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## Platform thinking for services: the case of human resources

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This paper tests the utility of platform thinking, a design principle that has so far been applied to product development yet under-researched in service settings, for improving the value of services. A key principle of platform thinking is to balance the reuse of service components with the heterogeneity in user needs. Tuning services to specific user needs is valuable, but differentiating services when user needs are homogeneous may decrease service quality and increase cost. Using data from 676 human resource management services, this study finds that the service value is highest when the service provision is matched with the commonality potential of the services. The results indicate that using the wrong delivery channel decreases the service value which eventually could decrease the service value for an organization's external customers. These empirical findings demonstrate the relevance of platform thinking for service design and challenges conventional design criteria used for optimizing service delivery.

**Keywords:** platform thinking; commonality potential; differentiation in needs; human resources; service innovation; shared services

### Introduction

For organizations, the creation of internal service value for its employees is important, because ultimately this results in high levels of service value for its consumers and firm performance (Schneider, White, & Paul, 1998). Schneider et al. (1998) were among the first to find that the perceived quality of internal services for employees relates positively with service quality for a firms' external customers, because high-level internal service quality signals the importance of providing high-quality services to external customers (i.e. creates a climate for service). In particular, the quality of internal human resource management (HRM) services is considered to be key, because HRM services such as training, performance management or employee benefits relate positively with employee's concern for customers (Chuang & Liao, 2010; Peccei & Rosenthal, 2001), service performance (Liao & Chuang, 2004) and ultimately market performance (Chuang & Liao, 2010). Therefore, providing high-quality internal HRM services to employees contributes to the success of the service organization. Several researchers have suggested that the product management principle *platform thinking* enables the provision of services with a high value (Meyer & DeTore, 2001; Voss & Hsuan, 2009). A service platform consists of a bundle of reusable functions that allow service providers to more efficiently configure

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new services that match with individual customer demands (Halman, Hofer, & van Vuuren, 2003; Robertson & Ulrich, 1998). The underlying principle of *platform thinking* is to balance the commonality potential (i.e. degree to which services can be standardized and reused for future service delivery) and heterogeneity in user needs (Halman et al., 2003). It assumes that a high heterogeneity in demand with user needs that vary both across users and time requires companies to customize services to the demands of individual customers. On the other hand, low heterogeneity in needs would allow companies to benefit from a commonality potential and derive economies of scale by offering standardized services that can be reused and shared among various users.

In today's internal service delivery, applying the platform thinking concept of commonality potential indeed seems to have utility. Nowadays, the provision of HRM services takes place through a variety of intra-organizational HRM delivery channels, that is, the actors *internal* to the organization which offer HRM services to employees. The available internal delivery channels are numerous and include HRM-shared service centres (SSCs), embedded HRM business partners, centres of expertise, line managers and electronic HRM (Farndale, Paauwe, & Boselie, 2010; Ulrich, 1997). Essentially, these delivery channels are either shared by a variety of users and have commonality potential (e.g. an HRM SSC) or they provide HRM services for a single business unit (e.g. an embedded HRM professional or line managers) who are able to capitalize on differentiating in needs.

However, although various authors indicated that service reuse facilitates more efficient creation of new services while guaranteeing high service value (Meyer & DeTore, 2001; Voss & Hsuan, 2009), the impact of service reuse on the service value has not been tested to date. Instead, the majority of platform scholars study the commonality potential in its traditional setting, which is product management. As a result, we lack knowledge on the validity of the platform thinking principles for maximizing the value of *services*. Therefore, the purpose of this paper is to empirically validate the assumption that to yield high-level HRM service value, the use of a specific delivery channel hinges upon the commonality potential of the HRM services provided.

In doing so, the contribution of this paper is twofold. First, it finds that when customer needs for an HRM service are more or less the same, and are relatively stable over time, the value of the HRM services provided by a shared HRM delivery channel is higher in comparison to services provided by a non-shared HRM delivery channel. In doing so, this paper contributes by showing that the utility of platform thinking reaches beyond the field of product management, by helping to explain and improve the value of services. Second, this paper contributes to the literature on HRM, which has largely overlooked how to allocate internal HRM services among shared and non-shared HRM delivery channels as it focused mostly on the conditions under which HRM services can be best outsourced and thus offered by external service providers. To fill this void, this paper shows that the allocation of internal HRM services can be based on the commonality potential for guaranteeing the provision of high-quality HRM services.

The remainder of this paper is organized as follows. We start with discussing the concept of HRM service value and reducing the variety of HRM delivery channels into a categorization of shared versus non-shared HRM delivery modes. This is followed by the development of hypotheses using the commonality potential framework, which are later tested with the use of survey data from a Dutch technical service company. After the presentation of the research findings, we conclude with the theoretical and practical implications of our research.

## Theoretical background

### *Service value*

Before we discuss how platform thinking principles can improve HRM service delivery, we will first explain what criterion we use to evaluate the performance of services and thus represents a benchmark for the utility of platform thinking in the service sector. For this we take 'service value' as our criterion because it measures the envisioned benefits of platform thinking in terms of reduced costs and improved quality (Robertson & Ulrich, 1998). Value has been thought of as the client's 'overall assessment of the utility of a service based on the perceptions of what is received and what is given' (Zeithamel, 1988, p. 15). Several scholars have operationalized value by the ratio of use value (i.e. what is received) to exchange value (i.e. what is given) (Bowman & Ambrosini, 2000; Lepak, Smith, & Taylor, 2007). Use value represents 'the quality of a (...) service as perceived by users in relation to their needs' (Bowman & Ambrosini, 2000, p. 2). Exchange value, on the other hand, has been defined as the 'amount paid by the user to the seller for the use value of the focal (...) service' (Lepak et al., 2007, p. 182). In other words, it reflects the monetary (such as fees and prices paid for services) and non-monetary costs (e.g. effort and time) that clients make in consuming a service (Lapierre, Filiatrault, & Chebat, 1999). Combining use and exchange value as a ratio, we define service value as the ratio between a service's benefits and the costs of its acquisition.

### *Towards a conceptualization of HRM delivery channels*

In order to select the HRM service delivery channel which yields the highest level of service value for a selected HRM service, organizations can choose from a variety of options. Ulrich (1997) identified three HRM service delivery channels, namely corporate HRM departments, HRM SSCs and HRM business partners. Later, this topology was extended with two delivery channels: centres of expertise and operational executors (Ulrich, Younger, & Brockbank, 2008). Farndale et al. (2010) present a somewhat different model that includes five HRM delivery channels: electronic HRM, HRM SSCs, HRM expertise centres, HRM business partners and corporate centres. Valverde, Ryan, and Soler (2006), on the other hand, suggest three HRM delivery channels: the HRM department, top management and line management. It is not difficult to conclude that a variety of classifications of HRM service delivery channels exists. At first sight, this variety may cause problems to develop a comprehensive model that accounts for all possible internal sourcing arrangements for delivering HRM services. However, these problems may be mitigated if we move to a higher aggregation level. In this study, we therefore distinguish between HRM delivery channels that offer services which are shared across business units and those that deliver services for a single unit. For example, (corporate) HRM expertise centres and HRM service centres are shared service providers which offer common HRM services to employees, managers and decentralized HRM staff in multiple business units (Cooke, 2006; Farndale et al., 2010; Ulrich, 1995). On the other hand, HRM business partners are embedded in a single business unit to deploy HRM programmes there and closely partner with a group of line managers who are responsible for offering operational HRM services to their subordinates (Farndale et al., 2010; Ulrich et al., 2008). Given that business units rely on both collective and retained HRM delivery channels, we distinguish two HRM delivery modes: (1) a shared HRM delivery mode that reflects the execution of common HRM activities by delivery channels which are shared across business units, whereas (2) the non-shared HRM delivery mode refers to the execution of HRM activities

by delivery channels that operate for a single business unit. [Table 1](#) provides examples of both delivery modes.

### *Platform thinking and HRM service delivery*

Until today, it remains open to question which conditions do determine the appropriate delivery mode for specific HRM services. This paper resolves this issue by applying the platform thinking principle and the related concept of commonality potential, which originates from the product innovation management literature (Halman et al., 2003; Robertson & Ulrich, 1998). We do so, because key to platform thinking is ‘the sharing of components, modules and other assets across a family of services’ (Halman et al., 2003, p. 149). Furthermore, previous research has shown that sharing service components across a family of services results in multiple benefits, including economies of scale and scope, accumulated learning, shorter lead times and increases in service quality (Meyer & DeTore, 2001; Pekkarinen & Ulkuniemi, 2008; Voss & Hsuan, 2009). As such, applying platform thinking to HRM service delivery provides the opportunity to offer better services at a lower price, and hence allows organizations to improve HRM service value levels.

A key concept in platform thinking is the service platform which, in terms of HRM delivery channels, echoes the shared HRM delivery mode. A service platform can be defined as the collection of service components that are shared by a set of services (Robertson & Ulrich, 1998). A shared service platform is common for all the services offered to the employees of the different business units in the company and represents the maximum standardization possible considering the performance requirements that must be satisfied due to varying customer needs. In an HRM context, service components can be thought of as HRM activities that are part of HRM processes, like conducting a face-to-face interview or screening resumes which together are part of staffing processes. In an HRM context, a service platform involves the sharing of HRM activities across a family of HRM processes. For example, the resume screening or application request administration can be the same for an engineer within the R&D department as for a representative in the sales department ([Figure 1](#)). The HRM process steps that are common across multiple business units can form a service platform and therefore the delivery of this platform can be easily done by means of a shared HRM delivery mode ([Figure 1](#)). Given this consideration, relying on the shared HRM delivery mode for offering an HRM activity will be appropriate when the commonality potential of this activity justifies the decision to put it in a

Table 1. Examples of HRM delivery modes.

	Shared delivery mode	Non-shared delivery mode
Definition	Execution of common activities by delivery channels which are <b>shared</b> across business units	Execution of activities by delivery channels that operate for a <b>single</b> business unit
Examples of delivery channels	<ul style="list-style-type: none"> <li>• SSCs</li> <li>• Centres of expertise</li> <li>• Corporate department</li> <li>• Top management</li> <li>• Electronic human resource management</li> </ul>	<ul style="list-style-type: none"> <li>• Line managers</li> <li>• Embedded human resource professionals/business partners</li> <li>• Operational executors</li> </ul>

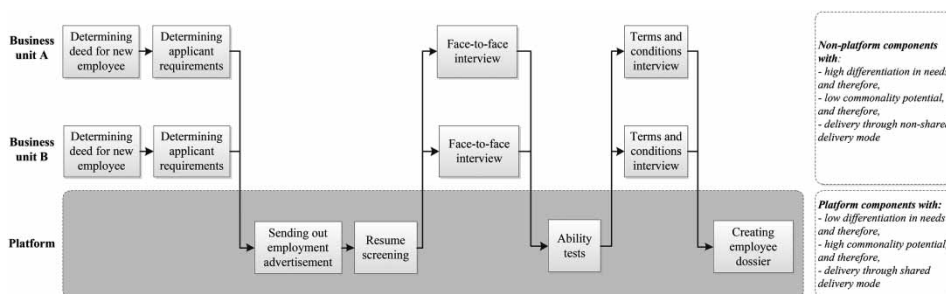


Figure 1. Example of a platform for the delivery of recruitment and selection services.

platform. As outlined below, the concept of platform thinking explains that the commonality potential of service components, which is higher when user needs are more homogeneous, is a key criterion for deciding to put service components in a service platform (Robertson & Ulrich, 1998).

### *Relationship between the level of differentiation in needs and sharing services*

Platform scholars identified two related conditions which determine whether it is appropriate to put a service component into a service platform: commonality potential and the level of differentiation in user needs (Halman et al., 2003; Hofer & Halman, 2004; Robertson & Ulrich, 1998; Voss & Hsuan, 2009). Product variety is valuable in contexts where customers differ in their demands, yet it is usually costly to deliver. The sharing of assets across products allows companies to manage the trade-off (Robertson & Ulrich, 1998). This concept also applies well to services (Meyer & DeTore, 2001). There is a trade-off between satisfying the variety of requirements and maximizing platform commonality (Nayak, Chen, & Simpson, 2002). Viewing services as monolithic entities can be self-limiting and therefore it is important to balance the commonality potential of sharing service components across a range of services with the need to flexibly differentiate services to the unique demands of individual customers. As distinctiveness and the commonality potential are two sides of the same coin, both perspectives can be used to develop a robust service platform.

Commonality potential refers to the replicability of service components. Product and service components can easily be replicated across multiple services when these products or services rely on standard interfaces between components and similar assets like knowledge, information technologies or operating standards (Halman et al., 2003; Voss & Hsuan, 2009). A derivative of commonality potential is differentiation in needs concept that reflects the variety of demands placed upon the system and refers to the extent to which the needs for a service differ across clients (Halman et al., 2003; Hofer & Halman, 2004). As such, this concept concerns the heterogeneity of client needs which may differ both across individual clients and over time (Martin & Ishii, 2002; Schilling, 2000). A service component is said to be eligible for inclusion in a platform, when differentiation in needs is low, because this increases its commonality potential (Hofer & Halman, 2004; Martin & Ishii, 2002; Robertson & Ulrich, 1998; Voss & Hsuan, 2009) (Figure 1). According to Hofer and Halman (2004), 'differentiation needs have to be served by non-platform components' (p. 55) in order to ensure that the service meets the unique client needs across time. The other way around, when following the economies

of scale logic, a service component can be best put into a platform when commonality potential is high, because dispersing assets throughout the organization for meeting similar needs leads to a suboptimal and inefficient allocation of assets (Hofer & Halman, 2004; Pekkarinen & Ulkuniemi, 2008; Voss & Hsuan, 2009). Therefore, to increase the efficiency and quality of service components for which customers have low differentiation in needs should be part of the service platform (Robertson & Ulrich, 1998).

We argue that if decision makers ignore the principles of platform thinking for designing their HRM services, this is likely to lead to suboptimal levels of HRM service value. For instance, when HRM services with high commonality potential are not shared, organizations may miss out economies of scale benefits, resulting in a relatively high price to be paid by clients to obtain these services. On the other hand, when differentiation in needs is high, sharing of those activities likely results in over-standardization and a low quality of HRM services. Furthermore, centralizing HRM services that have associated needs which change rapidly over time in shared HRM delivery channels may increase costs due to on-going negotiations between the business unit and shared HRM delivery channel (Rindfleisch & Heide, 1997). Finally, the costs of HRM services for which idiosyncratic preferences exist (i.e. have a high level of differentiation in needs) may increase when being shared, because the shared HRM service provider has to make up-front investments to understand the specific needs of many different business units. This is consistent with the findings of Klaas, McClendon, and Gaine (1999), who found that firms who rely on idiosyncratic HRM practices perceive fewer benefits from outsourcing HRM practices to external vendors than those who have standard practices and needs. Therefore, applying platform thinking suggests that HRM services will maximize HRM service value when HRM activities with high commonality potential (i.e. low differentiation in needs) are shared, and HRM activities with low commonality potential (i.e. high differentiation in needs) are non-shared. In other words, a mismatch between differentiation in needs and HRM service delivery channel results in lower levels of HRM service value. As such, we suggest the following hypotheses:

Hypothesis *1a*: the service value of human resource management activities with low differentiation in needs is higher when delivered through a shared delivery mode in comparison to a non-shared delivery mode.

Hypothesis *1b*: the service value of human resource management activities with high differentiation in needs is higher when delivered through a non-shared delivery mode in comparison to a shared delivery mode.

## Methods

### *Contextual background, sampling and procedures*

To test our research hypotheses, we used data obtained from a sample of HRM activities performed within a Dutch technical services company; for anonymity reasons we refer to this company as TechCom. Here, our unit and level of analysis is the HRM activity, because following our research hypotheses, we intend to test whether the alignment of an HRM activity's delivery channel and differentiation in needs affects the value of the selected HRM activity. As such, we are interested in the differentiation in needs, the delivery mode and the value of specific HRM activities. At the time of the research, which was conducted from July 2010 till February 2011, TechCom relied on an HRM SSC (shared HRM delivery mode), and embedded HRM advisors and line managers (non-shared



HRM delivery mode). TechCom had experience with both HRM delivery modes since 2008, the year when TechCom started offering HRM services using the shared HRM delivery mode (i.e. the HRM SSC), whereas before, most operational HRM activities were taken care of within the business units by line managers and embedded HRM professionals. TechCom consisted of 22 business units which differently distributed HRM activities across shared and non-shared delivery channels. For example, some business units decided not to make use of the HRM SSC for sick leave and working hours' administration, whereas others did. Therefore, across the business units within TechCom we found a variation in the distribution of HRM activities along shared and non-shared delivery modes. This made TechCom a useful empirical setting for testing whether the alignment of HRM activities with a service delivery channel affects HRM service value.

In order to draw a sample of HRM activities, we constructed a sampling frame which consisted of almost all HRM activities performed by TechCom's HRM SSC, embedded HRM professionals and line managers. To develop this sampling frame, we relied on both documents and interviews. First, we identified HRM activities by analysing documents, provided by TechCom, which contained descriptions of all operational HRM processes in TechCom. Second, to guarantee the inclusion of all possible HRM activities in the sampling frame, we interviewed seven HRM managers and asked them to describe the entire flow of HRM processes, which allowed us to triangulate the HRM process overviews. From the final sampling frame, we selected HRM activities through stratified random sampling to guarantee an equal distribution of administrative and non-administrative HRM services. In total, 28 administrative and 24 non-administrative HRM activities were selected.

To control for common method bias we followed the suggestions of Podsakoff, MacKenzie, Lee, and Podsakoff (2003) in designing this study. First, we relied on mixed sources, mail surveys and company documents, to collect data on the dependent variable and a selection of the independent variables. Second, we introduced a time lag between the data collection on the dependent and the independent variables which allows previously recalled information to leave the respondents' short-term memory. Finally, to prevent social desirable answers we explained to the respondents that the survey is anonymous and that only aggregated results would be presented. During phase 1, to obtain data on the HRM delivery mode of the selected HRM activities, we analysed the HRM process overview documents which outline whether an HRM activity is performed by the HRM SSC (shared delivery mode) or an embedded HRM professional or a line manager (non-shared delivery mode). At the end of phase 1, to measure the differentiation in user needs across business units, we surveyed the HRM directors of the 22 business units. Together, these HRM directors are responsible for the HRM within TechCom's business units and meet on a monthly basis to discuss HRM-related issues. We surveyed the HRM directors because they have a good insight into the HRM needs within and across business units. During phase 2, taking place two months after phase 1, we surveyed the same HRM directors to collect data on the HRM service value of the selected HRM activities. We chose to survey HRM directors for three reasons. First, as in most companies, the HRM directors are responsible for controlling and governing the shared and non-shared HRM delivery channels (Farndale et al., 2010). Therefore, they are in a good position to judge the value of an HRM activity, irrespective of whether it is shared or not. Second, in their role as controlling principals, the HRM directors have a good overview of the performance of all HRM activities and can make a better judgement on service value than other stakeholders like line managers. Third, HRM service value represents the ratio of the benefits and costs of HRM activities. As employees and line managers do not pay

for receiving HRM services (Cooke, 2006; Meijerink & Bondarouk, 2013) they are not able to fully judge the value of HRM activities. Instead, we asked HRM directors to value the HRM services because as the clients of the HRM SSC, they are not only able to assess the satisfaction among employees and line managers about the HRM services (Farndale et al., 2010) but they also pay for these HRM services, which allows them to evaluate the trade-off between HRM activity benefits and costs. Of the 22 HRM directors, 19 responded during the first phase, whereas 13 HRM directors also returned the questionnaire during the second phase, yielding response rates of 86% and 60%, respectively. This resulted in useable data from 13 HRM directors of 13 different business units and a total of 676 HRM activities (13 HRM directors  $\times$  52 HRM activities), from which 17 HRM activities were excluded list-wise due to missing values. As such, for the final analysis we relied on the data on 649 HRM activities.

### *Main variables*

Whenever possible, we used existing multi-item scales to measure the constructs of interest in our questionnaire. Answers could be given by selecting among a binary variable or were statements on a five-point Likert scale (ranging from 'strongly disagree' to 'strongly agree').

#### *HRM delivery mode*

For each individual HRM activity in the survey, the company provided information on whether the HRM activity was delivered through a shared or non-shared HRM delivery mode. Using this information, we coded a dummy variable denoting an HRM activities' sourcing position as follows: 1 = HRM activities located in the HRM SSC and thus offered through the shared HRM delivery mode, 0 = non-shared HRM delivery mode which are all HRM activities that were not provided through the HRM SSC.

#### *Differentiation in needs*

For each HRM activity the differentiation in needs is determined by two dimensions. Dimension one is the extent to which user needs differ among end-users at the same moment in time. Dimension two is the degree to which user needs change over time (Joshi & Sharma, 2004; Martin & Ishii, 2002). We adapted the customer turbulence scale of Joshi and Sharma (2004) that includes two measures for need variation across both users and time (see Appendix). We first described each HRM activity individually and then asked the HRM directors to assess the differentiation in needs for that HRM activity. The rating scale ranged from 1 = 'strongly disagree' to 5 = 'strongly agree'. We computed the inter-item correlation which had an acceptable value of 0.79 showing a strong internal consistency of the differentiation in needs scale.

#### *HRM service value*

Zeithaml (1988) defines perceived value as 'the consumers' overall assessment of the utility of a product based on perceptions of what is received and what is given' (1988, p. 14). Therefore, HRM service value is defined as the trade-off between an HRM service's benefits and the costs of its acquisition (Cronin, Brady, & Hult, 2000). To capture the construct of value we adapted two direct measures of value of Cronin et al. (2000) (see Appendix). As before, we first described each HRM activity individually and then asked the

HRM directors to assess the service value of that HRM activity using a rating scale that ranged from 1 = 'strongly disagree' to 5 = 'strongly agree'. The correlation among the items (0.86) shows a strong consistency in the HRM service value scale.

### ***Control variables***

In our analysis we included two variables to control for confounding effects: job tenure and business unit size.

#### *Job tenure of HRM director*

Client self-efficacy increases with job tenure and is known to positively impact service value (McKee, Simmers, & Licata, 2006). HRM directors with longer tenures are potentially better able to co-produce HRM services and/or collaborate with other HRM delivery channels and hence experience higher levels of service value. Also, HRM directors with longer tenures likely know the business better and hence are better able to make good decisions on how to source HRM activities, which eventually may result in higher levels of perceived value. Job tenure was measured as the number of years worked within TechCom.

#### *Business unit size*

Previous research shows that firm size can be negatively related to perceived benefits of HRM outsourcing (Klaas et al., 1999). To control for this we measured business unit size as the number of individuals employed by the focal business unit.

### ***Data analysis***

To analyse our data, we conducted hierarchical linear modelling (HLM) using HLM 7.0 (Raudenbush & Bryk, 2002). Multilevel analysis was required because our observations are not independent from each other since the HRM directors of 19 business units rated the value of the HRM activities. Put differently, the HRM activities are 'nested' with the HRM director, such that the HRM service value scores of the 52 HRM activities assessed by a selected HRM director are correlated because they are rated by a single respondent. Hence, to account for these interdependencies we conducted HLM.

Our analytical strategy consisted of three phases. First, we estimated a null model for HRM service value excluding the dependent variables in order to test the significance level of the level-2 residual variance in the intercept. This allowed us to examine the extent to which our data are nested and hence require the use of HLM. Second, we tested our research hypotheses by estimating the effect of the control and dependent variables on HRM service value. We conceptualized differentiation in needs, HRM delivery mode and HRM service value at level-1 because these are attributes of HRM activities. On the other hand, the control variables were conceptualized at level-2 because these are the attributes of the HRM director/business unit in which the HRM activities are nested. Lastly, we calculated the region of significance using Bauer and Curran's (2005) adapted version of the Johnson–Neyman technique suited for analysing multilevel data. By doing so, we could examine under which values of differentiation in needs there is a statistically significant difference in the value of shared and non-shared HRM activities.

## Results

### *Descriptive statistics and correlations*

The means, standard deviations and correlations among the variables are shown in Table 2. The mean of differentiation in needs is 2.63 with a standard deviation of 1.17. This shows that only 15.8% of the HRM activities have a high ( $>1\sigma$ ) or very high ( $>2\sigma$ ) differentiation in needs score which is above 3.8 or 4.97, respectively. The level of HRM service value of an HRM activity varies according to tenure of the HRM director, business unit size and differentiation in needs. The larger the business unit and the longer an HRM director works for an organization, the higher HRM service value becomes. Remarkable is the negative correlation between differentiation in needs and HRM service value; the more the needs for an HRM activity differ, the lower HRM service value is.

### *Multilevel regression analyses*

Before running the regression analysis, we first examined whether there is significance between HRM director variance in the level of HRM service value. We estimated a null-model in which no independent variables were included for testing the significance level of the level-2 residual variance in the intercept, which was significant ( $\tau_02 = 0.19, p < .05$ ). The ICC(1) was 0.26, indicating that 26% of the variance in the HRM service value of HRM activities resided between HRM directors and the business units they represent and 74% of the variance resided within HRM directors and their business units. Based on these findings, we can conclude that the largest part of the variance in HRM service value can be attributed to the HRM activities themselves (e.g. differences in how they are sourced) in comparison to characteristics of the HRM director who assesses the HRM service value. Furthermore, the significant level-2 residual variance shows that performing multilevel analysis is indeed required for testing our hypotheses. We ran three regression models to test our hypotheses. The results of these analyses are presented in Table 3.

Model 1 is confined to the inclusion of the control variables. Only job tenure of the HRM director was significantly related with HRM service value ( $\gamma = 0.03, p < .05$ ), such that the value increases with a longer job tenure of the HRM director. In model 2, we included the variables HRM delivery mode and differentiation in needs. Including these variables decreased the model deviance to 1480.95. The results indicate a

Table 2. Descriptive statistics and correlations.

Variable	M	SD	1	2	3	5
1. Human resource service value	3.32	0.85				
2. Job tenure of human resources director	8.58	9.57	0.35**			
3. Business unit size	295.24	201.65	0.17**	0.28**		
4. Human resource delivery mode <sup>a</sup>			-0.04	-0.09*	0.00	
5. Differentiation in needs	2.63	1.17	-0.18**	0.05	-0.03	0.07

*N* = 649 HR activities.

\* $p < .05$ .

\*\* $p < .01$ .

<sup>a</sup>1 = 'shared delivery mode', 0 = 'non-shared delivery mode'.

Table 3. Results of the multilevel regression models of human resource management service value.

Variables	Model 1	Model 2	Model 3
Intercept	2.96***	3.34***	3.49***
<i>Control variables</i>			
Job tenure of human resource director	0.03*	0.03*	0.03*
Business unit size	0.00	0.00	0.00
<i>Direct effects</i>			
Human resource delivery mode <sup>a</sup>		0.03	0.34*
Differentiation in needs		-0.13***	-0.18***
<i>Two-way interactions</i>			
Human resource delivery mode × Differentiation in needs			-0.12*
Model deviance <sup>b</sup>	1486.70	1480.95	1479.48
Pseudo $R^{2c}$	0.11	0.15	0.16

$N = 649$  HRM activities.

<sup>a</sup>1 = 'shared delivery mode', 0 = 'non-shared delivery mode'.

<sup>b</sup>Deviance is a measure of model fit: the smaller the deviance is, the better the model fits. Deviance =  $-2 \times \log$ -likelihood of the full maximum-likelihood estimate.

<sup>c</sup>The Pseudo  $R^2$  for HRM service value was calculated using the formula suggested by Kreft and De Leeuw (1998).

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

significant, negative relationship between differentiation in needs and HRM service value ( $\gamma = -0.13$ ,  $p < .001$ ). In other words, HRM service value decreases when the needs of end-users become more heterogeneous or more variable across time. On the other hand, the HRM delivery mode does not have a significant impact on HRM service value ( $\gamma = 0.03$ ,  $p = .60$ ), meaning that none of the two HRM delivery modes is consistently delivering higher levels of service value.

In model 3, we included the two-way interaction between the HRM delivery mode and differentiation in needs, which reduced the model deviance in comparison to models 1 and 2. Again, differentiation in needs related significantly and negatively with HRM service value ( $\gamma = -0.18$ ,  $p < .001$ ). When adding the two-way interaction, the effect of HRM delivery mode on HRM service value also turned significant ( $\gamma = 0.34$ ,  $p < .05$ ), which suggests that a shared delivery mode yields higher levels of value in comparison to the non-shared delivery mode. However, the two-way interaction effect was also significant ( $\gamma = -0.12$ ,  $p < .05$ ), meaning that the relationship between HRM delivery mode and HRM service value is contingent on the level of differentiation in needs. To gain further insight into the two-way interaction effect, we plotted the two-way interaction and performed a slope difference test (Aiken, West, & Reno, 1991; Bauer & Curran, 2005). The interaction effect between the HRM delivery mode and differentiation in needs is plotted in Figure 2 and was done against  $\pm 2$  standard deviations from the mean for illustrative purposes. Different values of the moderator variable may yield different slopes of the regression lines that represent the HRM delivery mode–HRM service value relationship. Therefore, we calculated the region of significance using Bauer and Curran's (2005) adapted version of the Johnson–Neyman technique suited for analysing multilevel data. We did so to assess against which values of differentiation in needs the interaction effect is significant. The regions of significance are also included in Figure 2.

Figure 2 shows that HRM service value decreases when end-user needs become more heterogeneous, irrespective of the HRM delivery that is employed. Nonetheless, the

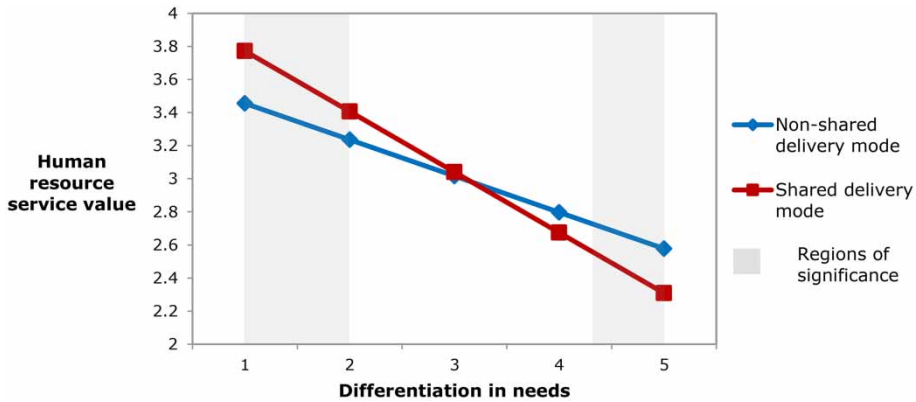


Figure 2. Two-way interaction effect: human resource delivery mode  $\times$  differentiation in needs.

highest level of HRM service value is reached when HRM services for which homogenous end-user needs exist are offered using a shared HRM delivery mode. On the other hand, the shared HRM delivery mode also yields the lowest level of HRM service value, under the condition that it offers HRM services for which end-users have different needs and wishes. This observation is corroborated by the region of significance results which show that the HRM service value of non-shared and shared HRM delivery modes significantly differs (at  $p < .1$ ) for the values of differentiation in needs lower than 1.96 as well as higher than 4.31. As can be seen in Figure 2, the region of significance is wider for low differentiation in needs than for high differentiation in needs.

To examine the percentage of HRM activities included in this study that fall within these two regions of significance, we compute the  $z$ -scores for the boundaries of these regions of significance. A differentiation in needs score of 1.96 yields a  $z$ -score of  $-.57$   $((1.96 - 2.63)/1.17 = -0.57)$ , which indicates that 28.43% of the examined HRM activities (i.e. those with a differentiation in needs score lower than 1.96) yield a higher level of value when offered through the shared HRM delivery mode. In comparison, a region of significance score of 4.31 yields a  $z$ -score of 1.44  $((4.31 - 2.63)/1.17 = 1.44)$ , which shows that 7.56% of the studied HRM activities (i.e. the activities with a differentiation in needs higher than 4.31) have a higher value when delivered by a non-shared HRM delivery channel. For the remaining 64.01% of the HRM activities the perceived HRM service value does not depend upon the HRM delivery mode.

Hypothesis *1a* states that delivering HRM activities through a shared HRM delivery mode results in higher levels of HRM service value when differentiation in needs are low. On the other hand, hypothesis *1b* states that delivering HRM activities through a non-shared HRM delivery mode results in higher levels of HRM service value when differentiation in needs are high. The significant regression coefficient for the interaction effect in model 4 and the regression lines in Figure 2 indicate that both hypotheses should be accepted. The region of significance test confirms this, as they show that the shared HRM delivery mode yields significantly higher levels of value when differentiation in needs are low (i.e.  $< 1.96$ ) in comparison to the non-shared HRM delivery mode that yields higher levels of value under the condition that differentiation in needs are high (i.e.  $> 4.31$ ). Therefore, both hypothesis *1a* and *1b* are accepted.

## Discussion

In this paper, we set out to examine whether the selection of a shared or non-shared HRM delivery mode for maximizing HRM service value should depend on the commonality potential of respective HRM services. In the end, this should result in a design of HRM delivery channels that provide high-level value to employees and therefore contribute to developing employee skills, abilities and attitudes for offering high-quality services to a firm's external customers. We found that the impact of utilizing one of the two HRM delivery modes on HRM service value is contingent upon the differentiation in needs. These findings have implications for both theory and practice, which are discussed below.

### *Theoretical contribution and implications*

This study makes several contributions to new service development and HRM literature. First, research in the management of innovation still seems to be largely focused on physical products and systems (Chesbrough & Davies, 2010; Meyer & DeTore, 2001). Little is known about how firms can turn services into repeatable and scalable processes and whether techniques developed for manufacturing can be easily transferred to the service sector (Chesbrough & Davies, 2010). In this paper, we empirically demonstrated the utility of structured product development methods for the design of new services. We show that to yield high-level HRM service value, the use of a specific HRM delivery channel depends upon the commonality potential of respective HRM services. Our findings show that by focussing on the variety in customer needs for HRM services across users and time, it is possible to strike a balance between standardized services offered via shared delivery modes and customized services that are offered through non-shared delivery modes. Overall, the design rules discussed in this paper contribute to the development of lean services that increase service value by simultaneously reducing costs and improving the customer satisfaction through better performance (Lee, Olson, Lee, Hwang, & Shin, 2008).

Second, we nuance assumptions presented in previous studies on the power of the shared service delivery mode for yielding high-level value through reaping the benefits of centralization and decentralization models, while simultaneously reducing their drawbacks (Cooke, 2006; Farndale, Paauwe, & Hoeksema, 2009; Maatman, Bondarouk, & Looise, 2010). Our findings indicate that the extent to which the commonality potential matters as a valid design rule differs for the two delivery modes. The shared delivery mode is preferable for values below 1.96 and the non-shared delivery mode for values above 4.31; which covers 19% and 14% of the five-point scale we used to assess heterogeneity in needs. When we check the observed cases in these regions we find that the shared HRM delivery mode is preferable for 28.43% of the HRM activities while 7.56% of the HRM activities can better be offered using a non-shared HRM delivery in order to yield high-level value. The remaining 64.01% of the services have moderate levels of differentiation in needs and the value of these services was not significantly affected by the selected delivery mode. As the heterogeneity in needs for HRM services could differ between, for example, industries, companies or type of services, the distribution of these figures can also be different. In our study, the findings indicate that a company has the freedom to choose either a shared or non-shared delivery mode for the larger part of all services. A first reason why SSCs are relatively effective in also delivering a high variety of HRM services is because they rely on control mechanisms such as service level agreements that support the alignment of business unit and SSC interests (Meijerink & Bondarouk, 2013).

A second reason for the efficacy of shared services comes from the resource-based perspective, which argues that value follows from intra-organizational resources and the synergies among them (Barney, 1991). Shared delivery channels, such as SSCs, bring together resources like human capital and organizational capabilities that would otherwise be left unbundled (Maatman et al., 2010; Meijerink & Bondarouk, 2013). This situation provides shared HRM delivery channels with more possibilities for creating resource synergies in comparison to non-shared HRM delivery channels (Cooke, 2006). Making use of these synergies increases the ability of shared HRM delivery channels to effectively deal with the complexities associated with meeting many heterogeneous needs (Skaggs & Youndt, 2004). Therefore, although non-shared HRM delivery channels can benefit from possibilities to tailor their services more easily to meet the diverse needs within a single business unit, shared HRM delivery channels may serve multiple business units equally well, because they have the advanced resources to do so. Future research could test whether the control decentralization or resource centralization by SSCs explain why the value of shared and non-shared HRM service delivery modes have a marginal divergence when it comes to providing HRM services for which diverse user needs exist.

Third, we contribute to literature on (HR) service evaluation. This stream of literature has given much attention to how HRM service value is affected by the HRM competencies, roles or capabilities of HRM professionals (Maatman et al., 2010; Ulrich, 1997); in other words, a supply side of HRM service delivery which focuses on the attributes of HRM service supplier and their effects on HRM service value. Our finding that HRM service value decreases when the needs for selected HRM services are more heterogeneous among end-users and business units suggests that attributes of actors outside the HRM service providers, such as the (collective of) business units affect HRM service value. For instance, a diversity in needs for HRM services among business units or employees can result in different expectations of an HRM delivery channel, such that the selected HRM service provider experiences high levels of role conflict or ambiguity as she/he is expected by the business units to enact different HRM roles (Caldwell, 2003). For example, Caldwell (2003) found intra-role conflict to be present among 98 HRM professionals in the UK; a divergence in expectations of stakeholders and associated incompatible criteria in performing HRM activities. Role conflict is shown to be negatively related with performance (Tubre & Collins, 2000), such that heterogeneity in needs among business units and clients, by yielding high levels of role conflict for HRM service providers, likely results in low levels of HRM service value. This implies that future research can benefit from focusing on the demand side of HRM service delivery, that is, explaining levels of HRM service value by focusing on the attributes of the beholders of value; the (collective of) business units and their end-users.

Nevertheless, the question remains whether HRM activities for which diverse needs exist should be shared or not. Although our findings suggest that the non-shared HRM delivery mode is preferable in such occasions, they do not give a definitive answer. However, future research could do so by relying on the commonality potential framework. For this paper, we operationalized commonality potential as the differentiation in needs or in other words, the demands placed upon HRM service delivery. However, the commonality potential of services is also affected by the inputs used for service delivery, such that service components can be put in a platform when their production relies on similar inputs (Schilling, 2000). For HRM service delivery, such inputs can be thought of in terms of resources like HRM competencies, HRM information technologies or HRM policies (Farndale et al., 2009). Therefore, we encourage future research to examine whether



differentiation in resources may explain whether HRM services with heterogeneous needs should be shared or non-shared to maximize HRM service value.

### *Practical contributions and implications*

As a practical contribution, this study offers measurement scales that practitioners can use as an instrument for deciding how to source HRM activities. Also, the empirical findings show that companies should take into account the differentiation in end-user needs during such decision processes. For business decision makers, our findings have two important implications. First, when aiming to maximize the value of HRM services for which homogenous and stable needs exist, companies should go for shared HRM service delivery. If the needs for specific HRM services are different across end-users and quickly change over time, a non-shared HRM service delivery leads to the highest service value. We also found that the HRM service value decreases with an increase in the level of heterogeneity in needs and when these needs change faster over time. Although our results show how companies can influence HRM service value levels by allocating the HRM services to the right delivery mode, companies can also decide to improve HRM service quality by standardizing end-user needs, which can be effectuated, for example, by hiring employees who have similar backgrounds (Pauwe & Boselie, 2003) and developing strong ties among business units to secure a shared understanding of the expectations to be communicated to HRM service providers.

### *Limitations and future research*

This study is not without limitations. First, for practical reasons we viewed the HRM service activities as monolithic entities that in their entirety can be provided through the dichotomous shared or non-shared HRM delivery modes. We suggest that future studies take a more fine-grained approach and decompose the HRM delivery modes into their constituent HRM service providers and assess the commonality potential of these separate delivery channels. Such a modular approach to service platform development is likely to further push up the related service performance in terms of the perceived cost/benefit ratio (Meyer & DeTore, 2001; Nayak et al., 2002). Second, the data for this study were obtained from a single group of respondents, the HRM directors, which may raise the concern of single source bias. Relying on single respondents is less problematic here because we introduced a time lag between the measurement of the independent and dependent variables, which mitigates single source bias (Podsakoff et al., 2003).

Third, relying on the HRM directors to assess levels of HRM service value increases the likelihood of self-appraisal bias and inflated reports. However, no other actors within TechCom had an overview of the costs and quality of both shared and non-shared HRM delivery modes, which is needed to assess the trade-off between their quality and costs. Thus, surveying HRM directors was the only option to measure HRM service value. Furthermore, our results show that self-appraisal bias is not a concern. The relationship between delivery mode and HRM service value was found to be insignificant, which suggests that the local HRM directors did not evaluate the services delivered by their subordinate HRM professionals more positively than those delivered by the HRM SSCs. Also, the low ICC(1) for HRM service value shows that the evaluations of HRM activities were not strongly dependent on a potentially favourable disposition of HRM directors towards HRM services. Hence, we can conclude that self-appraisal bias does not occur; neither does it inflate the HRM director's perceptions of HRM service value. Nevertheless,

future research could circumvent potential problems by selecting organizations which have actors who can independently assess levels of HRM service value, such as contract managers who act as business unit representatives.

## Conclusion

Despite the limitations of this study, we have successfully addressed a gap in the literature on the application of platform thinking for HRM service process design and HRM sourcing. Our empirical findings show that for HRM services for which homogeneous needs exist the HRM service value is highest when these services are delivered through a shared HRM delivery mode. For HRM services for which very high heterogeneous needs exist HRM service value is highest when these services are delivered through a non-shared HRM delivery mode. This supports the assumption that the effect of using an HRM delivery mode for delivering HRM services on HRM service value is contingent upon the commonality potential of that service. We hope that our research findings lead to an increase in the application of platform-based approaches and the commonality potential framework in particular, for the design of services and the HRM delivery research in particular.

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### Appendix. Multi-item scales used for the research

For all items we used a five-point response scale ranging 1 = “strongly disagree” to 5 = “strongly agree”. Before presenting the items, we first described the HRM activity of interest. The items presented below had to be administrated for all 52 selected HRM services separately.

**Differentiation in needs** (*the extent to which user-needs for an HRM service differ across end-users and across time (Joshi & Sharma, 2004)*).

**DIFF 01** “Users have very diverse preferences for this service.”

**DIFF 02** “The needs of users change frequently for this service.”

**HRM service quality** (*tradeoff between an HRM service’s benefits and the costs of its acquisition (Cronin et al., 2000)*).

**SERVAL 01** “Overall, the users value the execution of this service as very high.”

**SERVAL 02** “In relation to the overall costs, time and effort, the execution of this service satisfies the needs of the users very well.”