

Line management attributions for effective HRM implementation

Towards a valid measurement instrument

Line
management
attributions for
HRM

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Abstract

Purpose – Many HRM practices are never thoroughly implemented, or are implemented ineffectively. To better understand what line managers need to implement HRM practices effectively, the authors have developed and validated a psychometrically sound measurement instrument dealing with line managers' attributions for effective HRM implementation. Based on the theory of causal attributions, the authors distinguish between internal and external attributions that determine how line managers implement HRM practices on the work floor.

Design/methodology/approach – A multidimensional approach has been used, and, after collecting data from 471 line managers, thorough scale development guidelines and validation procedures have been applied for instrument development.

Findings – The instrument's psychometric qualities have been assessed by calculating the reliability and validity of line managers' internal attributions – including its composing dimensions of desire and competences – and their external attributions – including the dimensions of support, capacity and policy and procedures. In particular, both convergent and discriminant validity as well as intra-class correlations have been established. The newly developed measures are found to be of good quality. The scales appear to discriminate well between the distinguished groups and show a good variation within groups.

Practical implications – The developed measurement instrument helps HRM professionals to better understand line managers' attributions to effectively implement HRM practices and to provide them with support and training for effective HRM implementation.

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Originality/value – Previous research has already identified weaknesses in HRM implementation, but lacked addressing the causes of this. The study presents antecedents for HRM implementation effectiveness, based on the causal attribution theory, and a psychometrically validated instrument to measure these antecedents.

Keywords HRM implementation effectiveness, Line management, HRM practices, Causal attribution theory, Measurement instrument

Paper type Research paper

Introduction

In the past years, scholars have dedicated much attention to the process of human resource management (HRM) (Bowen and Ostroff, 2004) and, in particular, to the process of implementing HRM practices in the organization (Bondarouk *et al.*, 2018; Guest and Bos-Nehles, 2013; Vermeeren, 2014). In doing so, they addressed the gap between intended, actual and perceived HRM practices (Khilji and Wang, 2006; Wright and Nishii, 2013) at the design, implementation and experience levels (Makhecha *et al.*, 2018). However, recently, authors have stressed that trying to close the gap between intended and actual HRM practices does not necessarily lead to effective HRM implementation. Instead, Bondarouk *et al.* (2018), in their special issue, called for a process perspective on HRM implementation considering the *engaged* usage of HRM practices. More specifically, if organizations want their designed HRM practices to be implemented effectively, they need their line managers to engage in using them on a regular basis, since they are the ones who are responsible for implementing them in the organization (Bos-Nehles, Van Riemsdijk, and Looise, 2013; Gilbert *et al.*, 2015).

Many scholars agree that line managers are crucial for the HRM implementation process (Bondarouk *et al.*, 2018; Van Waeyenberg and Decramer, 2018), and that the implementation of HRM practices is as important for HRM effectiveness as the formulation and design of these practices (Guest and Bos-Nehles, 2013). Not only HRM scholars but also HRM practitioners understand that HRM implementation is not a ‘theoretical convenience that follows almost automatically’ (Barney, 2001, p. 53), but that poor implementation of high-quality HRM practices can lead to ineffective HRM (Woodrow and Guest, 2014), or, more positively, that good implementation by line managers can even rescue poor HRM practices (Purcell and Hutchinson, 2007). Although we have reached a general acceptance that HRM implementation is key to HRM effectiveness and that line managers need to have abilities, motivation and opportunities to implement HRM practices effectively (Bos-Nehles *et al.*, 2013; Kellner *et al.*, 2016; Van Waeyenberg and Decramer, 2018), we still lack a clear measurement instrument that helps us to measure the reasons of line managers to engage in the HRM implementation process. To encourage more comparable research about what line managers need to implement HRM practices effectively, we need valid and validated measures.

Therefore, in this contribution, we aim to develop a theoretically grounded and psychometrically sound measurement instrument for the identification of line managers’ attributions for effective HRM implementation. To address the behaviours of line managers in the HRM implementation process, we will apply the theory of causal attributions (Heider, 1958; Kelley, 1967) to understand the causes of effective HRM implementation by line managers. Knowing that line managers’ performance is crucial for effective HRM implementation (Bos-Nehles *et al.*, 2013; Gilbert *et al.*, 2015), this theory helps us to recognize the causes of line managers’ actions that lead to effective HRM implementation. In this paper, we distinguish between line managers’ internal and external attributions for effective HRM implementation. We do so by unravelling and distinguishing between those effects that can be attributed to factors that reside within the person of the line manager – that is, internal attributions, such as their own desire or competences to engage in HRM implementation – from those that are external to the line manager, namely, within the environment – that is, external attributions such as support of HRM professionals or policies and procedures to implement HRM practices effectively.

To measure line managers' attributions for HRM implementation effectiveness, we aim to achieve three sub-goals: (1) to develop a psychometrically sound measurement instrument for the line management attributions for effective HRM implementation, (2) to optimize the factor structure of the scales and therefore to establish good constructs and (3) to reduce the number of items in the constructs, that is, to protect the parsimoniousness of our measures. In order to do so, we need to identify the internal and external attributions that line managers make with regard to effective HRM implementation and to design a single coherent model that simultaneously tests the relevance of these attributions.

This paper is structured as follows. Firstly, we will conceptualize and define line managers' attributions for HRM implementation. Secondly, we will identify theoretically grounded constructs for their attributions to implement HRM practices effectively. Subsequently, we will show how these attributions can be measured. Next, we will report on the process of scale optimization, which is aimed at establishing good constructs and parsimonious measures, and focus on the psychometric qualities of a newly developed multidimensional measurement instrument. Finally, we will offer suggestions for its application in practice.

Causal attributions for effective HRM implementation

Attribution theory is used to explain (or attribute) peoples' behaviours by understanding the processes that explain them (Heider, 1958; Kelley, 1967). In particular, behaviour depends on two sets of conditions, namely, factors within the person and factors within the environment (Heider, 1958), or, otherwise stated as internal and external attributions (Kelley, 1967; Kelley and Michela, 1980). These conditions build the basis for our measurement instrument. Based on the causal attribution theory, we develop measures that include all line managers' attributions towards HRM implementation effectiveness considering both internal and external attributions. Such an instrument will help us to understand whether the locus of causality for line managers' HRM implementation behaviour is within the manager (internal), or within his/her environment (external) or both (Hewett *et al.*, 2018). According to Heider (1958), internal attributions comprise the ability and motivation to accomplish an action, while external attributions are often related to task difficulty. Translating this knowledge domain to the situation of line managers at the operational level, their behaviour in implementing HRM practices effectively depends on internal (personal) and external (environmental) attributions.

We define HRM implementation effectiveness as the 'effectiveness of line managers in implementing HRM practices on the work floor' (Bos-Nehles *et al.*, 2013, p. 863). When HRM stakeholders feel that line managers do not implement HRM practices effectively, they can ascribe this to internal attributions of the line managers, such as a lack of ability to implement HRM effectively, or to external attributions of the line managers, such as a lack of support from HRM professionals. This provides HRM professionals and senior managers with information about how to better select, prepare or train line managers to safeguard effective HRM implementation. However, understanding the attributions that lead towards HRM implementation effectiveness can also be used by line managers themselves to reflect on their HRM implementation behaviours. Reflecting on whether the causes for HRM implementation effectiveness are based on their own (internal) attributions or those of their environment (external) can help line managers in making decisions about what attributions to invest in, to proactively ask for help within the organization or to make different career choices.

The HRM literature is quite consistent about the internal attributions that account for line managers' HRM implementation effectiveness. Above all, it is agreed that line managers need HRM skills and competences (e.g. Bos-Nehles *et al.*, 2013; Mirfakhar *et al.*, 2018; Trullen *et al.*,

2016; Whittaker and Marchington, 2003) as well as desire and willingness to use HRM practices to manage subordinates effectively (Nehles *et al.*, 2006; Renwick, 2000), which usually comes down to line managers' ability and motivation to engage in HRM implementation effectiveness (Bos-Nehles *et al.*, 2013; Kellner *et al.*, 2016; Van Waeyenberg and Decramer, 2018). Research evidence shows that line managers' HRM-related knowledge and skills significantly influence HRM implementation effectiveness (Bos-Nehles *et al.*, 2013; Kellner *et al.*, 2016; Kuvaas *et al.*, 2014; Ryu and Kim, 2013) and that an important antecedent of effective HRM implementation is line managers' motivation (Fenton O'Creevy, 2001; Kellner *et al.*, 2016). However, other evidence displays that line managers' ability is positively and significantly related to HRM implementation effectiveness, but that line managers' motivation is not (Bos-Nehles *et al.*, 2013; Gilbert *et al.*, 2015). To show that line managers' motivation is still relevant for HRM implementation effectiveness, Kellner *et al.* (2016) suggest, based on qualitative data, that ability and motivation are interdependent in such a way that line managers who are highly motivated to implement HRM practices effectively usually also make sure that they possess the skills to do so, and line managers who lack ability to implement HRM practices effectively usually also lack motivation to invest in HRM implementation effectiveness.

External attributions for line managers' HRM implementation effectiveness can often be found in the opportunity dimension of the famous AMO theory (Appelbaum *et al.*, 2000), which may be described as environmental or contextual enablers of productive behaviour, such as sufficient resources to complete tasks or organizational policies and structures that help employees to perform (e.g. Stajkovic and Luthans, 1998). According to Bos-Nehles *et al.* (2013), one's work environment should arrange for necessary support and avenues for expression. External or environmental attributions for line managers' HRM implementation effectiveness may be understood as: (1) HRM support (Leisink and Knies, 2011; Kellner *et al.*, 2016) because line managers seem to need content-related advice and coaching (Harris *et al.*, 2002; Hope Hailey *et al.*, 2005), assistance (Larsen and Brewster, 2003), consultation over non-routine matters (Bond and Wise, 2003) and situational support from HRM professionals (Bos-Nehles *et al.*, 2013), (2) HRM capacity (Bos-Nehles *et al.*, 2013; Kellner *et al.*, 2016) because line managers seem to perceive conflicting demands or competing priorities between operational and HRM responsibilities (Hope Hailey *et al.*, 2005; Whittaker and Marchington, 2003), role overload (Harris *et al.*, 2002; Whittaker and Marchington, 2003) and difficulties in devoting sufficient time to communicating and consulting with subordinates (Cunningham and Hyman, 1999; McConville, 2006; McGovern *et al.*, 1997) and (3) clear and valuable policies and procedures for performing the HRM role in order to avoid role ambiguity and role overload (Bos-Nehles *et al.*, 2013; Kellner *et al.*, 2016), since the HRM literature argues that line managers lack a clear role definition (McConville, 2006) and manage people in an inconsistent way (Bond and Wise, 2003; McConville, 2006). Line managers' opportunity to implement HRM practices effectively is considered as an important factor in explaining their HRM implementation effectiveness (Bos-Nehles *et al.*, 2013; Bos-Nehles *et al.*, 2017; Gilbert *et al.*, 2015; Kellner *et al.*, 2016), although not necessarily directly. Bos-Nehles *et al.* (2013) and Gilbert *et al.* (2015) could not find a direct effect of line managers' opportunity on HRM implementation effectiveness, but Bos-Nehles *et al.* (2013) found an indirect effect of opportunity on HRM implementation effectiveness. Qualitative evidence supports the important role of opportunity (external attributions) for HRM implementation effectiveness, by showing either direct relationships between opportunity and HRM implementation effectiveness (Bos-Nehles *et al.*, 2017) or indirect relationships with ability and/or motivation (Bos-Nehles *et al.*, 2017; Kellner *et al.*, 2016). Following an extensive literature review (see Nehles *et al.*, 2006), and building upon causal attribution theory, we suggest the following attributions for line managers' HRM implementation effectiveness (see Figure 1).

Definitions and conceptualizations of HRM implementation attributions

Line managers' internal attributions

Desire. Often, line managers demonstrate a marked reluctance to take on new responsibilities (Torrington and Hall, 1996). Here, *desire* is defined as the willingness to apply HRM practices on the work floor. As such, the definition covers line managers' motivation to perform these tasks (McGovern *et al.*, 1997). We operationalize the concept of desire using the self-determination theory (Deci and Ryan, 1985) and expectancy theory (Vroom, 1964). Self-determination theory helps us to distinguish between different forms of motivation. According to this theory, human behaviour is governed by three distinct types of motivation, which can all be evaluated on a continuum from high to low levels: (a) intrinsic motivation, (b) extrinsic motivation and (c) amotivation. Extrinsic motivation is further subdivided into identified regulation – a behaviour is valued and experienced as being one's own decision (Guay *et al.*, 2000) – and external regulation – a behaviour is regulated by rewards to avoid any negative consequences (Guay *et al.*, 2000). Based on the ideas of Vroom (1964) that individuals' motivation for something is dependent on how much they value it, we argue that in order to have the desire to implement HRM practices effectively, line managers need motivation and valance to reach rewards of effective HRM implementation.

Competences. This concept is defined as line managers' HRM-related competences to perform their HRM role effectively. In practice, they often lack specialist knowledge and skills, for example, on legal requirements and agreed practices (Torrington and Hall, 1996), which reduces their occupational self-efficacy (Schyns and Van Collani, 2002) in terms of their HRM responsibilities. The concept of self-efficacy was originally developed by Bandura (1977) who defined it as 'the conviction that one can successfully execute a given behaviour required to produce certain outcomes' (p. 193), and has since been adapted by various authors to suit a range of domains. Schyns and Van Collani (2002) translated this notion into the self-efficacy of professionals to execute a certain occupation, and, in a similar vein, some other authors have shown a need for continual and systematic training in HRM activities (Cunningham and Hyman, 1999; Renwick, 2000) in order to increase occupational self-efficacy in the professional field of HRM. Thus, in the light of our contribution, *competence* is operationalized as a line manager's perceptions of their occupational self-efficacy for performing HRM tasks. Given the predictive validity of training and development activities in the light of (occupational) self-efficacy (see, for instance, Creed *et al.*, 2001; Pinguart *et al.*, 2003; Saks, 1995), we also used the perceived importance and sufficiency of training courses to conceptualize competences.

Line managers' external attributions

Support. This concept reflects the content-related advice and coaching for line managers on how to perform HRM activities, as received from HRM professionals (Hope-Hailey *et al.*, 2005).

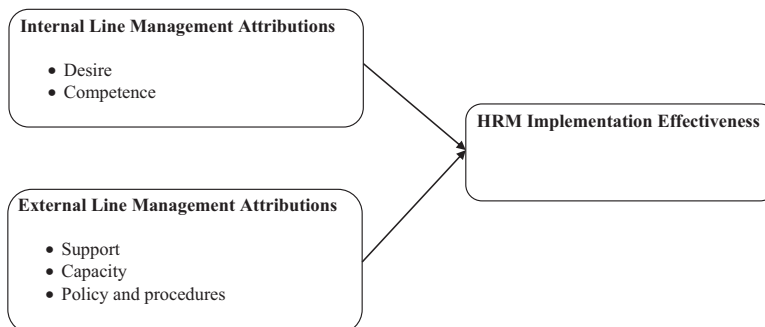


Figure 1. Line management attributions for HRM implementation effectiveness

In practice, line managers are frequently dissatisfied with the services that HRM professionals deliver. In concrete terms, some HRM professionals do not provide line managers with the services they need (Bond and Wise, 2003; Whittaker and Marchington, 2003), the HRM professionals are not available when needed by the line managers (Nehles *et al.*, 2006) or they are reluctant to let go of their operational HRM responsibilities and only adopt a consultative role in supporting line managers (Torrington and Hall, 1996).

The support that line managers receive is conceptualized as the quality of the HRM services delivered to them. Service quality generally refers to consumers' overall perception of the services provided, and is viewed as 'the degree and direction of discrepancy between consumers' perceptions and expectations' (Parasuraman *et al.*, 1988, p. 17). Service quality is then seen as including tangibles, reliability, responsiveness, empathy and assurance. Consequently, tangibles, which were defined as 'physical facilities, equipment, and appearance of personnel' (Parasuraman *et al.*, 1988, p. 6), are, in our opinion, not relevant to the services delivered by the HRM department, and are therefore excluded.

Whereas service quality usually evaluates the services delivered to *external* customers, in the light of this study, we wish to evaluate the service delivered to *internal* customers of the HRM department, namely, the line managers. It is thus line managers who evaluate the services of the HRM department based on their perceptions of the reliability, responsiveness, empathy and assurance of the HRM department. This evaluation of service quality will consider the discrepancy between line managers' perceptions of HRM support and their expectations of it without actually measuring the difference.

Capacity. In the context of our study, this concept is defined as the time that is available for line managers to get involved in HRM implementation. Line managers are primarily responsible for operational tasks, and HRM tasks are generally devolved to them without any reduction in their other duties (Larsen and Brewster, 2003). Moreover, often, line managers also face a wider span of control as a result of organizational restructuring (McGovern *et al.*, 1997). McConville (2006) described the resulting dual responsibility of line managers as a 'constant demand to deal with a range of problems' (p. 645), which can lead to a perception of being overloaded in their HRM role (Harris *et al.*, 2002; Whittaker and Marchington, 2003). If line managers perceive such a role overload, they are probably unable to devote sufficient time to their HRM responsibilities, and are thus facing capacity problems. Reilly (1982) defined role overload as 'a type of role conflict that results from excessive demands on the time and energy supply of an individual' (p. 407). We argue that line managers may face a form of role overload conflict between operational performance and their HRM tasks.

Policy and Procedures. This concept is related to the need for a clear overall HRM policy and accompanying procedures that enable line managers to coordinate the HRM responsibilities that have been assigned to them, to implement sound HRM practices and to understand how they should use the given instruments effectively (Larsen and Brewster, 2003). The issues associated with undefined HRM responsibilities and authority, which possibly lead to line managers' insecurity about their HRM role, are conceptualized as role ambiguity (relating to line managers' HRM implementation effectiveness) and role conflict (relating to line managers' HRM authority in implementing HRM practices). Role ambiguity as a concept is dealt with in both classical organization theory and role theory: a person that senses role ambiguity is seen as not having a 'specified set of tasks or position responsibilities, no specification of duties or formal definition of role requirements' (Rizzo *et al.*, 1970, p. 151). A role conflict occurs when the 'chain of command' (hierarchical relationships; flow of authority) or the 'unity of command' (orders from only one supervisor; compatible orders and expectations) is not obvious (Rizzo *et al.*, 1970).

In addition to a defined role of line managers in their HRM role, we understand, based on the technology acceptance model (Davis *et al.*, 1989), that individuals will use the provided

policies and procedures when they perceive them to be easy to use and useful. Translated to the HRM role of line managers, this means that line managers will evaluate HRM practices according to their usefulness and ease of use (Ruël *et al.*, 2007), and whether they were sufficiently concrete for practical use. We call this concept user-friendliness of HRM forms.

Qualitative pilot case study

We carried out a qualitative pilot case study among first-line managers, using a five-dimensional model, to assess whether all suggested attributions (i.e. desire, competence, support, capacity, and policy and procedures) were recognized. In addition, the pilot study was aimed to determine new dimensions (that are complementary to the literature review; Nehles *et al.*, 2006) that ought to be taken into account in the measurement instrument that was to be developed. In particular, we conducted 30 semi-structured interviews to gain an in-depth understanding of how first-line managers in different business units of four multinational organizations in the Netherlands perceived their HRM responsibilities. These managers were the lowest-level managers who were responsible for supervising the work of a group of operating employees and for managing these employees with the help of devolved HRM practices. The interview framework contained questions reflecting on the five attributions, such as 'Why do you perform HRM activities?', 'What HRM responsibilities do you have?' and 'Do you enjoy performing HRM activities?' Moreover, we checked for the completeness of the five-dimensional model by asking questions related to the determination of new dimensions. From these interviews, valuable insights were gained into the position of the line managers within their specific organization, their HRM responsibilities, their opinion about HRM instruments, guidelines and procedures and the challenges they perceived in their HRM role. The interviews helped us in formulating items that were relevant to submit to line managers in various organizations in the subsequent quantitative survey to be developed. From the qualitative pilot case study, we could conclude that no additional dimensions were found over and above our five-dimensional model. However, they facilitated the development of new constructs that could be used to measure the five dimensions, and which were not part of the validated scales we used. The examples of those additions are five items about user-friendliness of policies and procedures.

Research methodology

Development of the survey

In developing the measurement instrument, we tried to use the existing, psychometrically sound scales, drawn from various research fields, that had been proven to be reliable and valid measures. As the already existing scales were designed and tested in other contexts and dealt with other research topics, we needed to test their psychometric qualities in our specific domain, that is, to cross-validate the measures. Where we could not find an appropriate scale, we developed one ourselves by carefully following the scale development guidelines provided by Hinkin (1995) and Babbie (1990) which comprise three steps: (1) item generation, based on content validity, (2) scale development, showing the design of the developmental study, the construction of the scales and the assessment of reliability (construct validity and internal consistency) and (3) scale evaluation, evaluating the scales based on psychometric quality (convergent and discriminant validity).

Item generation

In order to end up with items which portray a good content validity, we have, wherever possible, used scales that are regarded as psychometrically sound in earlier scholarly literature. More specifically, the items have been carefully selected and/or newly created, and their reliability and validity have been tested in our specific research field. A total of 80 items were included in the final instrument, as will be outlined below .

Desire. It is assumed that line managers have the desire to perform HRM tasks when (1) they are motivated (intrinsic motivation, identified regulation, external regulation and amotivation) (Ryan and Deci, 2000) or (2) they perceive an added value in devoting time to HRM tasks, because this will benefit them or their employees in the future (Vroom, 1964). We used the Situational Motivation Scale (SIMS - Guay *et al.*, 2000) to measure a line manager's motivation to implement HRM practices effectively because this scale had been developed to measure both intrinsic and extrinsic motivation. In order to operationalize the second component of desire, items covering the perceived added value of performing HRM practices were added to the instrument. These items were based on results from our pilot case study that involved interviewing 30 first-line managers about their involvement in HRM practices. The items dealing with the perceived added value of HRM responsibilities were developed on the basis of the answers we received to the question: 'Why do you perform HRM activities?'

Competence. Schyns and Van Collani (2002) developed a generic occupational self-efficacy scale to reflect self-efficacy in one's specific occupational domain. We reformulated their items to address line managers performing an HRM role and their self-efficacy in handling HRM activities. More specifically, we changed the expression 'in my job' to 'in performing my HRM role'. We also developed and clustered two additional items on the perceived importance and sufficiency of training courses, which we labelled as *training*.

Support. Since we conceptualized HRM support as a form of service quality, we measured support using a modified version of the SERVQUAL scale developed by Parasuraman *et al.* (1988). Fortunately, in previous research, Biemans (1999) already reformulated the SERVQUAL scale for the services supplied by HRM professionals, and also translated the scale into the Dutch language. We used those items that related to the service quality constructs of reliability, responsiveness, empathy and assurance.

Capacity. In order to measure a line manager's role overload with both operational responsibilities and HRM, we used items from Reilly's Role Overload Scale (1982). We modified the original wording to better reflect the time demands on line managers. For example, the original item, 'I just can't find the energy in me to do all the things expected of me', was reformulated as, 'I just can't find the energy in me to perform all the HRM activities expected of me'. The original role overload scale included 13 items, of which we used the 7 that seemed relevant to our study context.

Policy and Procedures. For the concept of *policy and procedures*, we drew on the role conflict and role ambiguity scale by Rizzo *et al.* (1970). The items were reformulated for our study in order to address the HRM role performed by line managers. Moreover, based on our qualitative pilot case study, we formulated five additional items, and created a scale to measure the user-friendliness of provided HRM forms, instruments and guidelines. A full overview of the constructs and items is shown in Table I.

Sample and procedure

The survey was conducted in a diverse sample of six large organizations of different industries and sectors in the Netherlands. More specifically, the sample consists of national and multinational production and service organizations, across a low- to high-tech scale, to represent the various conditions in which line managers implement HRM practices. If desired, the HRM director of each organization was able to slightly modify the questionnaire in order to better reflect the company's language and situation, without jeopardizing the construct validity of the measures. The time needed to complete the survey was approximately 20 minutes. We distributed the questionnaire either by postal mail to the home addresses of the participants, or during an on-site training course for line managers. In all participating organizations, our group of respondents consisted of all line managers working across all of its divisions. The total intended sample comprised 930 line managers.

Attributions	Factors	Constructs	Items	Line management attributions for HRM
Internal attributions	Desire	Situational motivation scale (SIMS; Guay et al., 2000)	16	743
		(1) Intrinsic motivation	4	
		(2) Identified regulation	4	
		(3) External regulation	4	
		(4) Amotivation (R)	4	
	Value added of performing HR activities (developed on the basis of the pilot case study performed)	7		
	Competence	Occupational self-efficacy (Schyns and van Collani, 2002)	6	
		Training and experience	2	
External attributions	Support	Service aspects of the HR function (Parasuraman et al., 1988 ; Biemans, 1999)	18	
		(1) Reliability	5	
		(2) Responsiveness	4	
		(3) Assurance	4	
		(4) Empathy	5	
		Capacity	Role overload (Reilly, 1982) (R)	7
		Policy and procedures	Role conflict (Rizzo et al., 1970) (R)	9
		Role ambiguity (Rizzo et al., 1970) (R)	10	
		User-friendliness of HRM forms	5	

Note(s): (R) is reverse coding

Table I.
Operationalization of the research variables

We used a four-phase administration process, as suggested by [Salant and Dillman \(1994\)](#). In the first phase, a short advance notice was sent by e-mail to the intended respondents. The second mailing comprised the actual survey, accompanied by a signed letter to the respondents. This mailing was sent out one week after the advance notice. In the original plan, Phases 3 and 4 would consist of sending reminders to non-respondents. Instead, we sent reminders by e-mail, one, two and three weeks after the survey had been distributed, to the entire set of intended participants since we could not distinguish between respondents and non-respondents given the anonymous nature of our survey. Line managers were effectively given three weeks to complete the survey. Through this, we achieved a final sample of 480 line managers across the six organizations, comprising an overall response rate of 52 per cent. After eliminating a few incomplete cases, we had a usable sample of 471 respondents. [Table II](#) provides more information on the survey responses.

Scale development

The objective of the scale development process was to create measures that demonstrate good psychometric qualities. According to [Hinkin \(1995\)](#), scale development consists of three stages: (1) design of the developmental study, (2) scale construction and (3) reliability assessment. We will outline below, how we have followed the three distinguished steps.

Design of the Developmental Study. We included the 80 items in the survey grouped under each of the factors under investigation. For each measurement item, a five-point Likert scale was used to measure the individual responses, ranging from 1 ('disagree') to 5 ('agree').

	Company 1	Company 2	Company 3	Company 4	Company 5	Company 6	Total
Approached sample	105	149	161	60	213	242	930
Final sample	66	108	55	46	108	88	471
Response rate	68%	73%	34%	82%	51%	36%	51%
Average age	42.98	46.76	46.17	41.95	51.58	46.79	45.58

Table II.
Survey response data

Scale Construction. To investigate the factor structure of the measurement tool and to reduce items, we first performed an exploratory factor analysis (EFA) to identify the underlying relationships between the measured variables, and then a confirmatory factor analysis (CFA) to test alternative hypotheses regarding the instrument's content domains. For the EFA, we used a principal component analysis with an orthogonal rotation, using the varimax rotation type. The orthogonal rotation has the benefit that loadings are simple correlations of items with factors and that standardized solutions can estimate the unique contribution of each factor. Based on the rotated factor matrix, we chose to eliminate items that cross-loaded on more than one construct and did not meet the cut-off value of 0.40 (Hinkin, 1995), with the goal of reducing the number of items in our instrument (a reduction of 13 items leading to 67 items for the CFA), while taking into account not to jeopardize the construct validity of the specific scale. The factor loadings of the EFA are visible in Table III. Items that cross-loaded on more than one factor or had factor loadings below the 0.40 cut-off value were already eliminated in Table III. By conducting CFA, we aimed to test whether the factor structure reflected our understanding of the nature of the measure (Kline, 2010), that is, confirming the five dimensions of internal and external attributions, herewith building upon our underlying theoretical model of antecedents. More specifically, we forced the analysis to be consistent with our theory, by imposing a model on the data and then evaluating how well the model highlights the theoretical relationships between the items (Bryant, 2002). Using the data provided by the 471 respondents, we thus examined how closely the line managers' responses were consistent with the five concepts adopted by line managers. Based on the outcomes of the CFA, the model was refined on the basis of the modification indices in order to improve the fit between the model and the data in terms of internal consistency and discrimination between the distinguished constructs. During the process of refining the data structure, we aimed for high model fit, indicated by high goodness of fit indices. Items that disturbed the modification process towards model fit were eliminated to further reduce the number of items in our measurement instrument.

Reliability Assessment. Assessing the scale reliabilities is considered part of the psychometric validation stage for newly developed measurement instruments. The most commonly accepted measure is internal consistency reliability, assessed using Cronbach's alpha. The suggested minimum acceptable level for internal consistency is an alpha of 0.70 (Hair et al., 1998; Nunnally, 1978).

Results

Confirmatory Factor Analysis

We performed a CFA for our hypothesized model using the software package LISREL 8.3. In evaluating the specified alternative models, we used the root mean square error of approximation (RMSEA) and Type-3 incremental fit indexes, such as the Bentler Comparative Fit Index (CFI), as well as Type-3 absolute fit indexes, such as the Goodness-of-Fit Index (GFI) and the Adjusted Goodness-of-Fit Index (AGFI), as these tests are less sensitive to sample size (Hu and Bentler, 1995). According to Cudeck and Browne (1993), RMSEA values below or equal to 0.08 indicate an acceptable fit. In particular, the modification indices can provide a good indication of how to improve a model by removing those items that load highly on non-hypothesized or non-intended factors, or by refining items that appear to load on multiple factors originally.

Refinement of factor structures and measurement scales

Next, we refined the factor structure of the measurement by reducing its amount of items. For the *desire* construct, we deleted ten items, all of which related to the *external regulation* subscale, because a four-factor model appeared to have a much higher GFI [RMSEA = 0.069

Factor analysis dimension desire

Items	Factor					CFA
	1	2	3	4	5	
<i>Intrinsic motivation</i>						(0.78)
1. Because I think that this activity is interesting	0.06	0.55	0.07	-0.01	0.23	
2. Because I think that this activity is pleasant	0.13	0.76	0.27	0.05	0.15	x
3. Because this activity is fun	0.22	0.87	0.15	0.02	0.02	
4. Because I feel good when doing this activity	0.24	0.71	0.11	0.03	0.21	
<i>Identified regulation</i>						(0.73)
5. Because I am doing it for my own good	0.08	0.13	-0.02	0.19	0.53	
6. Because I think that this activity is good for me	0.12	0.37	0.05	0.05	0.68	
7. Because I believe that this activity is important for me	0.23	0.32	0.05	0.04	0.65	
<i>External regulation</i>						x
8. Because I am supposed to do it	-0.01	0.07	-0.01	0.66	0.01	
9. Because it is something that I have to do	0.06	-0.08	-0.09	0.74	0.05	
10. Because I feel that I have to do it	-0.02	0.01	-0.19	0.55	0.21	
<i>Amotivation</i>						(0.75)
11. There may be good reasons to do this activity, but personally I don't see any	0.27	0.06	0.65	-0.13	0.00	x
12. I do this activity, but I am not sure if it is worth it	0.21	0.11	0.64	-0.05	0.06	
13. I don't know; I don't see what this activity brings me	0.28	0.10	0.68	-0.06	0.01	
14. I do this activity, but I am not sure it is a good thing to pursue it	0.18	0.10	0.64	-0.05	0.00	
<i>Value added</i>						(0.85)
15. Because it helps the people in my team to grow, improve and develop themselves	0.67	0.12	0.27	0.03	0.09	
16. Because it helps me to supervise my team	0.77	0.13	0.36	0.00	0.13	
17. Because it helps me to get the right people with the right skills in the right place	0.79	0.14	0.24	-0.01	0.09	x
18. Because it helps me to reach my production goals	0.68	0.14	0.16	-0.03	0.16	
19. Because it creates a good work atmosphere	0.76	0.20	0.19	0.01	0.07	x
20. Because it helps me to treat employees in a fair and consistent way	0.78	0.11	0.15	0.01	0.07	
21. Because it helps me to motivate people in my team	0.84	0.16	0.15	-0.02	0.05	x
<i>Eigenvalues</i>	7.28	2.84	2.17	1.44	1.13	
<i>Explained variance</i>	31.66	44.01	53.45	59.70	64.61	

Factor analysis dimension capacity

Items	Factor	CFA
<i>Role overload</i>		(0.84)
1. I have to perform HR responsibilities which I don't really have the time and energy for	0.65	x
2. I need more hours in the day to perform all the HR responsibilities which are expected of me	0.80	x
3. I can't ever seem to get caught up with performing my HR responsibilities	0.79	
4. Sometimes I feel as if there are not enough hours in the day	0.62	
5. Many times I have to cancel my commitments to my HR responsibilities	0.71	
6. I find myself having to prepare priority lists to get done all the HR responsibilities I have to do. Otherwise, I forget because I have so much to do	0.69	
7. I feel I have to perform HR responsibilities hastily and maybe less carefully in order to get everything done	0.76	
<i>Eigenvalue</i>	4.08	
<i>Explained variance</i>	58.35	

Factor analysis dimension competences

Items	Factor		CFA
	1	2	
<i>Occupational self-efficacy</i>			(0.81)
1. I can remain calm when facing difficulties in performing my HR responsibilities because I can rely on my abilities	0.73	0.09	
2. When I am confronted with a problem in performing my HR responsibilities, I can usually find several solutions	0.61	0.03	
3. Whatever comes my way in performing my HR responsibilities, I can usually handle it	0.74	0.09	
4. My past experiences in my job have prepared me well for performing my HR responsibilities	0.66	0.19	

(continued)

Table III.
Exploratory factor
analysis: Factor
loadings per item

Factor analysis dimension competences				
Items	Factor			CFA
	1	2		
5. I meet the goals I set for myself in performing my HR responsibilities	0.61	0.12		
6. I feel prepared for most of the demand in performing my HR responsibilities	0.78	0.18		x
Training				(0.77)
7. The courses I followed were relevant for performing my HR responsibilities	0.05	0.77		
8. The course offerings were sufficient for performing my HR responsibilities	0.20	0.78		
<i>Eigenvalue</i>	4.63	1.49		
<i>Explained variance</i>	46.31	61.22		
Factor analysis dimension support				
Items	Factor			CFA
	1	2		
<i>HR support services</i>				(0.77)
1. When the HR department promises to do something by a certain time, then it does happen	0.32	0.80		
4. The HR department should provide their services at the time it promises to do	0.31	0.84		x
5. The HR department insists on administering data without mistakes	0.38	0.55		
6. The employees working in the HR department inform me about the time specific services need to be ready	0.30	0.61		
<i>HR support behaviour</i>				(0.84)
7. The HR managers are always be willing to help	0.68	0.36		
8. The HR managers are never too busy to help me when I ask them to	0.44	0.40		x
9. The HR managers are polite and interested in me	0.82	0.26		x
10. The HR managers have the necessary knowledge to answer my questions	0.68	0.33		
11. The HR department gives me individual attention	0.65	0.35		
12. The availability of the HR department is convenient to their clients	0.65	0.31		x
13. The employees working in the HR department give me individual attention	0.68	0.31		
<i>Eigenvalue</i>	10.26	1.19		
<i>Explained variance</i>	57.02	63.62		
Factor analysis dimension policy & procedures				
Items	Factor			CFA
	1	2	3	
<i>Role conflict</i>				(0.78)
1. I have to do things that should be done differently in performing my HR responsibilities	0.58	0.08	0.13	x
2. I work under incompatible HR policies and HR guidelines	0.64	0.11	0.20	
3. I receive an HR assignment without the manpower to complete it	0.61	0.21	0.15	
4. I have to buck a rule or policy in order to carry out my HR responsibilities	0.68	0.13	0.12	
5. I work with two or more groups who operate quite differently in performing HR responsibilities	0.63	-0.01	-0.02	
6. I receive incompatible requests from two or more people regarding my HR responsibilities	0.69	0.14	0.02	x
7. I perform HR tasks that are accepted by one person but not by others	0.63	0.14	0.03	
8. I receive an HR assignment without adequate resources and materials to execute it	0.61	0.19	0.19	x
9. I work on unnecessary things in performing my HR responsibilities	0.56	0.03	0.23	x
<i>Role ambiguity</i>				(0.68)
10. I know how much authority I have	0.11	0.60	0.05	x
11. I have concrete, planned goals for my HR responsibilities	0.00	0.59	0.12	
12. I lack HR policies and guidelines to help me	0.31	0.44	0.13	
13. I know what my HR responsibilities are	0.12	0.75	0.18	x
14. I have to feel my way in performing my HR responsibilities	0.06	0.51	0.06	
15. I know exactly what is expected of me in performing my HR responsibilities	0.04	0.80	0.18	x
16. Explanation is clear of what has to be done in performing my HR responsibilities	0.27	0.72	0.24	
<i>User-friendliness of HR forms</i>				(0.89)
17. The HR instruments I am provided with are clear and understandable	0.20	0.15	0.83	
18. The HR instruments I am provided with are concrete enough to use them	0.17	0.20	0.85	
19. I find HR instruments easy to use	0.14	0.15	0.78	
<i>Eigenvalue</i>	7.40	2.87	1.96	
<i>Explained variance</i>	32.19	44.69	53.21	

Table III.

(0.098); CFI = 0.95 (0.88); GFI = 0.94 (0.83); AGFI = 0.91 (0.78)]. The *competences* construct was reduced by one item related to the construct of occupational self-efficacy [RMSEA = 0.056 (0.112); CFI = 0.99 (0.94); GFI = 0.98 (0.94); AGFI = 0.96 (0.88)]. For the *support* concept, a two-factor model appeared to have the best goodness-of-fit value [RMSEA = 0.043 (0.106); CFI = 0.99 (0.93); GFI = 0.99 (0.90); AGFI = 0.97 (0.85)], showing an improvement over the hypothesized four-factor model incorporating the constructs of *reliability*, *responsiveness*, *assurance* and *empathy* as developed by Parasuraman *et al.* (1988). We labelled the first one of these two new factors as *HRM support services*, since this factor focuses on the quality of the service, such as the timeliness of the service delivery and correctness of the service. The second factor represents *HRM support behaviour* and focuses on the behaviour and attitudes of the employees working in the HRM department, such as their service orientation and customer satisfaction. As regards the *capacity* scale, we deleted two items [GFI = 0.99 (0.93); AGFI = 0.98 (0.86); RMSEA = 0.042 (0.121); CFI = 0.99 (0.92)]. The *policy and procedure* construct was reduced by twelve items (four items related to *role conflict*, six items related to *role ambiguity* and two items related to *user-friendliness of HR forms*), resulting in an improved goodness-of-fit value [RMSEA = 0.073 (0.106); CFI = 0.95 (0.85); GFI = 0.94 (0.83); AGFI = 0.91 (0.78)].

The final items and their coefficient indices are presented in Table IV, and the GFI are reported in Table V. By following the analytical approach as explained above, we could reduce the total number of items from 80 to 67 after the EFA, and finally to 44 items during the process of scale purification in the CFA, leading to a total reduction of 36 items. Following this procedure, we were able to conclude that since the used scales were validated in non-HRM contexts, for example, for research on employees in their work roles or for working wives experiencing role overload (Reilly, 1982), they did not immediately lead to good factor structures in the line management context that is central in this study. As such, changing the wording of the items and carrying out the EFA and CFA helped us to construct scales that were relevant to the situation of line managers implementing HRM practices effectively at the operational level.

Scale evaluation

After having developed psychometrically sound scales, the quality of these measures was to be further assessed using convergent and discriminant validity. Convergent validity comprises the degree to which concepts that are theoretically related are indeed related in empirical findings. The factor loadings of the items presented in Table IV are all above the cut-off value of 0.50 (Hair *et al.*, 1998). Discriminant validity is the degree to which concepts that theoretically should not be related are, in fact, unrelated in empirical findings (Campbell and Fiske, 1959). We can use a correlation matrix to assess the convergent and discriminant validity of our measures by examining whether the intercorrelations between scales that measure the same concept are higher in comparison with those that measure different concepts (see Table VI). Table VI indicates that we, indeed, in general, found systematically higher intercorrelations between scales reflecting one similar concept (ranging from 0.12 to 0.63) and relatively low intercorrelations between scales measuring different concepts (ranging from 0.00 to 0.43). Some exceptions were found, for instance, pertaining to the relationship between self-efficacy on the one hand, and intrinsic motivation (0.34) and role ambiguity (0.52) on the other hand. Given the fact that these antecedents all comprise internal attributions, it is not surprising that there is some overlap. After all, they are both reflecting a similar underlying dimension (Campbell and Fiske, 1959). A similar line of reasoning applies to the relatively high intercorrelations between HR support services and user-friendliness of HRM forms (0.36), both being indicators of external attributions.

For convergent validity, it is also recommended to calculate average variance extracted (AVE) and composite reliability (CR). Although the AVE values for the key study variables ranged from 0.45 to 0.51, which are around, but not necessarily above, the cut-off value of 0.50,

	Internal LM Attributions		External LM Attributions	
	Desire	Competences	Support	Capacity Policy & procedures
<i>Desire</i>				
Desire 1 (Intrinsic motivation1)	0.65			
Desire 2 (Intrinsic motivation2)	0.86			
Desire 3 (Intrinsic motivation3)	0.88			
Desire 5 (Identified regulation1)	0.55			
Desire 6 (Identified regulation2)	0.81			
Desire 8 (Identified regulation 4)	0.81			
Desire 14 (Amotivation2)	0.76			
Desire 15 (Amotivation3)	0.84			
Desire 16 (Amotivation4)	0.76			
Desire 17 (value added1)	0.80			
Desire 18 (value added2)	0.97			
Desire 20 (value added4)	0.76			
Desire 22 (value added6)	0.74			
<i>Competences</i>				
Competences 1 (Occ. self-efficacy1)		0.85		
Competences 2 (Occ. self-efficacy2)		0.73		
Competences 3 (Occ. self-efficacy3)		0.82		
Competences 4 (Occ. self-efficacy4)		0.73		
Competences 5 (Occ. self-efficacy5)		0.61		
Competences 7 (Training1)		0.64		
Competences 8 (Training2)		1.10		
<i>Support</i>				
Support 1 (HR support services1)			0.81	
Support 5 (HR support services5)			0.73	
Support 6 (HR support services6)			0.75	
Support 8 (HR support behaviour1)			0.85	
Support 13 (HR support behaviour6)			0.79	
Support 14 (HR support behaviour7)			0.79	
Support 17 (HR support behaviour10)			0.75	
<i>Capacity</i>				
Capacity 3 (Role overload3)				0.68
Capacity 4 (Role overload4)				0.59
Capacity 5 (Role overload5)				0.78
Capacity 6 (Role overload6)				0.63
Capacity 7 (Role overload7)				0.84
<i>Policy & Procedures</i>				
PP 2 (Role conflict2)				0.78
PP 3 (Role conflict3)				0.64
PP 4 (Role conflict4)				0.85
PP 5 (Role conflict5)				0.62
PP 7 (Role conflict7)				0.64
PP 11 (Role ambiguity2)				0.53
PP 12 (Role ambiguity3)				0.61
PP 15 (Role ambiguity6)				0.52
PP 18 (Role ambiguity9)				0.88

Table IV.
Confirmatory factor
analysis: Factor
loadings per item

(continued)

	Internal LM Attributions		Support	External LM Attributions		Line management attributions for HRM
	Desire	Competences		Capacity	Policy & procedures	
PP 20 (user-friendliness of HRM forms1)						0.90
PP 21 (user-friendliness of HRM forms)						0.93
PP 22 (user-friendliness of HRM forms3)						0.82

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Table IV.

the values of the CR analysis (i.e. from 0.85 to 0.92) far exceed the recommended value of 0.70 (Nunnally, 1978).

The discriminant validity of a measure can be tested by looking for significant differences between differentiated groups or categories of respondents (Hinkin, 1995). Since we intended the scales to be valid for use in various hierarchical line management levels within an organization, we tested this assumption by comparing lower-level line managers, represented by first-line managers, with higher-level line managers, that is, those line managers in middle or senior management positions. Several authors have already found evidence of significant differences between the managerial work of line managers at lower and higher hierarchical levels (Bos-Nehles and Riemsdijk, 2014; Hales, 2005; Mintzberg, 1980). An independent samples *t*-test shows that the means of the two groups are indeed significantly different for some of our measures (see Table VII with all specific outcomes), supporting the discriminant validity of these scales. For example, we can see that lower-level line managers perceive significantly more value added in their HRM work than higher-level line managers, but they also perceive significantly more role overload and role conflict than higher-level line managers. Lower-level line managers are usually less experienced than higher-level line managers, which would explain that they perceive more role overload. Since they are also part of the team of their subordinates and might have been one of the team members before being promoted towards team manager (lower-level line manager), they perceive role conflict between being a manager and an employee. The higher levels of value added could be explained by the fact that the distance between lower-line managers and employees is usually smaller than that with higher-level line managers, explaining that lower-level line managers see developments in their subordinates and direct effects of their supervisory activities.

In order to further support its discriminant validity, a certain measurement instrument should also demonstrate significant differences in line management perceptions across organizations. To determine the discriminant validity of our measures across the six participating case companies, multivariate analysis of variance (MANOVA) was performed, with the organization included as the independent variable. Table VIII shows the results of the MANOVA tests and indicates that there were indeed significant differences between the organizations for all the included measures, except for the *user-friendliness of HRM forms*. The *F*-values (df = 5) ranged from 4.45 for *HRM support behaviour* to 20.14 for *role overload*.

Differentiating between groups based on line management hierarchical position and on specific participating organization, we have been able to show that line managers working within the same hierarchical level or within the same organization do indeed show greater consensus as regards their responses, in comparison with line managers who are spread across line management hierarchies or organizations.

Intra-class correlation coefficients (ICC) assess the ratio between the variation within groups and the variation between groups (Bliese, 2000). To test the ICCs of our sample, we assessed the inter-rater reliability within and across the organizations under study. More

Table V.
Confirmatory factor
analysis: Goodness-of-
fit indices

Goodness-of-fit measures	Internal LM attributions				External LM Attributions					
	Desire		Competences		Support		Capacity		Policy & procedures	
	HM	OM	HM	OM	HM	OM	HM	OM	HM	OM
Chi-square value	994.12	190.83	130.14	32.35	271.95	24.17	110.99	9.14	934.65	179.76
Df	179	59	19	13	43	13	14	5	149	51
Goodness-of-fit Index (GFI)	0.83	0.94	0.94	0.98	0.90	0.99	0.93	0.99	0.83	0.94
Adjusted goodness-of-fit Index (AGFI)	0.78	0.91	0.88	0.96	0.85	0.97	0.86	0.98	0.78	0.91
RMSEA	0.098	0.069	0.112	0.056	0.106	0.043	0.121	0.042	0.106	0.073
Comparative fit Index (CFI)	0.88	0.95	0.94	0.99	0.93	0.99	0.92	0.99	0.85	0.95

Note(s): HM: hypothetical model; OM: optimized model; LM: Line Managers

Constructs	Mean	SD	1	2	4	5	6	7	8	9	10	11	12	13
<i>Internal LM Attributions</i>														
<i>Desire</i>														
Intrinsic motivation	3.20	0.88	1.00											
Identified regulation	3.06	0.88	0.44**	1.00										
Amotivation	4.34	0.76	0.26**	0.12*	1.00									
Value added	3.94	0.84	0.35**	0.30**	0.49**	1.00								
<i>Competences</i>														
Occ. self-efficacy	3.87	0.67	0.34**	0.19**	0.20**	0.28**	1.00							
Training	3.60	1.04	0.15**	0.08	0.10*	0.23**	0.28**	1.00						
<i>External LM Attributions</i>														
<i>Support</i>														
HR support services	3.02	0.94	0.06	0.07	0.06	0.02	0.17**	0.13*	1.00					
HR support behaviour	3.55	0.80	0.16**	0.18**	0.18**	0.18**	0.23**	0.26**	0.63**	1.00				
<i>Capacity</i>														
Role overload	3.08	1.02	-0.12*	-0.06	0.22**	0.12**	0.09*	0.00	0.12**	0.10*	1.00			
<i>Policy & procedures</i>														
Role conflict	3.75	0.81	0.09	-0.02	0.37**	0.24**	0.13**	0.16**	0.20**	0.28**	0.42**	1.00		
Role ambiguity	3.42	0.73	0.22**	0.09	0.27**	0.20**	0.52**	0.26**	0.29**	0.33**	0.20**	0.32**	1.00	
User-friendliness of HRM forms	3.17	0.95	0.20**	0.15**	0.19**	0.15**	0.21**	0.19**	0.36**	0.43**	0.17**	0.31**	0.36**	1.00

Note(s): * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$; LM: line managers

Table VI.
Descriptive statistics
and correlation matrix

Constructs Sample	Lower-level line managers (<i>n</i> = 125)	Higher-level line managers (<i>n</i> = 288)	<i>t</i> -value
<i>Desire</i>			
Intrinsic motivation	3,19	3,29	1,05
Identified regulation	2,95	3,15	2,19
Amotivation	4,34	4,30	-0,58**
Value added	4,00	3,86	-1,58**
<i>Competences</i>			
Occ. Self-efficacy	3,65	3,92	3,75
Training	3,62	3,58	-0,33
<i>Support</i>			
HR support services	2,83	3,07	2,42
HR support behaviour	3,45	3,56	1,26
<i>Capacity</i>			
Role overload	3,19	2,96	-2,09**
<i>Policy and procedures</i>			
Role conflict	3,88	3,72	-1,93**
Role ambiguity	3,21	3,47	3,33
User-friendliness of HRM forms	3,15	3,19	0,39
Note(s): * $p \leq 0.10$, ** $p \leq 0.05$			

Table VII.
Independent samples
t-test for the two
distinguished line
management levels

specifically, ICC(1) reports the proportion of the total variance that can be explained by organizational membership, and ICC(2) demonstrates the reliability of the group mean. As Table IX shows, the ICC(1) values for all our distinguished measures are between 0.04 and 0.20, and the ICC(2) values are between 0.78 and 0.95. Here, the ICC(1) value of 0.10 for intrinsic motivation, for example, indicates that 10 per cent of the variability in line managers' ratings of intrinsic motivation is related to the organization they worked for. The values of both coefficients are within the prescribed ranges (Bliese, 2000). More specifically, Bliese (2000) suggested that ICC(1) values between 0.05 and 0.20 are typical, and that ICC(2) values above 0.70 are acceptable. According to Cicchetti (1994), ICC(2) values above 0.75 are considered as excellent. As all our values, except those for the measure of *user-friendliness of HRM forms*, fall within the suggested range for ICC(1), and are all above 0.78 for ICC(2), our values demonstrate adequate-to-good inter-rater reliability.

Discussion and conclusions

Reflection on outcomes

In validating the measurement scales that have been presented in this contribution, we have achieved our main goal, that is the development of a theoretically grounded and psychometrically sound measurement instrument for the identification of line managers' attributions for effective HRM implementation by focusing on the following three sub-goals: (1) to develop a psychometrically sound measurement instrument for the line management attributions for effective HRM implementation, (2) to optimize the factor structure of the scales, and therefore to establish good constructs and (3) to reduce the number of items in the constructs, that is to protect the parsimoniousness of our measures. As such, we contribute to the limited empirical research on the line management attributions for effective implementation of HRM practices on the work floor, and to the discussion in this scholarly field, by focusing on both the internal and external attributions of line managers' HRM implementation effectiveness.

Table VIII.
Multivariate analyses
of variance with
organization as the
independent variable

Constructs Sample	Org. 1 (n = 66)	Org. 2 (n = 108)	Org. 3 (n = 46)	Org. 4 (n = 108)	Org. 5 (n = 55)	Org. 6 (n = 88)	F-value
<i>Desire</i>							
Intrinsic motivation	2,97	3,51	2,85	3,35	2,73	3,27	9,74***
Identified regulation	3,00	2,82	3,20	3,35	2,87	3,10	4,84***
Amotivation	4,28	4,63	4,14	4,35	4,49	4,02	7,78***
Value added	3,95	4,14	3,91	4,12	4,19	3,32	14,44***
<i>Competences</i>							
Occ. Self-efficacy	3,67	3,89	3,64	3,77	4,05	4,11	5,74***
Training	3,12	3,87	3,91	3,23	3,72	3,73	7,20***
<i>Support</i>							
HR support services	3,49	2,84	2,80	2,56	3,19	3,46	15,91***
HR support behaviour	3,84	3,46	3,43	3,34	3,68	3,68	4,45***
<i>Capacity</i>							
Role overload	3,91	2,81	2,87	3,20	3,43	2,54	20,14***
<i>Policy and procedures</i>							
Role conflict	3,96	3,98	3,71	3,75	3,61	3,39	6,39***
Role ambiguity	3,29	3,61	3,22	3,16	3,58	3,59	7,02***
User-friendliness of HRM forms	3,15	3,15	3,13	3,19	3,06	3,26	0,35

Note(s): *** $p \leq 0.01$

Constructs	Cronbach's alpha	ICC(1)	ICC(2)
<i>Desire</i>			
Intrinsic motivation	0.78	0.10	0.90
Identified regulation	0.73	0.05	0.79
Amotivation	0.75	0.08	0.87
Value added	0.85	0.15	0.93
<i>Competences</i>			
Occ. self-efficacy	0.81	0.06	0.83
Training	0.77	0.07	0.86
<i>Support</i>			
HR support services	0.77	0.16	0.94
HR support behaviour	0.84	0.04	0.78
<i>Capacity</i>			
Role overload	0.84	0.20	0.95
<i>Policy and procedures</i>			
Role conflict	0.78	0.06	0.84
Role ambiguity	0.68	0.07	0.86
User-friendliness of HRM forms	0.89	-0.01	-0.82

Table IX.
Inter-class correlation
coefficients

In particular, since the HRM literature is inconsistent about the antecedents that lead to line managers' attributions for effective HRM implementation, we have focused on developing and empirically testing a measurement instrument for capturing their internal and external attributions, using a sample of 471 line managers across six organizations. The results indicate that this instrument has sound psychometric properties and can provide researchers in the area

of HRM implementation with a reliable and valid approach to measuring line managers' attributions for the effective implementation of HRM practices. Using psychometric techniques, such as CFA analysis and reliability assessment, we have demonstrated that all of the included scales are robust and of good quality. The inter-rater reliability within and across the participating organizations in this research was good as well. In addition, given its solid discriminant validity, we have shown that the measurement instrument discriminates well between different line management hierarchical levels and organizations.

Prior to our research, no psychometrically validated measurement instrument for examining the antecedents for line managers' attributions was available. Therefore, up until now, scholars were not able to measure the internal and external antecedents that line managers perceive in their HRM role. The newly developed and thoroughly validated measurement instrument that is proposed in this contribution provides an opportunity to explore which of the attributions perceived by line managers are most salient for effective HRM implementation, and the effect these attributions have on the way they actually implement HRM practices on the work floor. However, the instrument can also be used to assess line managers' role in using more innovative HRM initiatives, such as talent management, agile or lean working, e-HRM or digitalization. In addition, it can be argued that line managers may also be hindered to make use of these initiatives effectively, by internal and external attributions, as proposed in this instrument. The instrument may also be used to test internal and external attributions of other HRM stakeholders involved in the implementation process, such as senior managers, HRM professionals or employees. We posit that it is relevant to understand which internal and external employee attributions are the reasons for employees to, for instance, perform poorly or to develop slower than expected. For HRM professionals or senior managers in the organization, the instrument provides opportunities to investigate why they failed to develop initiatives to, for example, attract specific skills for the organization or have not yet digitalized (HRM) systems. These examples show that the developed measurement instrument is more widely applicable than purely to assess line managers' attributions for effective HRM implementation, as proposed in this contribution.

Theoretical implications

Applying the causal attribution theory (Heider, 1958; Kelley, 1967) to the situation of line managers' attributions for effective HRM in implementing HRM practices in their organization allowed us to distinguish between internal and external antecedents of HRM implementation effectiveness. Our empirical work incorporates line managers' HRM attributions and builds upon those factors that previous HRM literature identified for HRM implementation effectiveness (Bos-Nehles *et al.*, 2013; Kellner *et al.*, 2016; Nehles *et al.*, 2006; Van Waeyenberg and Decramer, 2018). By distinguishing between internal and external HRM attributions, we could develop internal and external antecedents for line managers' attributions regarding HRM implementation effectiveness, and develop a measurement instrument that incorporates both types of factors, that is, internal and external.

Recently, HRM scholars have increasingly leaned on attribution theory to explain human behaviour (Hewett *et al.*, 2018), and, in a similar vein, HRM journals are increasingly focusing on the application of attribution theory to HRM in special issues (e.g. *Human Resource Management Journal*) by focusing on HR attributions theory (Hewett *et al.*, 2018; Nishii *et al.*, 2008) or HRM system strength (Bowen and Ostroff, 2004). As such, we have followed the call for more empirical research in this field, as launched by these authors, by applying the causal attribution theory to the HRM implementation effectiveness and the role of line managers in it.

Practical implications

The psychometrically validated measurement instrument presented in this paper offers a user-friendly way for HRM professionals to investigate the extent to which line managers'

attributions for effective HRM implementation are based on internal and/or external factors. In an era wherein organizations increasingly decentralize business processes and devolve HRM tasks and responsibilities to the line management, HRM professionals need to ensure that line managers are aware of internal and external antecedents of successful HRM implementation and support them with their HRM practices (Trullen *et al.*, 2016). Concrete, our newly developed measurement instrument, gives HRM professionals a valuable tool for identifying which HRM attributions line managers need to make in order to implement HRM practices effectively, and how HRM staff can support them in doing so. As a result, this measurement instrument may help HRM professionals to make well-founded decisions about, for instance, introducing specific HRM training programmes for line managers (to improve their internal attributions), training and developing operational HR managers so that they can support line managers in various hierarchical levels or contexts, developing clear and user-friendly policies on the HRM responsibilities and authorities of line managers in various contexts and developing practical guidelines for line managers on how to practically apply HRM practices (to improve their external attributions). All in all, the instrument can be used by HRM professionals to investigate whether they should increasingly invest in developing internal or external attributions of line managers.

Following the notion of Heider's (1958) *self-serving bias*, being developed on the basis of internal and external attributions, by using our instrument, HRM professionals can more solidly evaluate possible antecedents of failed HRM implementation trajectories. After all, it enables them to soundly attribute implementation failures to either uncontrollable external factors, such as a lack of support or missing policies, and/or to, for instance, implementation success to internal factors, such as their internal motivation to make it a success. As such, they are better able to reflect on the possible causes in case of failures, be it internal or external factors, or, rather, a combination of both.

Limitations of the study

The measurement instrument has some limitations that should be addressed in future research. First, in the present study, single-actor bias is a potential concern since the only source of respondents were line managers themselves. Since our goal was to understand what line managers need to implement HRM practices effectively, we focused solely on their perceptions regarding internal and external attributions for HRM effectiveness. To increase our insight in perceptions of different stakeholders involved, multisource data of line managers' subordinates, peers or HRM professionals could be gathered in future scholarly work. A better understanding of possible differences in internal and external attributions is valuable in the light of the further optimization of HRM implementation effectiveness. Second, in the present study, we have first explored the psychometric qualities of the instrument [i.e. the reliability and validity; EFA] of the measurement model and confirmed it with CFA. This is considered a limitation by some scholars, because they advise against the performance of EFA and CFA on the same data set as it can yield unreliable results (Fokkema and Greiff, 2017). However, we argue that our exploratory approach would not have been needed since our measures were designed with the goal to capture specific constructs. Such constructs provide clear hypotheses that could be tested with a CFA only (Ziegler, 2014). We performed the EFA anyway to adhere to our goal to decrease the number of items, which we reached by deleting 13 items before confirming and modifying the factor structure by erasing more items in the CFA. Obviously, future empirical work is needed to cross-validate our outcomes and to reconfirm the factor structure on a different data set. Third, the developed measurement instrument needs to be considered with care for the assessment of HRM implementation effectiveness in small- and medium-sized enterprises (SMEs) because the instrument was pilot-tested in multinational organizations and tested in large organizations only. Since SMEs are often characterized by informality and lack of sophistication of HRM

practices (Bacon and Hoque, 2005; Harney and Dundon, 2006), line managers might disagree with the proposed HRM practices or feel ill-equipped to implement them in their teams. This might overvalue the influence of internal line management attributions in SMEs in comparison to its influence in larger organizations. In addition, SMEs often do not have a formal HRM department or HRM managers, and thus some of the external attributions (HRM support by HRM professionals and policy and procedures) might need to be reconsidered and reformulated for SMEs. Fourth, although the measurement instrument nicely discriminates between different groups and categories of respondents, the AVE scores of the convergent validity could be stronger. However, considering the composite reliability of the measures, the instrument shows high convergent reliability. Fourth, the low ICC values of the *user-friendliness of HRM forms* construct imply that this construct should not be used in isolation from the *Policy and Procedures* dimension, because it discriminates too little between different groups. However, due to the fact that the user-friendliness of HRM forms construct has an excellent Cronbach's alpha of 0.89, the low ICC values of the three items of user-friendliness of HRM forms did not jeopardize the overall quality of the entire dimension. Fifth, the five-dimensional model has not been cross-validated among an independent sample to evaluate the robustness of the model. Finally, no criterion-related validity check was used to assess construct validity. In a criterion-related validity check, the performance of an operationalization is tested against some other criterion, one that is assumed to be theoretically related to the construct measure. The measurement instrument that is developed in this contribution offers many possibilities to test the effect of line managers' internal and external attributions in the light of a range of organizational outcome measures, such as HRM implementation effectiveness, as suggested here. Another possible criterion could be the individual performance of employees, the performance of the departments for which line managers are responsible, or organizational effectiveness.

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