
New perspective on platform work – internal crowdworking as an instrument to facilitate strategic human resources management

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Abstract: Little attention is given to internal crowdworking (IC) where contracts are tendered to employees of the organisation by means of an open call. IC can enable the strengths of external crowdworking (EC) within the organisation to be used for strategic HRM. Possible applications are particularly seen in the areas of deployment, retention, motivation, assessment and development. These areas provide the opportunity to secure qualifications within organisations and to use them cost-efficiently and in a flexible way, while EC has the reputation of eroding normal working conditions or favouring precarious ones. Starting with a systematic literature review to reveal the research gap, it is questioned and shown using reasoned argument how IC as a hybrid form of work can be part of strategic HRM combining three concepts with IC. The aim is to show on a conceptual basis which functions IC can fulfil in the HR strategy context. For management and practice, the paper provides the basis for reflection regarding a potential implementation of IC.

Keywords: platform work; employment systems; strategic human resources management; internal crowdworking; enterprise crowdworking.

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1 Introduction

Resulting from advancing digitalisation of work processes, forms of the platform economy are becoming the focus of interest in order to promote productivity, agility and new business ideas (see Mrass and Leimeister, 2018; Schramm and Tietgen-Simonsen, 2019). The research discourse especially focuses on external crowdworking, which enables the distribution of tasks via an open call to an (un)certain number of contractors (cf. *ibid.*, Mrass et al., 2018a, 2018b, 2018c). Crowdworking offers the possibility of using and aggregating the knowledge and experience of a broad group in a way that valuable result and solutions can be created, for example in the areas of innovation and testing (Mrass et al., 2018c). IC, however, means directing open calls only to the organisation's own staff (cf. Hetmank, 2014).

The shortage of skilled workers in Western economies, which is becoming more acute in some areas and sectors, is used as an opportunity to address the issue of how qualified employees can be recruited, retained and deployed in a targeted manner (cf. Holland et al., 2007). In order to cope with this challenge, differentiating HRM strategies between employees can be useful (cf. Huselid and Becker, 2011; Wright and Boswell, 2002). It is questioned how IC as a hybrid form of work can be part of strategic HRM. This article aims to analyse in a theoretically well-founded way to what extent the instrument of IC can contribute to strategic HRM. This is based on human capital theory and the resource-oriented approach. Considering the design of HR strategies, the contingency and consistency approach is considered in particular (Delery and Doty, 1996; Wright and Snell, 1991). Concepts for strategic HRM, especially approaches of Arthur (1994), Williamson et al. (1975) and Osterman (1987) are combined with IC. These concepts have been selected because they show that IC includes differentiable control and commitment instruments and helps to shape internal labour markets in the sense of a holistic HR strategy. The aim is to show on a conceptual basis which functions IC can fulfil in the HR strategy context.

The analysis of the research gap at the interface of internal crowdworking (IC) and strategic HRM will be implemented as a systematic literature review. This being the basis, the connections of IC and strategic HRM are established using reasoned argument.

Firstly, in this paper, IC is described by distinguishing it from external crowdworking. After discussing the different types of IC, motivations of working on crowdworking platforms are being presented. The benefits and control mechanisms of IC will be described in more detail. In a second step, before the actual analysis, the possibilities of designing HR strategies and their bases for argumentation will be presented. Furthermore, the focus of the argumentation will be determined with human capital theory and resource orientation. Finally, in the third step, the approaches to employment systems by Arthur (1994), Williamson et al. (1975) and Osterman (1987) will be combined with IC in order to be able to work out the opportunities for strategic HRM.

In the area of external crowdworking, design, engineering, innovation, marketplace, microtask, testing, text and distribution platforms are used (Mrass et al., 2017a, 2017b). All these types of platforms aim to use the expertise of a broad range of contractors to achieve sound solutions. Many practical examples have been presented and analysed for their suitability for practical application. For example, there are a large number of active platforms in Germany (Mrass and Peters, 2017). Platforms are used to offer and mediate

both location-bound activities (gig work) and location-independent activities (Schmidt, 2016). In addition, a distinction can be made between forms of crowdworking where the service mediation and creation is purely web-based and those where the mediation takes place digitally via the platform and the creation takes place outside the platform.

Moreover, the working conditions in the context of crowdwork activities as well as the socio-economic background (gender, educational level, age) of crowdworkers were considered (Bertschek et al., 2015). The given and necessary legal framework for platform work has also been discussed (Hanau and Matiaske, 2019; Kramer, 2018; Klebe, 2017).

A large amount of contributions criticise crowdworking in view of the lack of a legal framework as a new form of self-employment is being established at the expense of declining normal working conditions as well as social security systems and the influence of employee representatives being undermined (Küppers, 2017).

So far, little attention has been paid to IC (Hetmank, 2014), where contracts are offered exclusively to the organisation's own workforce (Zuchowski et al., 2016b). IC can be described as a hybrid form of employment (Mrass et al., 2019) since on the one hand, contracts can be put out to tender entirely internally and on the other, the call can also be directed to the external crowd in the event of low internal demand for contracts or insufficient qualifications. The form of employment can also be regarded as hybrid in view of the fact that the employees are embedded in the internal organisational structure, but choose the contracts themselves. The contributions on IC focus on aspects of the design and layout of internal platforms (Durward et al., 2019). The use of IC can be limited to relatively few case studies (Knop et al., 2019). Theoretical foundations concerning the use of IC hardly exist.

This article is supposed to make it possible, despite all criticism of crowdworking, to recognise the fundamental potential of IC within the framework of strategic HRM. So the findings of this work are particularly aimed at HR managers and intra- and interdisciplinary researchers having interfaces with platform work and being interested in digitalisation potential.

2 Research gap analysis

In order to clarify the research gap, a systematic literature analysis will be conducted for the years from 2010 to 2021. Here, the selection focuses on contributions to the intersection of platform economy, especially IC, and strategic HRM. Seven databases and search engines have been searched (Google Scholar, Econstor, Katalogplus, EBSCO, Springer Link, ProQuest, Wiso.net) including all types of articles in German and English (conference papers, working papers, conceptual articles as well as studies from peer reviewed journals). With the help of search term combinations (Table 1), many publications can be identified of which only a few were relevant in terms of content after further screening (Table 2). Figure 1 schematically shows the search and selection process.

The selection is either due to the lack of reference to the holistic strategic HRM perspective, the lack of focus on IC/enterprise crowdworking or the necessary differentiation from the concept of the gig economy (cf. Schmidt, 2016). Contributions which address only one area of HRM in the context of crowdworking have been excluded as these contributions aim to create an overall strategic reference in the argumentation. A

closer critical evaluation of the screened contributions similar to PRISMA (cf. Page et al., 2021) has been omitted since the content fit can already be classified in the screening process and the number of included papers is small.

Table 1 Keywords and search results

<i>Keywords/search term combinations</i>	<i>Number of articles identified in seven databases/search engines (incl. duplicates)</i>
Internal crowdworking HRM	300
Internal crowdwork HRM	509
Internal crowdworking human resource management	3.361
Internal crowdworking strategic human resource management	2.605
Internal crowdwork human resource management	3.693
Strategic human resources management internal crowdwork	3.408
Interne plattformökonomie human resource management	904
Internal crowdwork, strategic human resource management	3.569
Internal crowdwork employment systems internal crowd	3.486
Enterprise crowdsourcing HRM	4.686

Figure 1 Flow chart: study selection

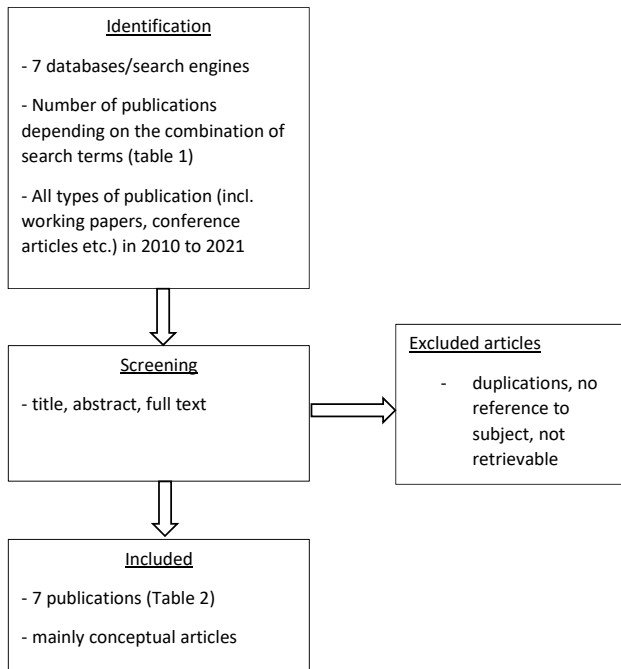


Table 2 Included publications for revealing research gaps

<i>Authors</i>	<i>Year</i>	<i>Title</i>	<i>Type of publication</i>	<i>Subject</i>	<i>Restrictions/limitations (selection) → relevance</i>
Ellmer and Reichel	2018	Crowdwork from an HRM perspective-integrating organisational performance and employee welfare	Review paper/discussion	Crowdwork, holistic HRM perspective, performance perspective, welfare perspective, opportunities and challenges, holistic HRM perspective should consider both a performance and welfare perspective, opportunities and challenges of crowdwork for HRM identified	Consideration of holistic HRM perspective, but differentiation between operational/strategic is missing, explicit internal crowdworking is missing → very relevant
Buettner	2015	A systematic literature review of crowdsourcing research from a human resource management perspective	Review paper	Crowdsourcing; HRM; identification of primarily technological/design research orientation as a coordination problem; 8 theses to guide future empirical research (simplified, job design and analysis, workforce planning, recruitment and selection, training and development, performance measurement, leadership, compensation, legal and ethical issues)	Limited to peer reviewed papers, potential for further research at the strategic HRM level → very relevant
Bogers and West	2012	Managing distributed innovation: strategic utilisation of open and user innovation	Conceptual paper, discussion	Innovation promotion, distribution processes, strategic management of distributed innovation	Focus primarily on innovations, no concrete reference to internal crowdworking, no holistic view of strategic HRM → moderately relevant
Kuhn et al.	2021	Technologically mediated human resource management in the gig economy	Review paper	Gig economy; gig workers; digital platform labour; digital platforms change understanding of HRM theory and practice; increased emphasis on workforce flexibility; challenges for HR; massive layoff of service workers, need to manage institutional complexity, etc., avoid negative consequences for permanent employees; opportunities for HR; visibility can draw in talented service workers, increases strategic potential of HR analytics, recruitment of contractors with highly specialised skills and good service easier	Transfer to internal crowdworking? Relatively general results; existing studies are limited in informative value, e.g. efforts to determine the number of gig workers as well as the overall economic impact of platforms difficult due to methodological limitations and differences in definition/interpretation of gig work by respondents; focus on gig economy; lack of holistic perspective of strategic HRM → moderately relevant
Meijerink and Keegan	2019	Conceptualising human resource management in the gig economy: Toward a platform ecosystem perspective	Working paper/discussion paper	HRM; gig economy; ecosystems; implementation; paradoxes; platform companies try to avoid employment relationships with gig workers; ecosystem perspective (deriving theses on role of HRM activities); HRM in gig economy is designed to manage platform ecosystems through exchange of gig workers, demanders and platform companies	More detailed examination of exchanges between gig workers, clients and platform companies is lacking; likewise, the extent to which HRM activities impact the gig economy (and vice versa) has not been looked at in depth; exchange relationships need to be examined in more detail and how these shape HRM activities as well as are shaped by them → moderately relevant
Harris	2011	You're hired! An examination of crowdworking incentive models in human resource tasks.	Study, experimental design	HR, hiring new mid-level employees, incentives	Focus on incentives, no holistic view of strategic HR work and internal crowdworking → moderately relevant
Meijerink et al.	2021	Having their cake and eating it too? Online labor platforms and human resource management as a case of institutional complexity	Qualitative study (interviews)	HRM; gig work; freelancer; institutional complexity; response strategies; use of HRM activities to control gig workers; focus on complexity; solutions to complexity, HRM activities are solution to complexity for gig workers	Coordination of stakeholders (gig workers, restaurants, consumers) difficult, higher demand for HRM activities, relation to gig economy, lack of holistic view of strategic HRM → moderately relevant

Following the literature search process, there are only a few views of crowdworking from an HRM perspective. For example, Harris (2011) points out that crowdworking are used for screening and assessing applications. Similarly, Ellmer and Reichel (2018) look at external crowdworking from an HRM perspective to identify the opportunities and challenges of crowdworking for HR in terms of organisational performance and employees' well-being. Buettner (2015) provides a systematically developed overview of crowdsourcing from an HR perspective, although the strategic focus and the explicit reference to IC are missing. Bogers and West (2012) refer to the strategic management of distributed innovations. In this publication, the strategic reference as well as the consideration of IC is also missing. Meijerink and Keegan (2019), Meijerink et al. (2021) as well as Kuhn et al. (2021) offer a concept of HRM in the gig economy context.

These selected contributions, presented in more detail in Table 2, show that initial conceptual discussions of platform work have taken place in the context of HRM. However, on the one hand, they refer to external crowdworking and not holistically to strategic HRM – holistically means that IC is connected with concrete strategic concepts in its structural elements and in its functional logic (e.g., employment systems). On the other hand, the focus is placed on gig economy.

The predominant number of included conceptual publications and the lack of empirical contributions justify the assumption of a new research area. A theoretically well-founded classification of IC in connection with strategic HRM can serve as a basis for further empirical analysis.

3 From external to IC

The platform economy includes new forms of work organisation, which are largely made possible by increasing networking and digitalisation (Mrass et al., 2018a). Due to an economic environment described as uncertain and complex, forms of new work organisation are increasingly postulated (Mrass et al., 2018a). In the context of the platform economy, crowdworking is a form of organisation that can enable a fast and efficient allocation of work and contractors (Mrass et al., 2018a). On the one hand, crowdworking can be oriented towards the outside world (external crowdworking) by directing orders exclusively or additionally to external contractors. On the other hand, they can be directed inwards (IC) if work orders are awarded within the organisation (Hetmank, 2014). There are also hybrid forms in which contracts are tendered for both the organisation's own staff and external crowdworkers (Mrass et al., 2019, 2018b).

In crowdworking, a crowdsourcer offers a task to an undefined number of people, the potential crowdworkers, via an open call (Leimeister, 2012; Leimeister et al., 2016). The process of collaboration between crowdsourcers and crowdworkers is carried out via an IT-supported platform. Crowdsourcers can be a company, an organisation, a group of persons or individuals. Potential crowdworkers can also be individuals, groups or entire organisations (ibid.). The process of crowdworking looks like this (see Schramm and Tietgen-Simonsen, 2019):

- 1 specification of the assignment and division into subtasks by the client
- 2 finding and assigning suitable contractors
- 3 completion of tasks by contractors

- 4 processing of the completed services by the client
- 5 remuneration of contractors.

The particular attraction of platforms is that both the planning and management as well as the performance check can be handled via the platform (Schramm and Tietgen-Simsen, 2019) without the need for repeated case-related, time-consuming delegation by a manager. Basically, this is possible due to three criteria. Firstly, an open call is the starting point. Secondly, participation is based on the principle of self-selection. And thirdly, the interaction of crowdsourcers and crowdworkers takes place via the IT-supported platform (Leimeister et al., 2016). These principles and stages in the process, which will be considered below in more detail, can be transferred to IC (Zuchowski et al., 2016a).

Compared to external crowdworking, only a few practical examples of IC are known. IC is particularly used to solve knowledge- and information-intensive tasks or design problems or to support decision-making (Zuchowski et al., 2016a). The most known use is limited to the support of organisational transformation processes, such as restructuring a bank and software testing, for example in an insurance company and an industrial enterprise (Knop et al., 2019).

Formally, the types of cooperation can be divided into a competitive approach or a collaboration-based approach (Blohm et al., 2018). Thus, competing contributions can create a dynamic that creates additional motivation through result- or time-based remuneration. In IC, it is usually a matter of bundling partial services without letting disagreement arise resulting from competitive thinking. The collaboration based approach is not necessarily advantageous as establishing a functioning incentive and remuneration system is particularly important in IC (Zuchowski et al., 2016a). Remuneration that is graduated according to the type of task and requirements has different effects (Vukovic and Natarajan, 2013a, 2013b). For transparency on contractors' side, a previously determined, requirement-oriented remuneration or score is helpful (Blohm et al., 2018).

The motives and incentives of contractors for working on external crowdwork platforms are very diverse. The most common ones are flexibility in time and place, autonomy in task selection, creative work and learning new skills (Bertschek et al., 2015; Deng et al., 2016; Al-Ani and Stumpp, 2015). Fair pay also has a positive effect on job satisfaction (Brawley and Pury, 2016). However, the specific work context is relevant for assessing the fulfilment of the performance and the resulting (un)satisfaction (Pfeiffer et al., 2019). Negative effects on job satisfaction on platforms are especially the rejection of work regarded oneself as good work, the feeling of exploitation and lack of transparency and clarity concerning requirements (Brawley and Pury, 2016). Assumingly, these negative effects can be eliminated by systematically embedding platform work within the organisation. Nevertheless, it cannot generally be presumed that all the effects mentioned can be identified as intensely in internal IC.

4 Benefits and control mechanisms of internal crowdwork

While the greatest benefit of external crowdworking is the worldwide and flexible availability of knowledge, experience and skills at relatively low personnel costs (Hetmank, 2014), IC has other advantages. In particular, activities in which internal know-how must be protected or repeating tasks for support have to be performed

alongside the core business may be predestined for IC (Hetmank, 2014). The benefit of IC is also seen from a business perspective in the compression of services (Leimeister et al., 2015). Depending on their design, this makes it possible for tasks offered via platforms to be completed with fewer personnel resources. The potential of IC is also evident in the use of free, idle work capacities as tendered contracts on the platform can help the utilisation of personnel via the self-selection mechanism. In addition, the knowledge about the internal crowd and consequently the trust placed in it by the company is greater, so this way certain activities can also be offered to a subset of target groups (Leimeister et al., 2015). Basically, crowdworking makes a high degree of autonomous self-control to one of the core competencies of contractors (Kaschube, 2006).

There are many tasks to be fulfilled when implementing and using IC within organisations (Zuchowski et al., 2016a). In particular, these include controlling the implementation of this new organisational form, the remuneration and incentive model, task definitions and decomposition, quality assurance, managing members and controlling regulations. In order to make the (cultural) change in terms of a changed work organisation meaningful, trust and collaborative working are especially emphasised for achieving the company's objectives (Zuchowski et al., 2016a). This enables employees to work across structural hierarchical boundaries because superiors go without highly developed coordination instruments of control and review and provide openness and social feedback instead (Majchrzak et al., 2009). However, this does not exclude a quality assurance system.

The incentive and remuneration system can be designed differently. It may contain monetary components or be based on non-monetary remuneration mechanisms (Zuchowski et al., 2016a). A feedback system that addresses individual performance contributions may be advantageous. In addition, point systems such as those used in external crowdworking are possible as incentives (Blohm et al., 2018). The specification of the task contents and the useful decomposition into subtasks is crucial because it depends on the extent to which these can be solved individually and the partial solutions ultimately result in an overall solution. A precise and clear task definition with the requirements to be fulfilled given in advance is important for the achievement of the overall goal. It is also helpful to place the subtasks in the overall context of the organisation for employees to better assess and optimise their performance contribution. Therefore, IC can contribute in a positive manner through a system of self-control and increased transparency. The next aspect to be mentioned is quality assurance. Ideally, this can be done in such a way those employees within the organisation carry out at least a first review of the solutions (Geiger and Schader, 2014). Via the social feedback processes mentioned above, the feedback is then passed on to the contractor in order to make possible improvements. In the further course and depending on the relevance of the solutions given for achieving the overall goal, it is advantageous for managers to carry out the final check. They can also provide employees with feedback via the platform and reward performance within the framework of the incentive and remuneration system. This also applies to more complex tasks where increased effort in controlling and managing is required (Blohm et al., 2018). It is crucial for the overall consistency of the system that this control and the feedback do not conflict with the principles of openness. In the context of managing the members, it must be clarified which employees should have access to the platform (Zuchowski et al., 2016a). This clarification is based on

different criteria, for example proven competencies or formal qualifications. In principle, providing access to the platform tasks for all employees is advantageous (Zuchowski et al., 2016a), either because more diversity tends to give a broader basis of ideas (cf. Simula and Ahola, 2014) or because excluding employees causes dissatisfaction. There, human resources management has the important task of continuously providing sufficient and qualified staff since the number of potential crowdworkers is limited to the organisation's workforce (Skopik et al., 2012). Finally, the aspect of control management remains to be mentioned. The aim is to implement principles of conduct concerning platform work (Bonabeau, 2009) in order to support the achievement of objectives. Such principles of conduct can also be developed collectively.

5 Employment systems include parts of systematic strategic HRM

In the context of strategic HRM, employment systems and internal labour markets are often discussed as a totality of systematically coordinated HR practices (Delery and Doty, 1996). A strategic relevance of consistent HR practices in the various areas of HRM value creation results from the assumption described above that they also have an impact on the overall performance of the company (Delery and Doty, 1996). As Ellmer and Reichel (2018) consider crowdworking from a performance perspective in different sub-functions (work design, planning and coordination; recruiting and selection; performance management; training and development; compensation), those success factors are also seen in this paper as functional areas or determinants of strategic HRM (cf. Stock-Homburg et al., 2009). In these functional areas, the links between IC and strategic HRM, such as in the context of employment systems are established. The concept of employment systems enables a holistic approach to strategic human resources management, but is often not clearly defined and is sometimes used as a synonym for labour markets. What is meant, however, is the systematic combination of HRM measures (Alewell et al., 2012) so that the activities interact to produce a synergetic effect and thus contribute to the efficiency and effectiveness of the organisation. These contributions are visible in the HR department itself, for example in terms of better resource allocation, but also in the effectiveness among employees. The last aspect justifies the application of differentiated and coordinated HRM for different segments of employee groups or different departments (Alewell et al., 2012). These different employment systems result from the demands and expectations of the groups of employees that need to be differentiated (Osterman, 1987). This aspect is significant on the assumption that even the systematic HR activities supported by IC cannot be applied to all employees.

The aim of the organisation is to use strategy to achieve competitive advantage in terms of human capital as well as organisational process advantage (Boxall, 1998; Wright et al., 1994). It is assumed that both types of competitive advantage can be achieved through systematic IC. This argument underlies human capital theory and internal resource orientation (see Becker, 1993; Koch and McGrath, 1996; Boxall, 1996; Barney, 1991). One solution in the competition for unique endowments of staff is the establishment of (internal) employment systems (cf. Williamson et al., 1975).

There are two main approaches for researching company employment systems – the content-related and the process-related approach. In the content-based approaches considered in this paper, primarily an analysis of which measures and HR activities are

associated with different types of employment systems and how these affect the availability and effectiveness of employees is made (Alewell and Hansen, 2012). Furthermore, the effects of employment systems on the flexibility of employers are also examined (Alewell and Hansen, 2012). As reference typologies for explaining the application of IC at this content-related level, the commitment/control system (Arthur, 1994) and the approach on internal employment systems of Williamson et al. (1975) and Osterman (1987), which deals with internal and market-based systems, will be considered. The typologies are assigned to representatives of strategic HRM (Alewell et al., 2012).

6 IC includes control and commitment instruments

Schramm and Tietgen-Simonsen (2019) mention that IC enables new HR configurations. Arthur (1992) identified two strategic functional categories of personnel activities – the *cost reducers* (*control systems*) and the *commitment maximisers* (*commitment systems*) (Arthur, 1994), which can basically be assigned to the universalistic strategy approach. It is about using these systems to shape the behaviour and attitudes of employees in such a way that they – taken as a whole – contribute to the efficiency and effectiveness of the organisation. The aim of control systems is to reduce the cost of labour by encouraging employees to act in accordance with the specific rules and processes of the organisation and to be rewarded according to output.

Through crowdworking platforms, work processes can be broken down into partial work steps and offered to employees as individual tasks. The selection of tasks is the responsibility of the employees in the form of the self-selection mechanism. Ideally, the tasks have a precise description of what is to be done and what requirements are to be met (Blohm et al., 2018). The processes and methods for completing tasks can also be specified. In a next step, the tasks are assigned to the most suitable persons.

Characteristics for suitability can be skills or knowledge. A selection could also be made on the basis of one or more scores. For example, it would be possible to allocate different scores for different assignments or to award points depending on the fulfilment of certain competences in accordance with the requirements defined in advance (cf. Blohm et al., 2018). From these aspects it can be seen that, based on concrete work descriptions and requirements and final reviews and assessments of the subtasks by either an automated system or by managers (Blohm et al., 2018), support of the control system as seen by Arthur (1994) through IC is possible. It would also be possible to involve the crowd in the assessment process by carrying out a preliminary quality assurance and providing peer-to-peer feedback. A score could also be linked to remuneration, whether basic remuneration or performance-related remuneration, so that the process of individual remuneration determination would be systematically supported as well. Here, cost efficiency is achieved through the control system via standardised task and requirement formulations and assessment processes. Furthermore, the score provides better control over available productive employees, who can be considered for further training in different ways depending on the added value for the organisation. These different intrinsically motivating design options can be derived from gamification approaches (Ryan et al., 2006) and are increasingly implemented in crowdworking design (Goes et al., 2016; Jung et al., 2010; Morschheuser et al., 2017). Similar to the argumentation of

Ellmer and Reichel (2018), care must be taken to ensure that the HR measures have a positive effect in terms of the HR strategy for the organisation on the one hand, but also contribute to the well-being of the employees on the other.

Commitment systems include measures aimed at creating psychological links with the organisational and the individual goals of the employees (Arthur, 1994). Thus, increased commitment can be expressed in the fact that employees are involved in the decision-making of superiors, work out solutions in groups or participate in group activities with a socialising effect. Walton (1985) found that since the 1970s, commitment strategies have expanded as employee expectations change and international competition increases. He was also able to confirm empirically that the commitment strategy partly has a positive effect on organisational performance and that fluctuation is lower than with a control strategy (Walton, 1985). Hendry (2003) also refers to external dynamics and market conditions that require systematic HRM that is not exclusively geared to rational-economically oriented cost reduction, but also takes the individual demands of employees into account.

IC can support measures that promote commitment. Through open calls on crowdworking (Blohm et al., 2018), employees can choose the tasks they can and want to do based on their own initiative and on the requirements. Hierarchical structures are broken down since the tasks are not assigned to the employee by the manager. Transparent task descriptions and information on the other subtasks that are part of a work process would also make it possible to see directly to what extent employees are involved in the overall performance. This would be a contribution that creates transparency and brings the importance of group solutions to the fore. Therefore, it is important that the employees do not work against each other, but with each other, despite a competitive scoring system. Crowdworking also makes it possible to implement communication platforms (Mrass et al., 2018c) that promote a sense of community. This could be further promoted by means of a score system that rewards group performance and does not only focus on individual contributions. Furthermore, types of tasks could be integrated which, for example, aim to organise group activities. According to Hendry (2003), the high volume of repeated identical activities of externally determined work makes it necessary to counteract this through a commitment system. IC could, for example, be used to invite tenders for tasks such as the organisation of festivities. In a possible area of *charitable tasks*, a contribution is made to the well-being of the organisation on the one hand and on the other, meaningful tasks which go beyond the common assignments are formulated.

Depending on the group of employees and the area-related goals of the organisation, taking (external) circumstances such as competitive conditions, employee expectations or social security systems into account (ibid.), the employment system within the control system or the commitment system can be chosen and modified in its specific form. Elements of both systems can also be combined, depending on the HRM objectives so that generally, this can be considered a configuration approach. IC can be useful in this configuration approach.

7 IC to support internal employment systems

In this section, we will trace the extent to which IC can help the mechanisms of internal employment systems. In general, the aim of internal employment systems is to

systematically retain qualified employees while reducing staff costs, including transaction costs. In addition, the predictability of employee qualifications, potential and staff costs as well as the flexibility of qualified employees should be increased (Osterman, 1987). Williamson et al. (1975) argues that constant monitoring of the activities of employees in large organisations is complex and cost-intensive. Moreover, it is difficult to determine the tasks and specific desired work behaviour ex ante. Internal employment systems can be used to provide incentives that reduce the need for supervision and control and avoid behaviour that is detrimental to the organisation (fluctuation and renewed cost-intensive hiring). Incentives for cooperative behaviour coupled with promotions and higher remuneration are provided (Williamson et al., 1975). Vacant positions are preferably filled internally through promotion. This promotion, which can happen due to seniority or performance, is linked to higher remuneration. Ideally, long-term employment relationships are created. Frequent cost-and staff-intensive changes in employments are avoided. As a condition, ideally, other companies also implement and support internal employment systems as well as necessary internal further qualifications.

In IC, the task descriptions can be standardised and visible to all potential contractors. The selection of suitable contractors can also be systematic and standardised, with managers having access to the centrally managed competencies and past performance contributions which they can use to select the most suitable employee. In certain relatively simple selection processes, this can also be achieved by a computer-assisted selection process (Blohm et al., 2018). This means that there is no need for a specific, requirement related task design depending on a position. The incentive effect results from the remuneration to be achieved for each task or the score to be achieved, which can also be used for the creation of promotion opportunities. In the event of a change of company, employees would lose their position and remuneration determined by the score since according to the argumentation of Williamson et al. (1975), ideally, all larger companies promote the design of internal labour markets according to their own rules. With crowdworking, however, it could already be an incentive to stay in the company as there is the possibility of choosing the desired jobs in accordance with requirements. Additional competitive advantages can be achieved by more detailed structuring of promotion opportunities and remuneration-related scores.

Osterman (1987) also includes the different design of employment systems depending on the group of employees. To describe the subsystems, Osterman offers four categories – the *job description*, *promotion regulations*, *employment guarantee*, and *remuneration modalities*. The potential of a ‘coherent logic’ [Osterman (1987), p.49] lies in the design of these categories according to the group of employees, which is capable of making HRM systematic and consistent. The aspect of *job description* covers whether the activity contains several subtasks and whether the employee only completes certain subtasks or may also be active outside the task description. In crowdworking, the task descriptions and frame can be designed differently, but can be standardised for each task type. It should be noted, however, that the implementation of IC replaces the classic jobs as being functions with independently acting *contractors* embedded in the organisational structure. Therefore, the employees have a free choice of tasks as long as at least their competences and the fit of the requirements allow it. Thus, several task types can be implemented depending on the qualification, for example standardised, repetitive tasks and complex tasks. This way, it is possible to implement a kind of competence management (North et al., 2005). As already mentioned, *promotion* can be regulated by a points system. The

points system could also be structured differently depending on the level of qualification so that each group of employees has an incentive. The level of remuneration could be linked to promotion and skills, for example to support having further training. The guarantee of employment results from the respective employment contracts and from the assessments in the context of fulfilled tasks, i.e., the level of the score. In the case of qualified employees, contracts of indefinite duration can be assumed. A growing score is also an incentive for employees to stay with the company as the reputation they have earned would otherwise be lost. Concerning remuneration, a classification into a basic salary can be made depending on the basic qualification, and a performance-related component could be linked to the point value obtained. The performance-oriented part would be recalculated periodically depending on the assessment of the services provided. The level of the score for each task completed is based on the previously defined fulfilled requirements within the assessment scheme. The evaluation scheme may differ depending on the qualification level of the group of employees so that the incentive-qualification-structure is maintained.

Osterman (1987) has identified four employment systems in the US labour market – industrial, salaried, craft and secondary. Two systems – craft and secondary – are in exchange with external markets. Since this paper is concerned with the systematic retention and targeted use of employees with flexibly deployable good qualifications, the salaried subsystem of salaried employees will be considered as an example.

The salaried subsystem contains partial aspects that are designed to offer employment security combined with great flexibility (Osterman, 1987). There are open, flexible areas of activity and employees can carry out various tasks as required. This flexibility is also possible by implementing IC. The self-selection mechanism also means that no direct assignment of tasks by a manager is necessary. In the salaried subsystem, promotion is based on performance. There is also flexibility with regard to the promotion system and remuneration. Employees have the opportunity to move up, not according to strictly regulated rules such as seniority but depending on what they are willing to do. Remuneration is performance-oriented and individual. The same applies to possible internal training measures.

In IC, any promotion and higher compensation is also based on the solution contributions of the employees. Further training within the organisation is possible and also depends on the performance contributions. The same applies to possible internal (further) training measures. In IC, peer coaching is used for training so that the ability to cooperate and integration is promoted and identifying with common goals is simplified (Blohm et al., 2018). In addition, there are standardised tutorials. The system also includes job security for as long as possible if the employee has proven being worth it makes the desired minimum contributions (Osterman, 1987). In the crowdworking system, employment security similarly results from the employment contract and from continuous participation in platform work. Employee retention is also inherent as the scores obtained cannot be taken to other organisations.

The IC can be modified to address different groups of employees in a targeted manner. This is necessary, for example, because the motivation and commitment of employees can differ significantly (Simula and Ahola, 2014). As an example, simple, repetitive jobs could be better standardised and advertised via the platform and evaluated and remunerated using a separate scoring system so that an incentive is given. Therefore, IC simplifies certain configurations of HR practices. The principle of segmentation is also evident in the approach of Hendry (2003).

According to Williamson et al. (1975), competition occurs only at the entry-level positions. Within the internal labour market, however, cooperation is important. This is also possible in crowdworking, where solutions can be worked out together (Blohm et al., 2018). Communication platforms are also available for exchanging information with other employees. The individual contributions are incorporated into overall results. With regard to the selection of suitable applicants, trial tasks could be integrated on the platform within the framework of an assessment centre or onboarding, which can test competencies such as handling platform tasks, solution strategies, etc. (Blohm et al., 2018).

Task standardisation and the self-selection mechanism eliminate the need for repetitive, cost-intensive task decomposition. Instead, tasks and requirements must be described and categorised. The target category *predictability* is addressed by recording employees and their performance contributions in the form of scores and competencies. A possible reduction in management costs should also be mentioned. The costs for promotions and qualification can also be determined by the score level. The *flexibility* objective is addressed via the self-selection mechanism or via target group-specific calls for tenders for tasks. In addition, flexibility can be achieved since the knowledge base (qualifications, resulting solutions) is systematically managed and organisational learning can be promoted through the coordinating effect of tasks and solution contributions (Durward et al., 2019).

Osterman (1987) also refers to the need for flexibility in employment systems since the systems can change over time, also depending on improved technical possibilities. As a result, e.g., qualification requirements change. This dynamic in terms of human capital segmentation and variable HR practices is also addressed by Lepak and Snell (1999) in their HR architecture model. In the social sphere, micro-political status and power struggles must also be taken into account (Windeler et al., 2013), which can also have an impact on the implementation of crowdworking. Moreover, it is not a matter of designing internal employment systems in relation to all conceivable functions in the organisation. In reference to Nelson and Winter (2005), it is more important to create awareness that internal structures are usually not questioned unless a change occurs that requires it. This is exactly what this article stands for; it is intended to provide an opportunity to reflect on the HR strategy dimension and the use of platform work.

8 Discussion and outlook

Apart from case studies, the possibilities for internal use of crowdworking have hardly been analysed so far (Knop et al., 2019). IC offers a wide range of potential for organisations in the context of strategic HRM.

Considering the shortage of skilled employees in some sectors and areas, various measures to motivate and retain them, like internal labour markets, can be a helpful tool. IC can be useful in supporting such measures. In this context, the handling of the planning, management and control of work processes via a platform and the autonomous, self-determined selection of tasks by employees can be seen as the key to efficient, competence-based performance consolidation and incentive-oriented workflow. Furthermore, the delegation of work processes can be arranged independently of location. The experience gained with regard to the motivation of crowdworkers, which is primarily

based on external crowdworking, gives reason to hope that the effects of motivation and satisfaction could also be felt in IC.

This paper shows that some elements and processes of IC can be related to the principles of holistic strategic HRM. The conclusions are mainly based on the contingency and configuration approach. In the mentioned content-related approaches, effect mechanisms of systematic HRM could be identified which can be addressed by IC. The approach of Arthur (1994) differentiates between control and commitment systems. IC can support mechanisms in both systems so that costs can be reduced through increased flexibility and standardisation concerning control and evaluation mechanisms and through more specific staff development. Employee commitment can also be addressed through the opportunities for cooperation, mutual feedback, placing tasks in the overall context and charitable tasks. It is also emphasised that the systems are not mutually exclusive but that mechanisms from both systems can be used for systematic strategic HRM, depending on the employee group, HR subgoals and external circumstances.

The concept of internal employment systems addresses the aspect of employee retention and employee deployment in particular. It has been shown that employees can be retained by means of appraisal mechanisms and reputation as well as through the prospect of performance-related pay and advancement. By taking different qualification levels into account, the demotivation of employees can be avoided. Such a segmentation of employees can be simplified and systemised with the help of various scoring systems. Employee deployment is improved by employees' self-selecting based on their skills and the given requirements and by choosing tasks themselves. This avoids the risk of a mismatch between employee and job if sufficient tasks are available. This does not only reduce or increase costs and flexibility in terms of employee retention and deployment, but also improves the quality of predictability regarding employee qualifications. However, the emphasised systematic retention of employees only takes effect on the premise that the reputation and points gained through crowdworking actually remain immobile or that other organisations implement similar systems and a competitive advantage is created through their concrete design according to human capital theory and resource orientation.

In essence, it was found that strategic HRM can be made easier, more consistent, more flexible and more predictable by implementing IC in some HR areas. In terms of costs, this aspect must be put into perspective since transaction costs can be reduced in the long term, although implementation costs can be incalculably high. Nevertheless, it has been shown in the past that (labour) markets within organisations can be quite useful and efficient. Initially, the development and implementation of an IC system would incur high costs. Whether the costs of maintaining a platform are then lower than the current form of allocation and delegation of tasks is a relevant aspect to be examined. It has also become clear that the negative effects usually associated with external crowdworking, such as precariousness; do not necessarily need to apply to IC. Rather, IC can be used to safeguard employment.

Any problems of technical and structural feasibility and concrete strategic design in view of the embedding of crowdworking in the organisational context (hybrid form of employment) were deliberately excluded. Various types of IC already exist. The extent to which this sphere of platform work is actually capable of replacing parts of the organisational and process structures or changing them to a large extent needs to be examined. For this purpose, the relationship between strategy and structure must also be

analysed decisively (Hall and Saias, 1980; Harris and Ruefli, 2000). In any case, likely interactions require that implementing crowdworking as a sub-system – in addition to the predominant position-and function-based organisation – should be considered.

From a legal point of view, the spread of IC models would call traditional notions of the relationship between employer and employee into question. There need to be answers on, for example, how the employer's right giving instructions would be *reinterpreted* in the case of fully implemented crowdworking. Finally, the status of freelance work under labour law, embedded in the organisational framework of the company, could be analysed.

It could be noted that comprehensive technically supporting HR information and administration systems, which simplify strategic HRM, for example in the areas of career, competence and performance management, already exist and increase cost efficiency. IC, however, goes a few steps further. It changes the organisational structure and work processes to a far-reaching extent and has a logic linking all business units/functional areas, which has a direct impact on the interaction of all units. In addition, it is a system that, based on the dynamics of self-selection, offers an answer to the changing values and demands of employees (cf. Eichhorst et al., 2016; Sichler, 2005, 2006). For example, new working time models such as teleworking or aspects like commitment and job enrichment can also be supported.

As a next step, an analysis is required of how IC should be designed in the individual elements and processes so that the goals set in terms of HR configurations can be achieved and negative effects of crowdworking, such as social isolation, the removal of boundaries from work or competition for promotion, do not develop. For this purpose, further insights into the mode of action of IC in general must first be gained in order to uncover these mentioned risks and limitations in particular. It can therefore be criticised that the contribution is positively biased insofar as the negative aspects are insufficiently considered. This is justified by the insufficient state of research at present. In addition, it can be noted that the literature on employment systems and internal labour markets is no longer up to date.

Concerning the method used to focus the research gap, it can be criticised that the scope of the databases used is too small. In addition, the aforementioned combinations of search terms (Table 1) may exclude contributions on IC related to just one area of strategic HRM, such as performance management. For a holistic view, however, the method meets the requirements with regard to the objective. Nevertheless, the linking argumentations offer helpful insights for the use of platform solutions for HRM and for further empirical studies.

Therefore, an explorative survey of HR managers, works council members and employees is initially useful in order to analyse the conditions for success and risks of using IC in the context of strategic HRM. Focus group discussions with the above-mentioned parties as well as platform experts can also be useful in order to obtain more detailed assessments at the interdisciplinary interfaces.

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