Exploring future use of new information technologies in HR SCC´s

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ABSTRACT, Following earlier research there is a trend of companies expanding the use of information technologies in their HR SCC. This paper explores the future use of information technologies in HR SCC's. A Delphi-method and survey were conducted among 11 HR SCC managers from Dutch companies to forecast the use of new information technologies within five years from now. The study revealed that information technologies related to HR analytics will be implemented in the next five years. The technology-acceptance model, developed by Venkatesh and Davis(2000) was incorporated in this study to test the relationship between human behavior and the implementation of new information technologies. This study contributes to the literature by providing insight into the future of HR SCC's and examining the relationship between behavioral intention of people and the implementation of new information technologies.

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Keywords
Human Resource Shared Service Centers, Information technology, Technology-Acceptance model, Employee self-service, Management self-service, HR analytics

1. INTRODUCTION

Many organizations rely on HR shared service centers for the delivery of human resource management (HRM) services such as recruitment, selecting and record keeping. The distinct feature of HR SSC's is that they provide services that are shared by various organizational entities and matched to different end-user groups (Maatman, Bondarouk & Looise 2010). The services provided by SSC's have constantly evolved, due to innovation and technological developments there are more and more possibilities for organizations to improve the delivery of HRM. In particular, changes in HR SSC's are for a large part driven by the increasing availability of information technologies. Technology has opened up a new market of administrative service providers for outsourcing a wide range of organisational activities, as well as firms working with technology enablers to run in-house systems (Lepak & Snell, 1999; Farndale, Paauwe & Hoeksema,2009). Furthermore, current technological developments may enable HR SSC's to expand their service portfolios. An example is the use of employee relationship management (ERM). ERM is a form of relationship management where employee relationships are managed on the base of technology (Strohmeier, 2013). Organizations can use information technology to build long-term relationships with prospect, current and former employees (Strohmeier, 2013). Other potential tasks performed by HR SCC's based on technology are for example recruitment on the base of E-portfolios and HR analytics to check the performance of HR delivery. Farndale et al.(2009) did research in the Netherlands about the impact of technology and the use of self-service applications in HR shared service centers. They asked companies which web-based self-service applications they had available and which of these applications they planned to use in the future. They concluded that all the companies in the sample have a growth strategy in place in terms of the planned increase in eHRM functionality coming from the SSCs' (Farndale et al.,2009). They found an ongoing trend of companies competing with each other by using information technologies to save costs. Following these research results, one might expect changes in the use of information technologies and self-service applications in the future. Therefore it's interesting to see which information technologies HR SCC's do expect to use in five years from now. On the one hand this research focus is relevant for organizations that use HR SSC's, for example, because the rise in self-service applications may make the HR department superfluous in five years. If companies know that they need fewer people for the HR department in five years they can start to anticipate on this development. On the other hand, exploring the future use of IT by HR SSC's has a scientific relevance because we expect to find new information technologies that can be subject of further research. New information technologies can be studied by researchers to test for example the effectiveness of these information technologies in HR SCC´s.

Therefore, the goal of this research is to explore the future and see which new information technologies will be used by organizations in five years. Therefore I formulated the following research question:

Which new information technologies do HR SSC managers expect to use in their HR shared service centers in the next five years?

2. THEORY
2.1 HR Shared Service Centres and information technologies

HRM shared service centres (HRM SSC's) can be described as centres that aim to deliver various HR activities in a more efficient way by centrally bundling resources in intra-organizational business units (Meijerink et al., 2013). Common examples of shared services are the use of a call centre to support employees, line managers and decentralised HRM staff, and a centre for the processing of HRM-related transactions in an information system (Maatman, Bondarouk & Looise, 2010). The main concept of HR SSC's is centralizing HR activities while simultaneously decentralizing control over it to business units (Ulrich 1995; Strikwerda 2004; Janssen and Joha 2006). It's the client who decides which services to receive from the centre, rather than the function deciding which services it will deliver (Farndale, Paauwe & Hoeksema,2009). Potential benefits that come from the integration of centralization and decentralization are improvements in efficiency rates and HR service quality, a strategic contribution for HR professionals and better information for line managers (Reilly 2000; Cooke 2006). The decentralization of control to business units is enabled by the use of information technologies in HR SSC´s. Information systems include many different varieties of software platforms and databases which encompass enterprise-wide systems designed to manage all major functions of the organization (Dewett & Jones, 2001). "Information technologies encompass a broad array of communication media and devices which link information systems and people including voice mail, e-mail, voice conferencing, video conferencing, the internet, groupware and corporate intranets, car phones, fax machines, personal digital assistants, and so on" (e.g., Andolsen, 1999; Campbell, 1999; Edwards, 1999; Grahm, 1999; Schober, 1999; Spiegelman, 1999; Tarabour, 1999; Wildstrom,1999). Information technologies can be divided into three categories of HR delivery. Wright and Dyer (2000) distinguish the following three areas of HR delivery: Transactional HRM, traditional HRM and transformational HRM. In the next section you will find an overview of these areas with will give The first area, transactional HRM, involves mainly administrative activities. Common performed activities in this area are benefits administration, record keeping and employee service. Information technologies that are used in this area are employee self-service(ESS) technologies. Employee self-service(ESS) technology shifts responsibility from HR managers to line managers and employees. The access to self-service applications allow employees to update personnel information, change their own benefit selections or register for training (Marler et al, 2009). The most common self-service applications used are eAbsence (recording sickness absence), eVacation (recording vacation absence) and eExpenses (online management of expense claims) (Farndale, Paauwe & Hoeksema,2009).With these applications employees can control their own HR activities. The second area, traditional HRM, consists of activities as recruitment and selection, training, performance management, compensation and employee relations. One technology based system in this area is Employee Relationship management (ERM). A general definition to understand ERM is "..strategy, programs and technology to effectively manage how firms relate to prospective, current and former employees" (Rogers, 2008, 48). The goal of ERM is to create a mutual viable relationship between companies and employees with the use of information technology. Recruiting on the base of E-portfolios is an example of the use of information technology in ERM. People create their own web-

based portfolio where they describe their education, competences and work experience. These E-portfolios are stored in a large databank which is available for companies to search for new employees. Another form of the use of information technology for traditional HRM activities is online training, also called E-learning. E-learning (i.e, electronic learning) has been defined as "a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet(LAN/WLAN), audio- and videotape, satellite broadcast, interactive TV and CD-ROM" (Kaplan-leiserson, 2002, para. 85). E-learning is used in organizations to deliver training consistently to employees; to update training content when necessary; to reduce travel costs to outside training facilities; and to provide training to employees on demand (Burgess & Russel, 2003). Transformational HR activities, the last area described by Wright and Dyer (2000), are more strategic compared to transactional and traditional HR activities. Activities performed in this area are: knowledge management, strategic redirection, cultural change and management development (Wright & Dyer, 2000). An approach based on information technology that we can assign to this area is the use of HR Analytics in organizations. HR analytics are used in organizations to show the direct impact of processes on business outcomes (Mondore, Douthitt & Carson, 2011). Statistical techniques are used to determine the causal relationship between particular HR practices and performance metrics as customer satisfaction, sales per employee and the profitability of particular business activities (Lawler, Levenson & Boudreau 2004). This information is online communicated to the managers who take decisions on the base of this information. According to Lawler and Mohrman (2003) the use of HR metrics and analytics is one of the four factors that lead to HR being a strategic partner. The strategic value of HR analytics for organizations is that the HR department can show the bottom line impact of its activities to organizations, with this information the HR department can increase its influence on company business decisions and future business strategies (Lawler, Levenson & Boudreau 2004). Below we summarized the HRM activities and information technologies in a table. We have to make one comment on the table. In the table we assigned the information technologies to the different HR types. However, it depends on the use of IT whether it falls in a selected category. For example, employee self service(ESS) is classified as a transactional type of HRM in the table below. But if employees follow a training they do this by using ESS, ESS is then used for traditional HRM. So it depends on the use of the IT whether the information technology falls in a selected

category.

The goal of this research is to do future expectations about new information technologies. A variable that partly reflects the future is 'behavioral intention'. 'Behavioral intention' can be defined as 'a measure of the strenght of one's intention to a specific behaviour'(Fishbein & Ajzen, 1975). The behavior in our research that we want to explain is the behavior of HR SSC managers to implement new information technologies in the future. A model that helps us to explain 'behavioral intention' is the Technology Acceptance model(TAM). In this model, 'Behavioral intention' is explained by three variables, perceived usefulness, perceived ease-of-use and subjective norms. Consequently, we incorporate the TAM-model in this research to explain the future expectations of HR SSC managers towards implementing new information technologies.

2.2 Technology-Acceptance Model

In the past years various researchers have studied the attitude of people to accept new technologies. One model that resulted from this research is the Technology Acceptance Model(TAM). This model, originally developed by Fred Davis in 1989, is an extension of the theory of reasoned action. The original model suggests that there are two factors that influence the attitude of users to accept new technologies, namely: perceived usefulness(PU) and perceived ease-of-use(PEOU). Perceived usefulness can be defined as 'the degree to which a person believes that using a particular system would enhance his or her job performance' (Davis,1989). The definition of perceived ease-of-use(E) is 'The degree to which a person believes that using a particular system would be free from effort '(Davis,1989). In 2000 Venkatesh and Davis extended the original model in to TAM2. The main difference between the original model and new model was that TAM2 incorporated social influence processes as subjective norms, voluntariness and image. Not only perceived usefulness and perceived ease of use where responsible for ´intention to use´ but 'subjective norm' also influenced this variable in the new model. 'Subjective norm' is defined by Fishbein and Ajzen as: 'person's perception that most people who are important to him think he should or should not perform the behaviour in question' (Fishbein & Ajzen, 1975). The rationale for a direct effect of subjective norm on 'intention to use' is that people may choose to perform a behavior, even if they are not themselves favorable toward the behavior or its consequences, if they believe one or more important referents think they should, and they are sufficiently motivated to comply with the referents (Davis & Venkatesh,2000). In this research we will use TAM 2 because it is an improved version of the original model and has stronger explanatory power. The model explains 40% of the variance in use and this is more than the original model (Legris, Ingham & Collerette, 2003). The model includes more variables then the original model and is therefore more complete.

With the model we can say something about behavioral intention of HR SCC managers to use new information technologies in the future. Perceived usefulness(U) influences the attitude of people toward using. If HR SCC managers believe that new information technologies would enhance their job performance(U) their attitude toward the use of new information technologies will be positive. If managers have a positive attitude to implement new information technologies their behavioral intention to use new information technologies will be high. The same applies to perceived ease-of-use(E). If managers believe that the use of new information technologies would be free from effort(E) their attitude toward the use of

Type of HRM	Transactional	Traditional	Transformational
Activities	-Benefits administration -Record keeping -Employee service	-Recruitment and selection -Training -Performance management - Compensation -Employee Relations	-Knowledge management -Strategic redirection -Cultural change -Management development
Information technologies	-Employee self-service(ESS) portals -eAbsence -eVacation -eExpenses	-Employee relationship management(ERM) -E-portfolios -Online training	-HR analytics and metrics

new information technologies will be positive. This positive attitude leads to a high behavioral intention of HR SCC managers to implement new information technologies. The last variable in our model that influences the attitude of HR SCC managers is 'subjective norms'. If the people that are important to HR SCC managers indicate that they think that the HR SCC managers should implement new information technologies the attitude of these HR SCC managers will be positive to implement new information technologies. If managers have a positive attitude their behavioral intention to use new information technologies will be high. In summary, the variables Perceived usefulness, perceived ease-of-use and subjective norms can lead to a positive attitude and thereby high behavioral intention of HR SCC managers to implement new information technologies. HR SCC managers with a high behavioral intention to use new information technologies will be more interested in new technologies and thereby search for more options to implement new information technologies in the future. Therefore we expect that HR SCC managers with a high behavioral intention to use new information technologies will report more options to implement new information technologies in the future than HR SCC managers with a low behavioral intention. Thus if HR SCC managers score high on Perceived usefulness, perceived ease-of-use and subjective norms they will report more options to implement new information technologies in the next five years than HR SCC managers that score low on Perceived usefulness, perceived ease-of-use and subjective norms. Hence, I formulated the following hypothesis.

Hypothesis:

HR SCC managers that score high on subjective norms, perceived usefulness and perceived ease-of-ease will report more options of new information technologies to implement in the next five years than HR SCC managers that score low on subjective norms, perceived usefulness and perceived ease-of use.

3. METHODOLOGY

The Delphi method and a survey have been chosen as suitable research methods to answer the research question and to test the hypothesis.

3.1 Delphi-study

The purpose of this research is to forecast which new information technologies will be used in the next five years. One way to look in the future is by informing experts. A research method that helps us looking in the future by informing experts is the Delphi-method. "The Delphi method structures and facilitates group communication that focus, upon a complex problem so that, over a series of iterations, a group consensus can be achieved about some future direction" (Loo,2002, p. 763). In our research we use the Delphi-method to ask experts which new information technologies they plan to use in the next five years to measure our dependent variable 'number of new information technologies' which we need to test our hypothesis. In our research we selected the HR SCC managers as our experts. We consider them as experts because they are responsible for implementation of new information technologies and thus will look for new information technologies to implement in the future. We found 11 HR SCC managers from Dutch companies that were willing to cooperate in this research. The response rate in the first round was 100%. The companies were selected on one main criteria: the use of a

HR SCC Center. Besides this the companies were large and operating in different industries in the Netherlands. This to have an representative sample. Due to lack of time, our Delphi-method consisted only of two rounds of questioning. The purpose of the first round is to collect a wide range of data. This round aims at 'divergence' of information´(Dalkey & Helmer, 1963; Bradley, & Stewart, 2002). In the second round the answers of the first round are given as feedback to the experts to achieve 'convergence' of information(Dalkey & Helmer, 1963; Bradley, & Stewart, 2002).

In order to gain insight in possible future new information technologies and online services in HR SCC's we asked our experts via mail the following open-ended questions in the first round:

-Which new information technologies do you expect to use in the next five years?

- Which online services will you offer as HR SCC in the next five years?

Besides the questions about the new technologies and online services we asked the HR SCC managers a general question about their future vision of HR SCC's to discover phenomena that could be related to the implementation of new information technologies and online services.

After we received the results of the first round we summarized all the answers in two tables, one table with possible new information technologies and one table with possible online services. The coding was based on the distinction between a service and a technology. This coding was done by two other students to achieve consistency among persons. The inter-code reliability was 90% During the coding the duplicated answers were removed to remain consistent. Answers that belonged to the same category were taken together, for example 'learning portals' and 'learning management systems(LMS) were taken together because they both belong to E-learning.

In the second round of questioning we presented both tables to the experts with the question if they were already using that technology or online service or whether they were planning to use that technology or online service within five years from now. So we gave them two options, 'already in use' or 'plan to use within five years from now'. In order to measure our dependent variable 'number of options of new information technologies' we asked them to cross the options behind the new information technologies and online services. The response rate in the second round was 90,9%.

To determine whether we reached consensus in the second round we formulated a rule. To achieve consensus at least 75% of the respondents must mention to implement the same technology in the next five years. So every percentage below 75% was not enough to reach consensus. The consensus that we found in the second round was 90%, enough to speak of consensus.

3.2 Survey

Besides the delphi-questions we sended the HR SCC managers in the first round a short survey to measure our independent variables perceived usefulness, perceived ease of use and subjective norms. The response rate on this survey was 100%, all the eleven managers filled in the survey. We used a survey because it provides us quantitative data which we can use to test our hypothesis. To measure our independent variables we used the scale of Venkatesh and Davis(2000). We picked this scale because it measures 'behavioral intention' and to test our hypothesis we have to link 'behavioral intention' with the outcomes of our Delphi-study. Another reason to use the scale of Venkatesh and Davis(2000) is that it's already used and

tested and therefore reliable. All items were measured on a 5-point Likert Scale with response categories: Strongly agree, agree, neutral, disagree and strongly disagree.

To analyze the results of the survey we gave all the answers a number. Strongly disagree=1, disagree=2, neutral=3, agree=4 and strongly agree=5. This enabled us to calculate a score for every individual respondent on perceived usefulness, perceived ease-of-use and subjective norms. With these scores we could test the relationship between perceived-usefulness, perceived-ease-of-use and subjective norms with number of options of information technologies. To test these relationships we executed a correlation analysis.

4. FINDINGS

4.1 New information technologies and online services

In the first round of questioning eleven HR SCC managers responded to our mail with delphi questions and survey. In Table 1 you see an overview of the information technologies mentioned by the HR SCC managers in the first round. The results will we discuss here.

On the question which new information technologies HR SCC managers expected to use in the next five years the HR SCC managers reported the following answers: Applications in the cloud, SAP, digital evaluation system, webshare/webcasting, LMS and webinars, time registration systems, sharepoint online(digital library), HR tools that support HR analytics, MSS/ESS and management dashboards that provide information to strategic HR KPI's.

The information technology which was mentioned most often by the respondents to use in the next five years was self-service for employees and managers(ESS/MSS). From the eleven HR SCC managers nine indicated that they were planning to use Management Self Service(MSS) and Employee self-service(ESS) in the next five years. One respondent mentioned for example to implement *'new systems to improve self-service for customers'* and another mentioned to implement *'ESS/MSS on the base of all personnel data.'* In general, the respondents that mentioned to use ESS/MSS in the future where planning to improve and expand the use of ESS/MSS in their HR SCC.

Another new technology often mentioned by the respondents to implement in the next five years is the 'cloud'. Cloud technology is online software that people can you use on all devices. Employees don't have to install applications when their company uses the cloud because all the applications are online available in the Cloud. Cloud technology was mentioned by three experts to implement in the next five years. One respondent mentioned for example that they *'planned to implement 'cloud technology for all HR services'*.

Information technologies which support online training where also frequently mentioned by the experts. The use of webinars, learning portals and Learning Management Systems(LMS) were mentioned by three expert.

New information technologies	Responses
Applications in the cloud (online).	3
ERP systems (SAP, PeopleSoft)	3
Digital evaluation system, with evaluation, salary increase, bonusmethodology and potential management development	1

Webshare/webcasting to share sound and visiong during application interviews.	1
Informatietechnologies which support online training(Learning management systems(LMS), webinars and learning portals).	3
Informatietechnologies regarding personal administration(time registration systems, payroll engine, document generator).	2
Sharepoint online, digital library where information is based on job description	1
HR tools that support HR analytics	1
Management self service (MSS) and employee self-service (ESS).	9
Management dashboards that provide management information to strategic HR KPI's	2

Table. 1

On the question which online services the HR SCC´s would offer in the next five years a wide range of answers was received. There were three services that were mentioned by two HR managers to digitalize in the next five years, namely: recruitment and selection, learning portals and talent management. Further services that were mentioned by the experts were: performance management, case management, leave requests, request for security cards, management for personnel data, digital signature, digital employment contract and payroll and adjustment of work schedule. These services were all mentioned once. So, this question delivered no striking results.

In the second round of questioning ten experts responded to our mail with Delphi-questions. As in the first round we summarized the answers in a table. Table 2 consists of three columns. In the left column you see the various information technologies that were mentioned by the experts in the first round. The central column refers to the information technologies that are already used in HR SCC's and the right column refers to the technologies that will be used in the next five years. The numbers in the tables reflect how many managers have filled in this answer. For example, 'applications in the cloud', five managers filled in that they were 'already using' that technology.

First we discuss the technologies that are already in use. There are four technologies which are already widely used in HR SCC's. ERP systems as Sap and PeopleSoft, technologies that support online training, technologies that support personnel administration and self-service for employees and managers(ESS/MSS) are already frequently used in HR SCC's. The most striking results came from ERP systems and self-service for employees and managers. ESS and MSS for example were already used in every HR SCC, all the ten respondents mentioned that they were already using ESS and MSS in their HR SCC. Although every HR SCC manager already uses ESS and MSS in their HR SCC, 50% indicated that they were going to implement new ESS and MSS systems in the next five years. 90% of the respondents indicated that they were already using ERP systems as SAP and PeopleSoft. In contrast to ESS/MSS will this technology not really be expanded by much HR SCC managers, only 1(!) manager mentioned to implement this technology in the next five years. Information technologies that support online training and information

technologies regarding personnel administration are both already used by 80% of the HR SCC managers.

In the next part we discuss the new technologies that will be used in the next five years. To reach consensus we took into account the 75% rule that we described in the methodology-section. Following this rule there is consensus on two information technologies which will be used in the next five years. These are 'HR tools that support HR analytics' and 'Management dashboards that provide management information to strategic HR KPI's'. There is for 90%consensus that 'HR tools that support HR analytics' will be used within five years from now in HR SCC's. In particular, this form of technology is entirely new because none of the HR SCC managers indicated that they were already using this technology. Although we don't know exactly which tools will be implemented in the next five years we know that HR SCC's will implement tools that support HR analytics. HR tools can help managers to monitor HR activities. 'Management dashboards that provide management information to strategic HR KPI's' was the second information technology where consensus was reached. This technology can also be seen as a form of HR analytics, HR dashboards provide managers an overview of the performance of different HR activities. Therefore HR dashboards can be seen as a tool to control HR activities. The experts reached for 80% consensus on this technology. Besides these technologies there was one other technology where almost consensus was reached among the experts. For 'Cloud' technology was 70% consensus that it would be implemented in the next five years.

Information technology	Already in Use	New < 5 jaar
Applications in the cloud (online).	5	7
ERP systems (SAP, PeopleSoft)	9	1
Digital evaluation system, with evaluation, salary increase, bonusmethodology and potential management development	6	6
Webshare/webcasting to share sound and visiong during application interviews.	4	4
Informatietechnologies which support online training(Learning management systems(LMS), webinars and learning portals).	8	2
Informatietechnologies regarding personal administration(time registration systems, payroll engine, document generator).	9	4
HR tools that support HR analytics	0	**9**
Sharepoint online, digital library where information is based on job description	5	6
Management self service (MSS) and employee self-service (ESS).	10	5
Management dashboards that provide management information to strategic HR KPI's	4	8

Table 2.

There was no consensus among the experts on which new online services would be implemented in HR SCC's in the next five years. A lot of technologies were already digitalized in the

HR SCC's of the managers. Performance management, learning portals, leave requests, management of personnel data, adjustment of work schedule and recruitment and selection were services that 80% of more of the experts already offered in their HR SCC. One service worth mentioning is talent management, on this service was 50% consensus to be introduced in the next five years. Talent management includes a lot of things, managing talent, developing skills etc. In the appendix is a table with the full results of the second round with regard to online services.

4.2 Future vision of HR SCC's

To reach consensus on the future vision of HR SCC managers we discuss here the developments in HR SCC's that are mentioned by two or more managers and are not contradicted by other experts. On the base of this criteria we found two interesting developments related to the use of information technologies in HR SCC's.

Firstly, we see a further expansion of the use of self-service applications for employees and managers. Several experts mentioned to further expand the use of ESS and MSS in their HR SCC.

- *'More self-service for our customers'*

- *'Flexible use of ESS/MSS on all mobile devices'*

- *'Optimalization of ESS/MSS which enables device independent real time interaction'*

- *'With the help of mobile devices will ESS/MSS be further expandend'*

Another development that several managers mention is the further centralization, integration and standardization of HR systems and departments as P&O which lead to a stronger incentive to monitor and control. The focus of HR SCC will be more on monitoring and controlling in the next years. Due to this role they will use and develop HR analytics to monitor HR activities.

- *'Centralizing repetitive administrative processes....work will change from performing to management, control and reporting'*

- *'HR tooling for managers, this means for the role of HR SCC's more monitoring and support for employees and managers'*

- *'Development of service delivery types as HR analytics and control activities...I expect the next few years professionalization of these new services'*

4.3 Testing hypothesis

To test the hypothesis 'HR SCC managers that score high on subjective norms, perceived usefulness and perceived ease-of-ease will report more options to implements new information technologies in the next five years than HR SCC managers that score low on subjective norms, perceived usefulness and perceived ease-of use' we executed a correlation analysis. To test this hypothesis we examined three relationships.

The first relationship that we tested was perceived usefulness with number of options of information technologies. The correlation between these variables was R=0,44. To test the significance of this relationship we executed a T-test. The outcome of this T-test was P=0,16. When P<0,05 we assume that a relationship is significant. However, P=0,16>0,05, so there is no clear relationship between perceived usefulness and perceived ease-of-use.

The second relationship that was tested, was Perceived-ease-of-use with number of options of new information technologies. We found the following correlation between these variables,

R=0,58. The P-value that we got from the T-test was P=0,013. P=0,013<0,05, so the relationship between Perceived-ease-of-ease and number of options of new information technologies is significant. Below you see a graph of this relationship with on the vertical axis 'number of implemented new information technologies and horizontal the variable 'perceived ease-of-use'.

Perceived-ease-of-use
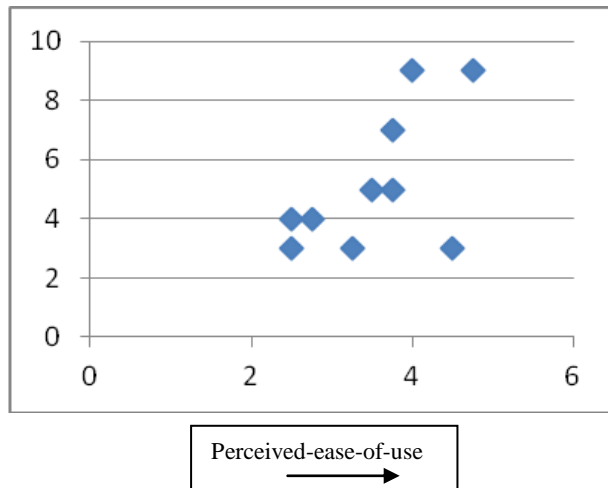
The relationship between subjective norms and number of options of new information technologies was the third and last relationship that we tested. The variables correlated for 0,49, so R=0,49. The T-test delivered a P-value of 0,02. This value is lower than 0,05 so this relationship is just like the second relationship significant.

The correlation analysis proved that the variables Perceived-ease-of-use and subject norms both have a relationship with number of options of information technologies. However, there was no significant relationship between perceived usefulness and number of options of information technologies, therefore we can't fully accept our hypotheses. We can split our hypothesis in two parts. We accept the hypothesis' HR SCC managers that score high on perceived ease-of-use and subjective norms will report more options of new information technologies to implement in the next five years than HR SCC managers that score low on perceived ease-of use and subjective norms'. We reject the hypothesis 'HR SCC managers that score high on perceived usefulness will report more options of new information technologies to implement in the future then HR SCC managers that score low on perceived usefulness.'

5. DISCUSSION
In this section we will discuss our hypothesis and the theoretical and practical implications of our results.

5.1 TAM2
We incorporated the TAM-model in this research to test the relationship between 'behavioral intention' and 'number of options of information technologies implemented by HR SCC managers. We expected that HR SCC managers with the highest behavioral intention would report to implement the most new information technologies in the future. To test this hypothesis we tested the effect of three variables that reflect behavioral intention on the implementation of new information technologies. We found that two of the three variables had a significant relationship with the implementation of new information technologies, these were perceived ease-of-use and subjective norms. However, there was no significant

relationship between perceived usefulness and the number of options of new information technologies that the HR SCC managers reported. Perceived usefulness was defined by Davis(1989) as ' the degree to which a person believes that using a particular system would enhance his or her job performance'.
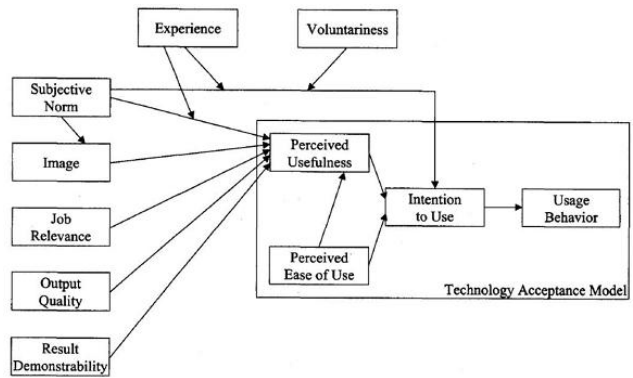

Figure. 1

If we take a look at TAM2, the model developed by Venkatesh and Davis we see that perceived usefulness is influenced by four variables. In figure 1 you can see that image, job relevance, Output quality and result demonstrability all influence perceived usefulness. However, we didn't measure the effect of these variables in this research. It might be that these variables have interacted with each other and thereby weakened the relationship between perceived usefulness and number of options of new information technologies implemented.

If we go back to our data we find another explanation for the lack of a relationship between perceived usefulness and the implementation of new information technologies. One HR SCC manager from a public company indicated in the first round that they couldn't implement all sort of information technologies because of restrictions inside the company. This implies that there is another factor that influences implementation of new information technologies. It might be that a manager of a HR SCC scores high on perceived usefulness but that he can't implement a information technologies due to restrictions of the company. This might also be a reason that perceived usefulness has no significant effect on the implementation of new information technologies.

The TAM-model can be derived from the psychology. It focuses on the behavioral characteristics of human beings. The lack of a relationship between perceived usefulness and the implementation of new information technologies implies that the implementation of new technologies can't be fully explained by human behavior of managers. For researchers this means that there are other factors that can be investigated to explain the implementation of new information technologies. The type of company for example, public or private? Or the type of activities that a company performs can be investigated in relation to the implementation of new information technologies.

5.2 Information technologies in HR SCC
The general vision of experts about the future confirmed our expectations about the growth of the use of information technologies in HR SCC's. In particular, the use of self-service applications will be further expanded by HR SCC's. This is in line with the study of Farndale, described in the introduction, who found an trend of companies with all growth strategies to increase eHRM in the future. Besides the growth in self-service application we found two new technologies that will be implemented in the next five years. HR tools and management dashboards will be used to support HR analytics in the next five

years. According to the experts the role of the HR SCC will change due to further standardization and centralization of HR activities. Instead of carrying out HR activities the emphasis will be more on monitoring and controlling HR activities. This changing role of the HR SCC explains the implementation of HR analytics in the future. HR analytics can help managers to monitor and control HR activities. Further centralization and standardization of repetitive tasks implies for HR SCC's that the department of P&O, who is responsible for basic administrative processes, will be superfluous in a couple of years. Outsourcing the P&O department and/or retraining P&O employees to work with HR analytics would be possible strategies for companies to execute in a couple of years. Employees can be trained to work with HR analytics and to make sense out of the provided data. The implementation of HR analytics in HR SCC's has also theoretical implications. The implementation and use of HR analytics in HR SCC's in the next years offers the possibility for researchers to do research into the effectiveness and strategic value of HR analytics for organizations. As described in the theory part, HR analytics can increase the strategic value of HR for businesses. Now many companies will implement tools that support HR analytics this offers a good opportunity for researchers to do research into the effectiveness of these tools.

6. CONCLUSION

The research question that we want to answer in this research is: *'Which new information technologies do HR SSC managers expect to use in their HR shared service centers in the next five years?'*

In the second round of our Delphi-study we reached consensus for two technologies that HR SCC managers would implement in the next five years. These are 'HR tools that support HR analytics' and 'Management dashboards that provide management information to strategic HR KPI's'. Both technologies can be used for transformational HRM. The use of these technologies can be explained on the base of the view of experts that the focus of HR SCC's in the next five years will be on controlling and monitoring HR activities. This is explained in the result section 4.3. A management dashboard that delivers strategic information to HR SCC managers can be seen as a tool to support HR analytics. Hence, we can conclude that in the next five years tools that support HR analytics will be largely implemented in HR SCC's.

Above results should be seen within the limitations of this study. This study contains several limitations which can be reason for further research. First of all, our sample size consisted only of eleven HR SCC Managers. This sample is small and therefore it was difficult to test the significance of the correlations that we measured. A larger sample is better to test the significance of the correlation-analysis. Second, our Delphi-study consisted only of two rounds of questioning. A normal Delphi-study has three or four rounds to reach consensus (Hsu & Sandford,2007). And third, we didn't measure the effect of image, job relevance, output quality and result demonstrability on perceived usefulness. Now we don't know in what way these variables have influenced the relationship of perceived usefulness with implementation of new technologies. Hence, we have the following suggestions for further research. For further research it's recommended to maintain a larger sample size to be able to better check the significance of the relationships. Another suggestions is to conduct three or more rounds in the Delphi-study instead of two. This enables the researcher to provide more feedback to the experts which can lead to greater consensus. Another suggestion is to measure the variables image, job relevance, output quality and result demonstrability and their relation with perceived usefulness.

In this research we didn't investigate the type of organization in relation to the implementation of new information technologies. This might be interesting for further research, maybe the implementation of new information technologies depends on whether a company is public or private. Another suggestion is to do research into the type of activities a company performs in relation to the implementation of new information technologies. A hospital might implement more new information technologies then a company that builds cars for example.

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9. APPENDIX

9.1 Scale Venkates& Davis, 2000

Perceived usefulness:

Using the system improves my performance in my job

Using the system in my job increases productivity

Using the system enhances my effectiveness in my job

I find the system to be useful in my job

Perceived ease of use

My interaction with the system is clear and understandable

Interacting with the system does not require a lot of mental effort

I find the system to be easy to use

I find it easy to get the system to do what I want to do

Subjective Norm

People who influence my behavior think that I should use the system

People who are important to me think that I should use the system

9.2 Results second round Delphi, online services

Online services in HR SCC	Already in use	Introduction < 5 years
Recruitment and selection	6	2
Performance management / evaluation	8	2
Learning portals.	8	2
Talent Management.	3	5
Case management.	5	3
Leave requests	9	3
Request for security cards.	4	3
Management of personnel data.	10	2
Digitale signature	6	6
Employment contract and payroll digital form.	5	4
Adjusting work schedule	8	2
Recruitment and selection	8	2