it is obvious that these regulations will considerably influence the quality, but not the quantity of adoption. To give a plain illustration, since ranging from marginal rules to comprehensive affirmative action regulations cross-national equality and anti-discrimination legislation is rather divergent [7]. It is quite well understood that such regulations lead to divergencies in corresponding national recruiting activities. E-HRM, respectively e-recruiting, however, is basically open to map these diverging legal requirements, hence this institutional setting influences the quality but not the quantity of adoption, what may be called “legal openness” of e-HRM. As a consequence, e-HRM will basically show the same law induced by national peculiarities as conventional HRM thereby reproducing the existing convergence-divergence patterns of conventional HRM. Hence:

\[ P 3: \text{Labour law influences will mainly affect the quality of adoption but only marginally the quantity of adoption and thereby reproducing the divergence-convergence patterns of conventional HRM ("proposition of labour law openness").} \]

Contrary to labour law, data protection law may well exert influences on quantitative adoption. Given that there may be rigid national laws that harshly restrict or even forbid the storage, processing, and/or transmission of personal data, this of course, should markedly affect e-HRM adoption. Though there are mentionable divergences based on the available, yet again incomplete knowledge concerning cross-national data protection, such strictly prohibitive laws could not be detected [6, 56]. Rather, there seem to be moderate restrictive or even liberal protection regulations that allow processing, storing, and transmitting of employee data to the extent necessary in e-HRM. Clear hints towards regional convergence for instance can be indicated in the EU countries, where national data protection laws have to adopt common EU standards. Even several non-EU countries have voluntarily adopted these standards [55]. Since strictly prohibitive or deterring regulations are missing, quantitative adoption should not be markedly affected. Hence:

\[ P 4: \text{Data protection laws will not induce manifest cross-national divergences in quantitative as qualitative e-HRM adoption ("proposition of permitting data protection laws").} \]
3.4 Co-determinational Influences

Major influences may further be expected from national systems of codetermination [e.g. 3, 54]. The combination of negative attitudes towards e-HRM and comprehensive (bargaining) power of national representational bodies such as works councils or trade unions will of course constitute a major impediment to quantitative adoption. Again, studies of attitudes and activities of representational bodies that allow deriving some propositions are not available at present. An initial exploration of national and international trade union activities reveals surprising passiveness. At least, there are no e-HRM related lobbying activities, communiqués, publications etc. [60]. Recalling the argument concerning the “labour law openness” there may be an analogous phenomenon of “co-determinational openness”. Representational bodies may not be that much interested in the mere adoption – after all trade unions seem to increasingly use comparable technologies so as to realize “e-employment relations” [e.g. 64]. However, representational bodies of course are interested in enforcing their multiple interests in qualitative adoption, thereby reproducing the basic divergence-convergence patterns of conventional HRM. Hence:

P 5: Co-determinational influences will affect mainly the quality of adoption but only marginally the quantity of adoption thereby reproducing basic divergence-convergence patterns of conventional HRM (“proposition of co-determinational openness”).

3.5 Cultural Influences

Understanding culture as basic assumptions, values, and attitudes commonly shared by a certain group [e.g. 27, 43], it is obvious that culture should constitute a further source of influences on e-HRM [e.g. 51]. Suggested a directly appropriate cultural dimension such as “technology orientation” that roughly distinguishes technophile and technophobic cultures, evident influences on quantitative e-HRM adoption could be easily derived. However, prominent conceptualizations of culture [32, 34, and 63] do not comprise such a dimension [e.g. 50, 43]. In addition, the relations between the often rather abstract cultural dimensions, such as “masculinity”, and e-HRM are at best indirect and rather unclear. Aiming at an initial general proposition the usage of a prominent concept of culture [32] may offer first insights. This concept basically distinguishes power distance, uncertainty avoidance, masculinity (vs. femininity), individualism (vs. collectivism), and temporal orientation as cultural dimensions. Especially “uncertainty avoidance” is frequently considered as being relevant for information technology adoption. It is argued that the adoption of information technology is inherently risky. Thus, long-winding, unfamiliar, and result-open implementation processes will be rather accepted by uncertainty tolerating cultures that consequently should show higher quantitative adoption rates [see the research overview in 43]. Though this may be valid for e-HRM adoption as well, it should be
recognized that uncertainty avoiding cultures show a strong preference for greater structure, clear rules, and standardized operating procedures [32]. Since e-HRM mandatorily structures and standardizes HR processes, and, all the more, offers widespread information, it should be particularly valued in uncertainty avoiding cultures. Prima facie, there are opposing influences of this cultural dimension. Given permanently increasing experience and routine in e-HRM implementation the restraining effect should lose influence by and by. Hence:

**P 6:** Uncertainty avoiding cultures will show a higher quantitative adoption of e-HRM due to certainty provision potentials of information technology (“proposition of certainty potentials”).

Concerning further dimensions, concrete influences on quantitative adoption are hard to identify. Again, the quality of adoption should be influenced by culture, as can be exemplarily shown by the “power distance” dimension. Basically, power distance refers to the extent to which unequal distribution of power is expected and accepted. As a consequence, decision making in cultures with high power distance tends to be centralized, while cultures with low power distance diffuse hierarchical power in organizations [32]. Such culturally induced differences can be mapped by different e-HRM concepts which locate decision making either centrally or decentrally. Generalizing this exemplary insight, e-HRM may be adapted to a broader range of differing cultural influences. This certainly does not entirely “immunize” quantitative e-HRM adoption, but it lowers its cultural exposure. Paralleling the insights concerning the institutional openness of e-HRM, an additional cultural openness can be supposed. Hence:

**P 7:** Cultural influences will mainly affect the quality of adoption and only marginally the quantity of adoption (“propositions of cultural openness”).

### 3.6 Summarized Influences

Given the above deliberations, it is possible to summarize three, however somewhat competing propositions.

Initially, summarizing and generalizing the political and educational influences discussed above it is obvious that the degree of socio-economic development of a country constitutes a major cause of quantitative adoption divergence. Developed countries should show a markedly higher quantitative e-HRM adoption so as compared to developing countries, thereby replicating the general “digital divide” [e.g. 16]. Hence:

**P I:** Divergences in national socio-economic development will lead to divergences in quantitative adoption (“summarized proposition of digital divide”).

In addition, since e-HRM constitutes a way of organizing and performing HR functions, a basic consequence seems to be that major institutional and cultural influences do not refer to the quantity but to the quality of adoption – a phenomenon that may be called “contextual openness” of e-HRM. Since basically configurable and designable, the actual quality of e-HRM concepts will of course be orientated towards
the major institutional and cultural forces of their national context. To a certain extent this dampens institutional and cultural influences on the quantity of adoption, however without entirely “immunizing” e-HRM. Hence:

P II: Contextual influences will refer mainly to the quality of adoption but only marginally to the quantity of adoption (“summarized proposition of contextual openness”).

This argument subsequently implies that conventionally and electronically performed HRM are comparable, at least on a basic level. Nevertheless, differences between HRM and e-HRM shall not be ignored. E-HRM explicitly stands for methodical, organizational, and procedural innovations and hence for differences. However, e-HRM can be particularly designed and configured, and since exposed to the same institutional as cultural influences within a country, the quality of e-HRM and the quality of conventional HRM should be congruent on a basic level. Consequently, e-HRM and conventional HRM should show basically congruent patterns of global divergence or convergence – independently of our knowledge of these patterns. Hence:

P III: Equal contextual influences within a country will lead to basic qualitative congruence of e-HRM and conventional HRM, and hence to the same basic patterns of global convergence or divergence (“summarized proposition of qualitative congruence”).

4 Conclusions

This paper aimed at the elaboration of the general foundations and the development of basic propositions on global e-HRM.

Engaging with the foundations, the paper uncovered comparative e-HRM research as an ambitious and voluminous task. The adequate identification of influences, consideration of levels, definition of spatial entities, deliberation of dynamics, and conceptualization of adoption could be pointed out as critical aspects. The consideration of numerous influences for numerous regions elucidates the extensive workload associated with the topic. Therefore, the above deliberations represent a first approximation of the subject that can and does not give final answers.

Following conceptual deliberations, the quantitative and qualitative adoption were distinguished. Concerning the quantitative adoption, the propositions of “digital divide” and “certainty potentials” stand for quantitative divergence, while the propositions of “institutional and cultural openness” rather tend towards quantitative convergence. At least, the basic configurability of e-HRM allows meeting quite different institutional and cultural requirements, therewith markedly broadening the spatial application range. Tough these are somewhat competing propositions the divergence should clearly prevail especially due to the “digital divide” argumentation. Concerning the qualitative adoption, the proposition of “contextual openness” initially shows that contextual influences will in particular refer to the quality of adoption. Aiming at basic propositions, concrete qualitative aspects are not theorized. However, based on the proposition of “qualitative congruence” it could be explained,
why e-HRM and HRM should demonstrate similar regional patterns, therewith also reproducing existing patterns of spatial convergence or divergence.

Given these initial results, the conceptual refinement and subsequent empirical evaluation constitute the obvious implications for future research. Influence factors need to be particularized, and meticulously compared for the regions of the world, thereby also considering interaction and level effects. Special attention should be given to the actual intensity of influences, since recent work for instance questions the weight of cultural influences on HRM [26]. Related to this, identified contextual factors should also be balanced with universal factors, such as the size of organizations [e.g. 60], so as to offer a comprehensive picture of adoption determinants.

Representing basic research, implications for practice are rather limited. Given that managers may be interested whether e-HRM constitutes a globally applicable management practice [14, 17] the analysis shows some institutional restriction based on the digital divide. Based on the contextual openness, it should be possible to establish diverging national varieties of e-HRM, what however may be incongruent with the harmonization need of multinational organizations [28].

References


