The dis-app-earance of HRM[1]

The impact of digitization on the HRM profession

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Abstract

Digitization pervades all economic sectors. In this research project of Avans University of Applied Science the main question was “What will be the effects of digitization on the HRM profession?” The methodological approach was threefold. A theoretical concept of digital impact on the HRM profession was constructed based on the Ulrich roles, the Frey & Osborne concept of automation risk and 21st century skills. In two sessions twenty-four Dutch HRM Professionals reflected on the main question and gave assessments. A secondary analysis was carried out on relevant data of the HRM Practice Monitor and five hypotheses were tested. The outcomes are interesting but give no clear and unequivocal picture. Whereas the theoretical concept, actual research and professional literature and consulted professionals indicate that the HRM profession is already or will soon get more strategical due to digitization among other factors, the secondary analysis of the HRM Practice Monitor does not confirm that tendency. The discussion presents possible explanations for the unexpected results and suggests follow-up research.

Keywords: digitization, HRM Profession, HRM, HR, e-HRM, HRM Practice Monitor.

1. Introduction

Digital systems and robots are modifying services and manufacturing processes. They change our economic system. Communication and cooperation between companies in different countries is as easy as between neighbours. The labour market is changing; routine jobs are being automated or have already vanished with more jobs – also middle and high skilled - being threatened. Paradoxically, new work is being created and tasks are combining in new ways to create new jobs. More than 60% of all children now in primary schools will have a job that does not even exist. (WEF, 2016)

The economic and social effects of digitization have been the object of studies from the nineteen eighties to the present. In recent years a couple of studies on labour market effects have strongly guided the debate. Preceded by the studies of David Autor, the so called Oxford study by Frey and Osborne in 2013, 'The Second Machine Age' by Brynjolfsson and McAfee in 2014 and Martin Ford's 'Rise of the robots' in 2015, set off a significant debate in the Netherlands. The discussion has primarily focused on the pressure on 'middle-skilled jobs'; that is, jobs that offer a medium income requiring a moderate amount of secondary vocational educational level. In the present research project of Avans University of Applied Science (Centre of Expertise Sustainable Business), the HRM profession is under scrutiny.

Ruël, Looise and Bondarouk in 2002 stated that technology and e-HRM is making it possible for the HR Business partner to enter the company boardroom instead of remaining focused on "operational trifles" (Ruël, Looise and Bondarouk, 2002). In the editorial of the same journal the proliferation of e-HRM is qualified as "just a matter of time" when the high costs, implementation problems and insufficient standardization are overcome. (Tijdschrift voor HRM, 2002). In 2008 the HR Practice Panel, an online survey with over 500 HRM professionals as respondents, reported that digitization was seen as the most important trend on the job floor. The HR director of a banking organization cited: "I consider this trend as the mother of all trends. It accelerates all of the other trends and no end of its influence is near" (Van Hout, 2008). De Lange and Van Dartel mention in 2014 (very much in line with Bruël et al. 2002) that "the ever-increasing potential of ICT has prompted many companies to embrace e-HRM systems in recent years. (…) As a result, responsibility for personnel

management is being passed to the line management and – increasingly – to the employees themselves (De Lange and Van Dartel, 2014). Ricoh, a supplier of electronic products and digital office solutions, in 2015 consulted 130 HR managers in large companies and over 40% of them claim that digitization was a top priority. Two thirds view the HRM department more as strategic than operational. HRM is a business partner, was the message (cited in HR Praktijk, 2015). Very recently Raet, a big HRM software provider presented a white paper in which they state that over 70% of the managers expect HRM to be a strategic advisor for the board. They conclude that HR analytics provides the opportunity for HRM to play a more strategic role within the company (Raet, 2016). And this is exactly what Ruël et al. promised us almost fifteen years ago!

So the question remains as to what is exactly happening? Is HRM really on the verge of opening the way for the strategic HR business partner or Change agent? Are (parts of) HRM departments made redundant by the use of digital HRM applications? What does the current HRM profession look like? The key question for this paper is "What will be the effects of digitization on the HRM profession?" The sub-questions formulated are: "What is the primary role of the HRM Professional, associated with digitization?" "Which are the activities the HRM Professional is spending the most/least time at, associated with digitization" and "What is the label that HRM Professionals pick out to characterize their HRM department, associated with digitization?"

2. Theoretical background

Numerous research projects on the subject use all different definitions. Frey and Osborne in their task-based approach use the word computerization and define it very generally as "job automation by means of computer-controlled equipment." (Frey & Osborne, 2013, p. 2. Note 1) Brynjolfsson & McAfee (2014) define 'digital technologies' as 'those that have computer hardware, software, and networks at their core'. Thomas Davenport proposes pragmatically 'Let's assume that it really means something like "taking manual or offline business processes and converting them to online, networked, computer-supported processes." That's the impression I get when companies talk about it' (Davenport, 2014). When referring to the technology that is influencing the HRM profession the numbers 1, 2 and 4 of a "gallery of

disruptive technologies" (See figure 1) (Manyika, 2013) are central in this study. These include Mobile internet, Automation of knowledge work and the use of Cloudcomputing.

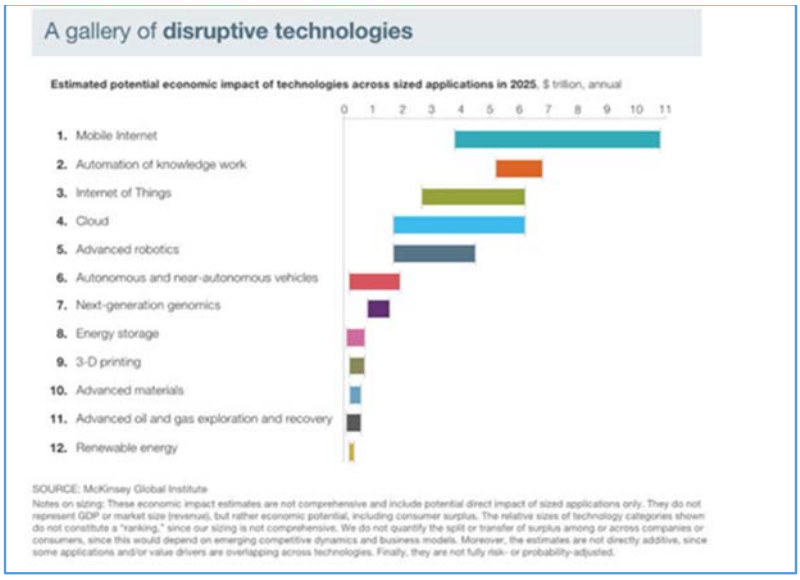

Figure 1: A gallery of disruptive technologies (Manyika et al. 2013)

As to the use of technology in HRM, e-HRM, the definition of Ruël et al is adopted: "e-HRM is a way of HRM with line management in a primary role and employees in an executive role, supported partially or totally by Intranet or the Internet" (Ruël et al., 2002).

The theoretical analysis in this research consists of three steps. As a first step, the Dave Ulrich concept of the roles that make an effective HRM professional is used (Ulrich, 2011). In theory the HRM professional can play six roles. Each role consists of a set of specific tasks and requires specific competencies. (See figure 2)

Figure 2: HRM roles (Ulrich et al. 2011)

Secondly: Oxford University researchers analyzed 702 US jobs and established the measure in which they are 'computerisable' (Frey & Osborne, 2013). I used their concept of filleting jobs and scrutinized the six Ulrich roles, analyzing the content of each role, so role by role determining the probability of automation (See also table 1); Thirdly: Routine tasks can easily be automated, whereas tasks that require 21st century skills help us in future jobs "to interact with data, see patterns in data, make data-based decisions, and use data to design for desired outcomes." In their publication Davies, Fidler and Gorbis (2011. p. 4) distinguish ten future work skills (see figure 3) whereas SLO (national centre of expertise for curriculum development) mentions eight skills: creativity, critical thinking, problem solving skills, communication, cooperation, digital literacy, social and cultural skills and self-regulation (see figure 4. Thijs, Fisser, and Van der Hoeven, 2014). Frey & Osborne confirm the value of these skills: "our findings thus imply that as technology races ahead, low-skill workers will reallocate to tasks that are non-susceptible to computerisation – i.e., tasks requiring creative and social intelligence. For workers to win the race, however, they will have to acquire creative and social skills. (Frey & Osborne, 2013. p. 45)

Figure 3: Future work skills (Davies et al. 2011)

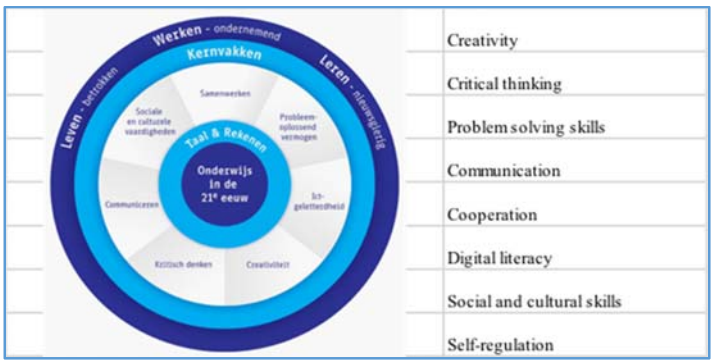

Figure 4: Future work skills (Tijs et al. 2014)

The extent to which these skills are present in a job (or in a Ulrich role) determines the risk of automation. The third step was therefore to define the degree of the use of these skills in the six Ulrich roles. As a result of these three steps the hypothesis is proposed that some of the Ulrich roles are more susceptible to digitization than others.

3. Research design

3.1 Theory

The six Ulrich roles were analyzed in the light of content, competencies and the use of 21st century skills. The BBC web instrument 'Will a robot take your job?'(based on the 2013 Frey & Osborne paper) was used to estimate the probability of computerisation for each role. Each Ulrich role was described (job content) based on the 'Competencies for HR professionals Working Outside-In' article (Ulrich et al. 2011). The description of each role was compared to at least three jobs in the BBC web instrument. For example the 'Technology proponent' was compared with BBC's 'HRM administrative worker' (likelihood of automation 90%) and 'National government administrative worker' (likelihood of automation 39 %) and 'Other administrative worker' (likelihood of automation 92%). As the reliability of this approach is limited two students followed the same approach independently and from the three estimates per role the average was calculated. Inter-rater reliability was thus applied to acquire more reliable assessment decisions.

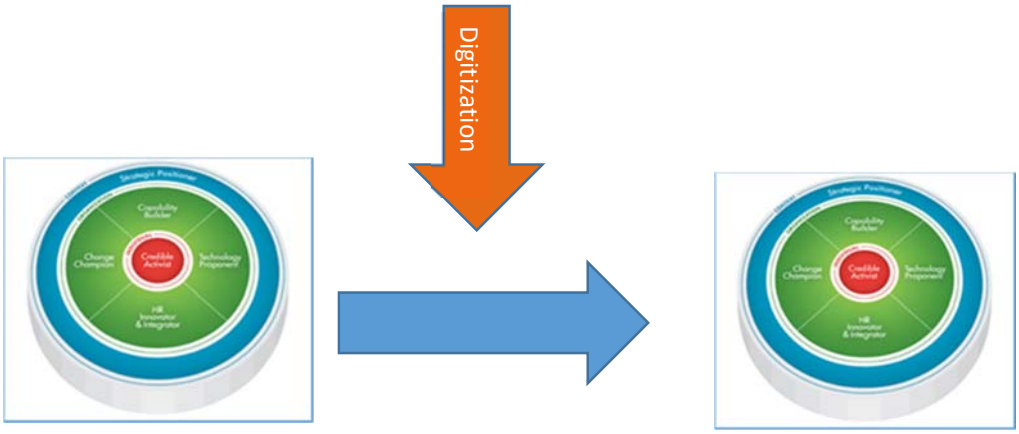

Figure 5: Research design

3.2 Sessions with HRM professionals

In order to obtain feedback on my theoretical concept of 'digitization and HRM' two sessions with HRM professionals were organised. The purpose was to hear from HRM practice professionals whether the conceptual view was recognized. The personal invitations were sent to over one hundred LinkedIn connections. The thirteen visitors of the first session on May 31st currently work as e-HRM or HRM advisor/self-employed (6), in Professional Services (4) or as HRM professional in nonprofit (3). In the second session on June 15th eleven HRM professionals were present, working in sectors Nonprofit (6), Professional Services (2) and e-HRM or HRM advisor/self-employed (3). Four students made observations and took notes and photographs in these dialogues.

The session started by asking the HRM professionals for their general experience with digitization in their companies. They were then asked to write down three HRM activities within their responsibility in which digitization was a major issue. The next step was to stick the notes on one of six big papers on the wall (the Ulrich roles). In fact the six Ulrich roles were hanging on the wall like a portrait gallery and the participants stuck their notes on the role they found most appropriate. In this way the Ulrich roles were pasted with an amount of notes on digitization without explaining the theory beforehand and thus without manipulation. This procedure made it possible to compare the theoretical distribution that had already earlier been done (see Findings).

3.3 Secondary analysis HRM Practice Monitor

For four years several Dutch Universities of Applied Science (Avans, Saxion, Windesheim, InHolland, Hanzehogeschool, Hogeschool Leiden, Hogeschool Utrecht)[3] have been collecting HRM data in the HRM Practice Monitor, From 2012 up until the present HRM students have annually interviewed HRM professionals, their HRM supervisors and line managers, being their clients. The HRM professionals, HRM supervisors and line managers also filled out a web questionnaire. Topics in this survey included among others: professional activities, division of tasks between HRM professional and line manager, competences

[3] In 2012/2013 the first survey was carried out only by Avans. InHolland participated only in the 2014-2015 survey and Hogeschool Leiden participated only in 2015-2016; the other Universities of Applied Science have participated in all surveys as from 2013/2014.

needed for the job and actual themes in HR. The samples do not annually necessarily consist of the same respondents and the monitor can therefore not be seen as a longitudinal, hence no causal statements should be made. Analyzing the rich collection of Dutch HRM data can nevertheless give some insight on the focus and shifts in the Dutch HRM profession. The monitor distinguishes six task clusters: Staffing/Availability, Personnel Development/Employability, Corporate strategic development, Conditions of Employment, Labour Relations, Personnel Administration, and Working Conditions / Safety and Health / Absenteeism. The HRM professionals, the HRM supervisors and the line managers were asked to estimate how much time they spend on each cluster. They could choose from: (almost) never, sometimes, regularly or often. The six orientations for the HRM departments to pick from are: The development of an HRM vision and strategy, Co-responsibility for the realization of change processes, Responding to all problems that cross one's path, Design and delivery of HR products and services, Assistance and support (personnel care) and Administration and regulation (personnel administration).

International labour market researchers drew the attention to the expected impact of digitization on administrative tasks (Frey & Osborne, 2013) and the subsequent opportunity for the rise of the strategic HRM role (Ruel et al., 2002. p. 53). This shift is expected to become visible in the Ulrich roles (2011). Additionally, to shed more light on this expectation, the HRM Practice Monitor was analysed. As there are no questions directly related to the theme digitization, four relevant variables were selected from the samples (2012/2013, 2013/2014, 2014/2015 and 2015/2016) to unveil a relationship between digitization and the HRM profession.

The first variable was *the HRM professional's primary role* as indicated by the HRM professionals themselves. This variable is measured on a nominal scale: directing/supervising (i.e. HRM director, manager HRM, HRM supervisor) (1), HRM policy making (i.e. HRM policy advisor, HRD specialist or compensation & benefits specialist) (2), general HRM advising roles (i.e. HR advisor) (3) specialist (i.e. career advisor, recruitment or outplacement advisor) (4), administrative or operational (i.e. HR assistant, HR administrator) (5). The focus is on the 'administrative/operational' role as the development of this role may reflect the shift from 'administrative' to 'strategic'.

The second variable was time spent in an activity cluster as indicated by the HRM professionals. In search of the possible alteration of roles, the focus mainly centered on the activity cluster 'Corporate strategic development' (steering reorganizations, cultural change processes and team development, co-defining the corporate strategy) and the activity cluster 'Personnel Administration' (managing personnel information systems, personnel administration, payroll administration, compiling and reporting personnel data). Both variables are measured on a four-point scale on an ordinal level. Respondents could choose from: (almost) never (1), sometimes (2), regularly (3) or often (4).

The third variable is *the typification of the HRM department* by HRM professionals. To what extent is its focus 'Corporate strategy development' i.e. 'strategic' and to what extent is it 'Personnel Administration'? Both variables are measured on a four-point scale on an ordinal level. Respondents could choose from: (almost) never (1), sometimes (2), regularly (3) or often (4).

The fourth and last variable is *whether or not the theme 'e-HRM' is mentioned as a present-day theme*. It is a dummy variable and is measured on a nominal level: no (0) / yes (1).

Over time as an effect of digitization it is supposed theoretically that administrative tasks in the HRM Profession will diminish and the portion of strategic tasks will grow. Hence the following five hypotheses were formulated and tested:

$H_1 1$ The primary role of the HRM professional has changed over the last four years.

$H_1 2a$ The extent to which the HRM professional (on a yearly basis) deals with 'Personnel Administration' has declined.

$H_1 2b$ The extent to which the HRM professional (on a yearly basis) deals with 'Corporate strategic development' has increased.

$H_1 3a$ The strength of the typification by the HRM professional of their department as 'Administration and regulation' has declined over the last four years.

$H_1 3b$ The strength of the typification by the HRM professional of their department as 'The development of an HRM vision and strategy' has increased over the last four years.

In the HRM Practice Monitor respondents can also indicate the most important HR themes in their organization at that moment. A list with a limited number of themes including e-HRM is presented. In addition respondents can use the questionnaire to give some of their own observations (without any answer restriction). These questions were analysed afterwards (see table 5).

4. Findings/results

4.1 Ulrich roles

By carefully assessing the Ulrich roles (by applying the BBC web instrument based on Frey and Osborne 2013 per Ulrich role) a distribution over the six roles was obtained. The roles were translated into tasks (based on the description of Ulrich et al. 2011). Then a comparison was made by picking from the BBC web instrument at least three jobs with similar tasks and calculating the percentages of automation risks.

Role	Tasks (Ulrich 2011)	Comparison Researcher (BBC)	Student 1	Student 2	average % automation
1. Strategic Positioner	Understands business situation, stakeholders and important influences. Can translate external requirements and changing customer demands into HRM actions and HR practise. Relates to customers and facilitates early strategic change.	*Business and financial project management professional: likelihood of automation is 7% *Business and related research professional: likelihood of automation is 23% .	*Business and related research professional 23% , *Business and financial project management professional 7% , *Marketing associate	*Business and financial project management professional 7% , *Management consultant and business analyst 7% *Sales accounts and business development	17,33
2. Capability Builder	Strenghtens the organisation by developing human capital and takent management. A learning and development expert. Helps people to align work with personal goals.	*Careers adviser and vocational guidance specialist: likelihood of automation is 24% *Education adviser and school inspector: likelihood of automation is 0%	*Careers adviser and vocational guidance specialist: likelihood of automation is 24% *Education adviser and school inspector:	*Careers adviser and vocational guidance specialist: likelihood of automation is 24% *Education adviser and school inspector: likelihood of automation is 0%	19,98
3. Technology proponent	Implements HRM-policy . Technology is used to work more efficient (employee benefits, pay roll, absenteeism, health and safety management), to share knowledge and for employee-employee and employee-customer connections. Strives for acceptation of new communiction channels and applies new technologies for that purpose, a.o. social media.	*HRM administrative worker: likelihood of automation is 90% *Sales administrators: 97% *Business and related research professional: 23% *Other administrative occupations: 92% **75,5%**	*Human resource administration worker 90% *Business, research and administration professional (other) 23% *Other administrative worker 92%. **68,33%**	*Human Resources administrative worker 90% *National government administrative worker 39 % *Business, research and administrative professional 23% **50,66%**	64,83
4. HR Innovator & Integrator	Environmentally aware of customer systems, changing society and labour market. Understands the business and stakeholders, formulates HRM policy and takes action. Has a natural customer focus and delivers HR services and programmes suited for the organisation's value proposal.	*Business and financial project management professional: likelihood of automation is 7% *Business and related research professional: 23% *Marketing associate	*Design and development engineer 3% *Business and financial project management 7% *Marketing associate professional 33%.	*Advertising and public relations director 3% *Business and related associate professional 77% *Public relations professional 18%. **32,66%**	22,67
5. Change Champion	Facilitates effective change on an individual and organisational level, in line with business requirements. Is aware of the organisational culture that suits the ambition best and promotes added value. Initiates the change that is needed and ensures it by adapting HRM systems and processes. Stimulates learning and development and hence contributes to an agile and accessible organsiation.	*Management consultants + business analysts: likelihood of automation 7% *Human resource manager and director: 32% *Teaching + educational professionals: 1% **13,33%**	*Human resource manager or director 32% *Further education teaching professionals 13% *Management consultant and business analyst 7%. **17,33%**	*Human resource manager or director 32% * Management consultant and business analyst 7%. **19,5%**	16,72
6. Credible Activist	Reliable advisor and influencer of others in the organisation by clear, consistent and high impact communication. Is focussed, poses critical questions, does not avoid dispute, takes acceptible risks and takes responsability for actions and consequences. Builds a personal trusted network of relations to present his ideas to. Makes observations and actively gives feedback.	*Human Resources and Industrial Relations Officer: likelihood of automation is 24% *Management consultants and business analysts: 7% *Youth and community workers: li 13% .	*Human resources and industrial relations officer 24%, *Management consultant and business analyst 7% *Youth and community workers	*Human Resources and industrial relations 24%, *Management consultant and business analyst 7% *Market research interviewer 94%. **41,66%**	23,66

Table 1: Automation risk role analysis (indication)

The comparison was made by three researchers (two of whom being students) independently of each other. The outcome is an indication of the automation (risk) score per role.

The same distribution of Ulrich roles is displayed below in a bar chart. The bars are remarkably similar in length except for the Technology Proponent role which is three times longer than other bars.

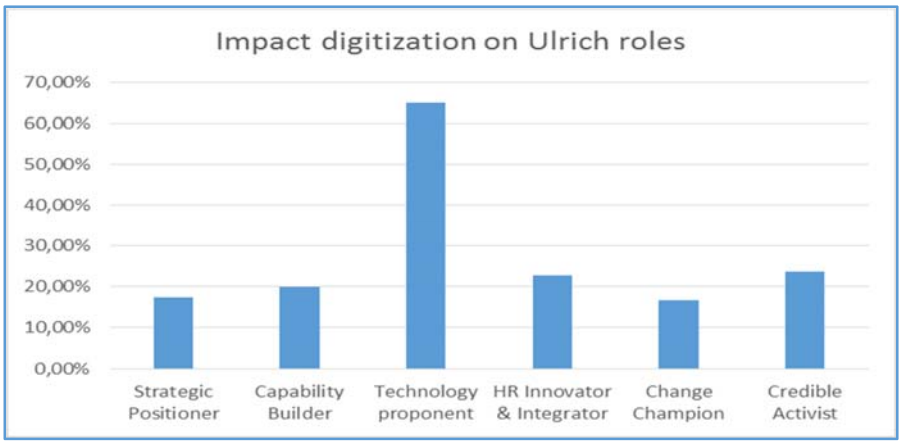

Figure 6: Indications of digital impact (automation risk) on HRM Profession/Ulrich roles (estimated via BBC, 2015 and Frey & Osborne, 2013)

The tasks in the role of the Technology Proponent are thus very likely to be influenced by digitization, whilst the other roles are more or less equally influenced.

4.2 Sessions with HRM professionals

In total twenty-four people attended the two research sessions. In both sessions some of the participants knew each other already and an informal discussion was soon launched. The atmosphere in both sessions was good. In the first session a couple of professionals were very experienced as others were more quiet. In the second session the input was more dispersed. Digitization and HRM proved to be an exciting topic to discuss.

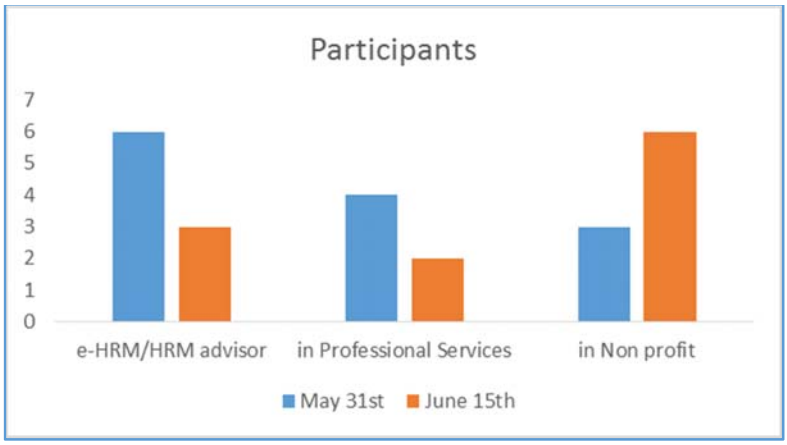

Figure 7: Participants in sessions with HRM Professionals (n = 24)

The May 31st participants were all well informed on digitization and HRM. Digital systems in general facilitate communication. The use of apps, smartphones and tablets give real time insight in stock and customers can order anything they need or like. Data driven business requires skilled staff to interpret and make good use of the data for production, marketing or HRM goals. The amount of worldwide available data offers a significant global opportunity. This can be very valuable for recruitment. The participants mentioned reliability of systems as a crucial factor for the success of e-HRM. Advantages of digitization in HRM have to do with possibilities to work independent of time and location, and to create better conditions for security and privacy. As a result of the May 31st session the Ulrich role of the Technology Proponent was stuck full with yellow notes. Mostly very operational tasks were written on these notes (ESS/MSS, digital signing, HR portal, automation of personnel files, Click-Call-Face). It seemed that most of the activities written on the notes belonged here. This conforms the theoretical differentiation of the Ulrich roles (See figure 6. See also Discussion).

'Technology is used to enable companies to enhance their performing. Digitization makes things more efficient. The line manager will perform a lot of tasks that used to be the traditional HR tasks.' This opens possibilities for HRM professionals. 'They are free to do the rest' someone said.

The participants on June 15th also recognized the impact of technology within their companies. In home care services a planning system facilitates declaration procedures and fewer mistakes were made. Ever since in the glass factory the quality inspection was

automated, less operators are needed and the employees of the institute sort out their own HR problems using employee self-service and no HRM professional need to deal with them. Customer contact is getting more important. With 'Click-Call-Face' customers, they can find almost all answers on the internet so for customers using the phone it is really important to give proactive dedicated information.

The yellow notes for experienced digitization in HRM were visibly more dispersed among the Ulrich roles than in the first session. As well as the Technology Proponent, also the role of Capability Builder was in the second session strongly plastered. "HR should think in relevant figures and euro's about the future in combination with strategy" and "Competencies change with taking up other roles. For example the need for reflective skills is increasing. Previously, administration was a major activity. Now it's more about implementation and discussing policy and strategy" were statements that were strongly agreed on.

Table 2: Sessions with HRM Professionals (impression)

4.3 Secondary analysis HRM Practice Monitor

In four years the number of monitor respondents has risen from 106 in 2012/2013, 251 in 2013/2014, 424 in 2014/2015, to 571 in 2015/16. It is important to stress hereby that respondents are not necessarily the same persons over the years.

In hypothesis testing the following tests were performed: hypothesis 1: Chi-square/crosstab calculations were executed to check for differences and significance. Hypotheses 2 and 3: Mean values for each category of HRM professionals over the past four years (2012/13, 2013/14, 2014/15, 2015/16) were analyzed using SPSS by performing univariate ANOVA's to identify any statistically significant differences between the different groups. A homogeneity test (Levene) was carried out to check for equal variances between the groups. Also a Pearson correlation test was used to determine whether a relationship existed between the subgroups over the past four years and the dependent variables.

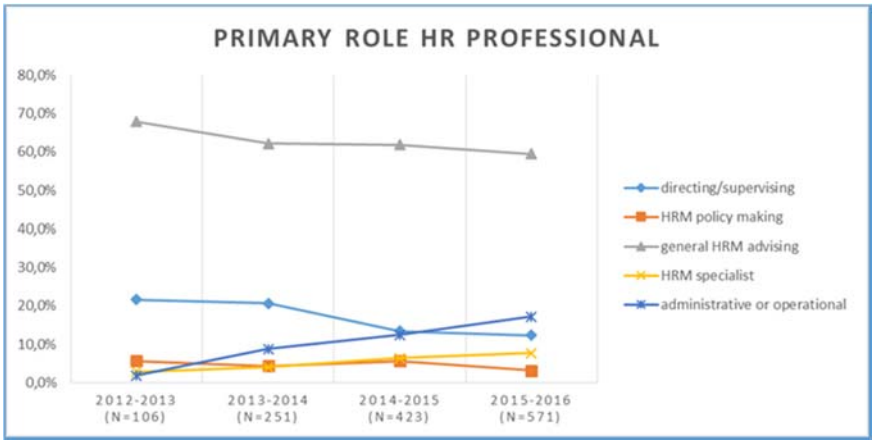

Figure 8: Primary role of the HRM Professional. HRM Praktijkmonitor 2012-2016, in %

The increasing application of digital technologies in the HRM profession is one of the reasons for the expectation that the primary role of the HRM professional has changed over the last four years (hypothesis 1). The data prove that in fact there is a change and the difference is significant ($\chi 2=44.18$, df=12, p=.000).

The roles ‘directing/supervising’, ‘HRM policy making’ and ‘general HRM advising’ have decreased whereas ‘HRM specialist’ and ‘administrative/operational’ have increased.

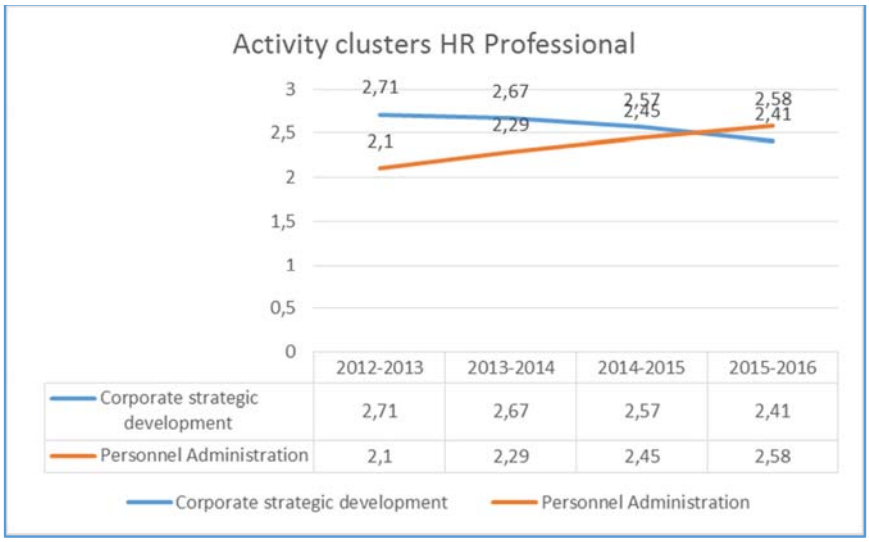

Figure 9: Time spent by HRM Professional in 2 specific task clusters.HRM Practice Monitor 2012-2016, means

Another perspective to look at the relationship between digitization and HRM profession is to create a better picture of the activities the HRM professional is involved in (hypothesis 2). In the HRM Practice Monitor respondents were asked to put six task clusters on the order of spent time. For the purpose of this research, two task clusters are of special interest. The theoretical expectations are that HRM professionals thanks to digital systems over the years spent less time in ‘Personnel Administration’. On the other hand they will have more time at their disposal due to the elimination of time-consuming personnel activities. As estimated they will spend more time carrying out strategical activities (‘Corporate strategic development’) and take on their role of business partner. The data on ‘Personnel Administration’ present us surprisingly a very significant but weak positive correlation ($r = .12$, $p < .01$). Time spent by HRM Professionals on ‘Personnel Administration’ over the four years has thus slightly increased. With regard to ‘Corporate strategic development’ the reverse is seen. A very significant but weak negative correlation ($r = -.12$, $p < .01$) means that over the four years the time spent by HRM Professionals on ‘Corporate strategic development’ has decreased. In 2015/2016 the time spent on ‘Corporate strategic development’ has even been caught up by ‘Personnel Administration’. See also Discussion.

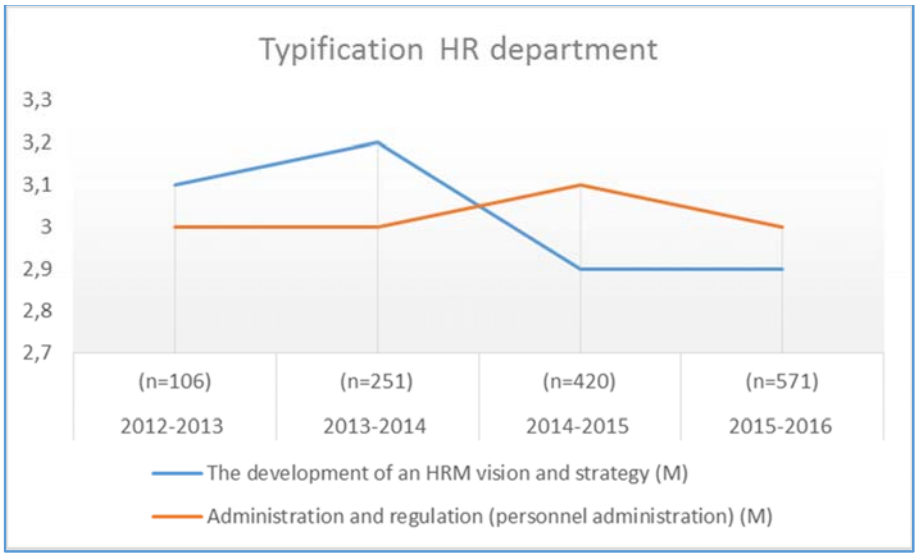

Figure 10: Typification of the HRM department by the HRM Professional. HRM Practice Monitor 2012-2016, means

The impact of digitization on the HRM profession may also be clarified by looking at the way HRM professionals categorise their own HRM unit (hypothesis 3). In the HRM Practice Monitor respondents were asked to choose an appropriate label from six labels: Development of an HRM vision and strategy, Co-responsibility for the realization of change processes, Responding to all problems that cross one's path, Design and delivery of HRM products and services, Assistance and support (personnel care) and Administration and regulation (personnel administration). From the outcome of the analysis of the Ulrich roles (paragraph 4.1) and the sessions with HRM professionals (paragraph 4.2) two possible labels are especially interesting: 'Administration & regulation' and 'The development of an HRM vision and strategy'. The digitization would have diminished the administrative tasks and the more strategical tag 'development of vision and strategy' would match expectations that HRM professionals are increasingly playing the role of business partner, for example Ulrich's 'Strategic Positioner' or 'HR Innovator and Integrator'.

Superficially the score of the label 'Administration and regulation' has not changed a lot in the samples of the four years. At the same time 'The development of an HRM vision and strategy' is weaker in the last two samples. The Pearson correlation test for the group of

HRM professionals shows a significant (but weak) correlation (p<.01) between the strength of the typification by the HRM professional of their department as 'The development of an HRM vision and strategy' over the four years. In the last four years the definition of the HRM department by HRM professionals as 'The development of an HRM vision and strategy' has slightly decreased indeed. As for the label 'Administration and regulation' no significant results were found.

	Samples 2012-2016 (Pearson)
HR Professionals	
Label Development of an HRM vision and strategy	-.09**
Label Administration and regulation	.02

** *Correlation is significant on the .01-level.*

Table 3: Bivariate correlations Typification HRM department over time. HRM Professionals HRM Practice Monitor 2012-2016

In the HRM Practice Monitor HRM Professionals can indicate the five most important HRM themes in their organization at that moment. A list with a limited number of themes is presented. This table represents that 'e-HRM' was selected as one of five. This is interpreted as a form of digitization in HRM. The results show apparently a slightly decreasing trend. No statistical test was performed.

	2012-2013	2013-2014	2014-2015	2015-2016	total
No	76 (71.7%)	190 (75.7%)	351 (83.6%)	460 (80.7%)	1077 (80.0%)
Yes	30 (28.3%)	61 (24.3%)	69 (16.4%)	110 (19.3%)	270 (20.0%)
total	106 (100%)	251 (100%)	420 (100%)	570 (100%)	1347 (100%)

Table 4: e-HRM as one of five most important themes in HRM Practice Monitor 2012-2016, means

When the open-ended questions are analysed on the mentioning of several technology associated words, it is visible that in most recent samples 'digital', 'e-HRM' and 'digitization' are increasingly and frequently mentioned. Respondents here are not only the HRM Professionals, but also their supervisors and line managers.

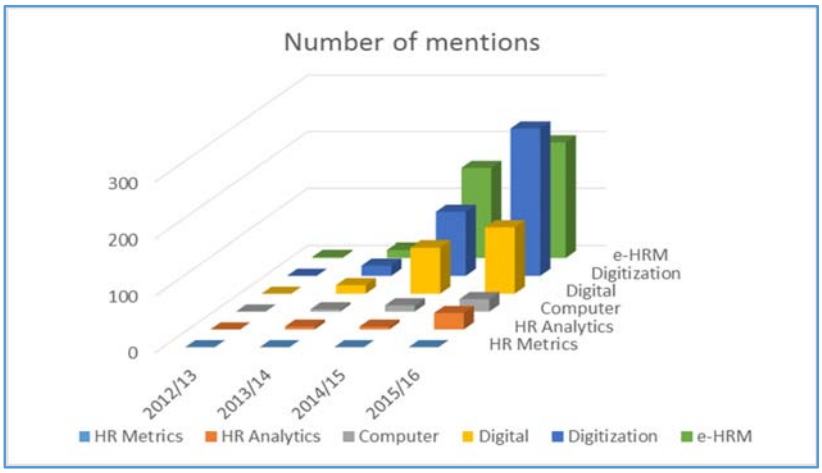

Figure 11: Number of mentions. HRM Practice Monitor 2012-2016

To give an impression of the context of the mentions some remarks are highlighted.

2012/13
No relevant statements available.
2013/14
There's HR Analytics. A bit improvised. Primarily on intuition. (J177)
She runs into the digitization; she cannot handle it at all. (J27)
The intern is saying: I was surprised that HR Professional of my company agreed with the label 'Administration and regulation' because 'Personnel administration' is barely an HR responsability. She explained that the cause for this was the implementation of the digital personnel system that took a lot of their time last year. (CP37)
"Administrate and regulate' is diminishing because everything is going faster. This is caused by new technologies en the automation/digitization. (CP85)
We are very clientcentered, have a lot of knowledge and we anticipate fairly well to new things. Digitization gave us time to develop ourselves form HR administrative to HR service. (J125)
2014/15
Automation is very important to realise and support the transformation from personnel management to business partner. (CW31)
By digitization part of the adminisrative role of HRM will dissappear. (GO104)
Digitization facilitates the focus on strategic questions instead of administration. The organisation of HR will change as a consequence. (GO113)
We will have a new computer system that helps us to diminish administrative work. (CS51)
HRM will become more digital and line management will take over more tasks. HRM will become more proactive, more long term directed and more strategic. (CY92)
2015/16
My role will dissappear. e-HRM will make an end to manually collecting en archiving documents. In recruitment my task will also vanish by mass mails. My advisory role will remain. The professiona that I am educated for will cease to exist within 20 to 40 years. It wil be taken over by a robot. (CY77)
When you have no expertise on e-HRM and legislation then what are you doing in this profession! (CU86)
The implementation of e-HRM is going on for a year and a half. It is difficult for the organisation keeps changing and today's data are almost out-dated. (GJ73)
From operations tot advising. HRM will be a consultant. Digitization will leave us more time to act like that. (CY169)
But administrative tasks will decrease by automation. (GO162)

Table 5: Statements on 'e-HRM', 'digital', 'computer', 'digitization', HR Analytics and HR Metrics. HRM Practice Monitor 2012-2016. Between brackets are the respondents codes.

These statements reflect some of the opinions and expectations of the respondents. The content is roughly confirming the importance of digitization and the expected, said (or hoped for) decrease of administrative tasks.

5. Conclusions

Many authors, consultancy firms and researchers want people to believe that the HRM profession will transform itself to a more strategic profession. The emergence of digital technology is seen as one of the factors that would move HRM forwards. The present research project explored the effects of digitization on the HRM profession.

5.1 The primary role of the HRM Professional

In theory the 'administrative/operational' role, the role that is closest to Ulrich's Technology Proponent was expected to decrease over time. Digitization could replace most of administrative activities. The sessions with HRM professionals confirmed that a lot of digital activities were associated with this Ulrich role. Surely automation would have replaced tasks like personnel registration, registration of absenteeism, employee benefits administration and contracts of employment. In addition employee self-service and the phenomenon of outsourcing would have amplified this effect. The facts from the HRM Practice Monitor tell us otherwise. The 'administrative/operational' role has not decreased but amplified from the least important role in 2012/13 (1.9%) to the second highest role (17.2%) in 2015/16, after 'general HRM advising' (59.5%). So hypothesis $H_0 1$ is rejected.

5.2 The activities the HRM Professional is spending the most/least time at

Supported by quotes from the sessions with HRM Professionals and by the theoretical framework of Ulrich roles the impression was created that digitization would free HRM professionals of the burden of administrative activities. Finally the HRM professionals could devote themselves to the real thing: advising on a strategic level. Yet the data of the HRM Practice Monitor on the activity clusters do not confirm it. Time spent on 'Personnel Administration' is rising and time spent on 'Corporate strategic development' has decreased

over the years. In other words both hypotheses $H_0$2a on ‘Personnel Administration’ and $H_0$2b on ‘Corporate strategic development’ are now rejected.

5.3 What is the label that HRM Professionals pick out to characterize their HRM department?

Both in professional publications and according to HRM professionals in the research sessions there are indications of a less operational role for the HRM professional. The outcomes of the typification of the HRM department as ‘Administration and regulation’ in the HRM Practice Monitor however do not allow any conclusion. It cannot be said that the strength of this labelling is declined nor increased in the four years. Hypothesis $H_0$3a is therefore not rejected. The other hypothesis $H_0$3b states that the strength of the typification by the HRM professional of their department as ‘The development of an HRM vision and strategy’ has not changed over the last four years is rejected. HRM Professionals are defining their department significantly less as ‘The development of an HRM vision and strategy’ over the years. This is completely in opposition to expectations.

These findings contradict the observation of Ruël et al. “The conclusion of the research literature is clear: e-HRM affects the HRM-department strongly. And from a distance many will expect this to happen. Less administrative tasks for the HRM department (…) more focused on the strategic goals of the organization. So a department consisting more of HRM-thinkers, that is shortly what the future of the HRM department will be.” (Ruël et al. 2002, p.53)

In the open-ended questions of the HRM Practice Monitor the concepts ‘digital’, ‘e-HRM’ and ‘digitization’ are often mentioned. From these statements one gets the impression that the influence of digital technologies is certainly strongly felt and very present in the administrative tasks of the HRM Professional. But, apparently, this has not lead to a significant change in the actual typification of the HRM profession!

5.4 Main question: What will be the effects of digitization on the HRM profession?

The outcomes of the present research are ambiguous and open to interpretation. Whereas the theoretical concept/analysis of Ulrich roles, professional literature and consulted professionals all indicate that the HRM profession has got or will get a more strategical role due to digitization among other factors, the secondary analysis of the HRM Practice Monitor does not confirm that tendency. Neither did the primary role of the HRM Professional change in line with the hypotheses nor did the other hypotheses show the expected tendencies. Both in hypothesis 2 and 3 the tendency is that 'administration and regulation' is increasing (time spent at) or remaining stable (typification department) whereas 'vision and strategy' is decreasing (time spent at and typification department). The effects of digitization the HRM profession cannot be determined by this research project.

Ruel et al. suggested that "in the e-HRM era only a handful of HRM-thinkers would remain in an organisation. Line managers are doing the operational HRM-tasks and they are electronically supported" (Ruël et al. 2002, p. 30). When the editorial suggested that "the proliferation of e-HRM is qualified as "just a matter of time" (Tijdschrift voor HRM, 2002) and Ruël et al. speak of "a long incubation period" (Ruel et al. 2002, p. 29), from the present research there is no consistent confirmation that the e-HRM era already has begun, let alone that the transformation from digital to smart HRM is accomplished.

It might be comforting in this context to cite Armstrong and Sotala saying that "making predictions about technological progress is notoriously difficult (cited in Frey & Osborne, 2013. p. 43). The idea of the HRM professional finding himself mainly advising in boardrooms and business settings because personnel administration is replaced by digitization does not seem to be true. The employee who is reporting his absence due to sickness via the mobile 'Ill-App' and claiming his travel expenses via HRM-applications, also seems to be a projection in the future and not the situation of today. The dis-app-earance of HRM, if only for the administrative roles, is not a reality yet.

5. Discussion

It is well known that "it is difficult to make predictions, especially about the future" (quote attributed to Nils Bohr). However, doing research on actual themes can be complicated too. There are a couple of remarks that, looking back, must be made with respect to this present research project.

From previous research, discussions with professionals and popular publications there is a strong idea that digitization influences the HRM profession in a way that, roughly speaking, the number of administrative tasks will decrease and the proportion strategical tasks will increase. The data of the HRM Practice Monitor do not support this idea. There can only be two explanations: either the instrument is wrong or the expected decrease of administrative tasks and the increase of the strategic role for HRM are wishful thinking.

Some remarks can indeed be made on the instrument. The most important observation on the instrument that came out as a result of this research is that the respondent group seems to have changed. There is evidence that in the later samples the monitor is offered to professionals with primarily administrative tasks whereas in the first samples the respondent was the most responsible HRM professional. That would be a logical explanation for the increase in the proportion of 'administrative' tasks.

It is also possible that respondents in the distinct samples have interpreted the task clusters in a completely different way. A suggestion has also been made that new areas in the professional HRM field like HR Metrics and HR Analytics have been of influence in the mind when the answers 'Administrative/operational', 'Personnel Administration' or 'Administration and regulation' were chosen. This in fact happened in the research sessions (see comment on Ulrich roles below).

The concept of HRM professional that is used in the HRM Practice Monitor is not defined. The respondent often is the supervisor of the intern that carries out the survey. As a

consequence there is a lot of variation within the group and job content, which is a central concept in the research, may diverge a great deal. This obscures the outcomes of the analysis.

In the Monitor's open-ended questions the suggestion is made that the increased time spent in 'Personnel administration' can be caused by activities dealing with the implementation of digital HRM systems. Then the risen amount of time spent in 'Personnel administration' would only be a temporary factor and in next samples it could be levelled out.

And of course, the monitor was never meant to be an instrument for the measurement of digitization. In translating digitization into hypotheses and using the monitor for answering, the risk of false interpretations is likely and errors may have occurred.

On the other hand, the instrument of the HRM Practice Monitor may be adequate and wishful thinking may have led to the expectations. Few professional groups are excited about a supporting role on the professional stage. So HRM professionals, like everybody else, see themselves rather in meaningful and influential roles even if, unfortunately, the reality of the matter may look somewhat different.

Apart from the Monitor, some other methodological comments can be made.

This research project is considering the effects of digitization on the HRM profession as constant. In reality the influence of digitization on HRM is probably two-sided. Not only the field of HRM changes as an effect of digitization. The digitization (personnel systems, recruitment platforms) may also change as a result of opinions and changing HRM methods and procedures.

The BBC translated the Frey & Osborne task-based analysis (Frey & Osborne, 2013) into a popular web instrument (BBC, 2015). The BBC instrument was used in this project to assess the computerisability of the Ulrich roles. The reliability and validity of the web instrument is questionable. The results therefore can only be indications, not predictions.

Furthermore, the web instrument was applied to the Ulrich roles only by the researcher and two students. The assessments that were made by the students may be questionable. Also the small number of persons involved is problematic. If the instrument was filled out by, let's say, twenty people the results would be more reliable.

The lack of a clear and broadly accepted definition of digitization makes it difficult to interpret conclusions of previous research literature correctly. The various concepts are entwined and this complicates the detection of relationships and patterns. In the Netherlands at least it seems to have become the habit to use the word 'robot' as an umbrella term for concepts like automation, the use of computers, the deployment of information technology, robots, artificial intelligence etcetera.

The choice for the use of the most recent version of Ulrich roles (2011) may seem logical in the light of the subject digitization. After all Ulrich et al. have built digitization into these roles. But the participants in the research sessions were not actually acquainted with the six roles. They were familiar with the original four roles (1997) of administrative expert, change agent, employee champion or strategic partner. This complicated particularly the discussion afterwards.

There's also every reason to place some remarks on the sessions with HRM professionals.

The participants were probably not a good reflection of the average HRM professional. By their participation they invested time, showed interest in the particular subject and maybe they were also better informed. Thus the generalization of outcomes of the sessions is maybe not justified.

In both sessions participants were asked to stick their notes with digitization related activities on the six big papers on the wall. On the 31st of May the names of the Ulrich roles were on the heads of these papers (see table 2). Especially the heading 'Technology Proponent' may have seduced participants to stick a disproportionately large share of their notes on that paper! In the second session, on June 15, this was corrected.

And last, by presenting the six Ulrich roles in six similar drawings, the impression was made that the roles are of the same size or importance. The participants argued that in practice not all roles are equally important.

To assess more clearly what the effects of digitization on the HRM profession will be follow up in research is needed.

While 'time spent on 'Personnel Administration' is rising significantly, the typification of the HRM department as 'Administration and regulation' does not show a effect over the four samples. This surprises and additional analyses of the monitor's data have to be carried out.

The fact that there are doubts whether the respondent group is comparable over the four samples needs to be clarified. If indeed the latest respondent groups consists more of administrative workers than in the first sample this sheds a different light on the outcomes of the hypothesis testing.

In addition, there may be other and newer data sets available to do research on and it would also be very interesting to interview HRM professionals and confront them with the outcomes of the present research. It would offer a possibility to gain more in-depth knowledge of the patterns and their causes.

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