

# Internal Crowd Work as a Source of Empowerment - An Empirical Analysis of the Perception of Employees in a Crowdfunding Project -

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**Abstract.** Internal crowd work has emerged as a new form of digital gainful employment that changes the nature of work. However, the possible effects of internal crowd work on the individual level have been largely neglected. In this paper, we therefore present our research in progress which is concerned with the effects of work characteristics in internal crowd work that have impact on the individual's empowerment and satisfaction. Thus, we developed our research model and conducted an online survey amongst 118 internal crowd workers of a Swiss bank who were asked to test new software. Our expected contribution will increase the understanding of internal crowd work and provide important insights for organizations to (re-) design work on internal IT-platforms.

**Keywords:** Crowdsourcing, Internal Crowd Work, Empowerment, Work Characteristics.

## 1 Introduction

Companies increasingly use IT-platforms to reach out to employees, speed up collaborative work and support ideation within the organization [1]. As a new form of collaboration, internal crowd work reflects an IT-enabled group activity based on an open call for participation in an enterprise [2]. While external crowd work is performed with individuals from outside the company boundaries, in internal settings, the own employees act as an internal crowd to leverage the collective intelligence as part of their working time [3]. Internal crowd work has seen a substantial uptake in practice and has attracted a first wave of research papers and dedicated studies [2]. There is abundant research that exhibits the potentials of internal crowd work for organizations, such as fast access to internal knowledge [2, 4]. However, the perspective of employees – the individuals who act as internal crowd workers – has been largely neglected. Although few studies addressed the motivations of individuals working in the crowd, there is a gap in understanding experiences and perceptions of internal crowd workers [5]. While prior studies focus on efficiency and performance dimensions, systematic analysis regarding the intended or unintended ethical consequences of these new work structures

have been mostly absent [5]. Therefore, it is essential to better understand internal crowd work as a new type of digital work out of an employee's perspective. One well-established construct that is associated with the individual perception of work is empowerment which enhances work satisfaction [6]. Since prior studies shows that employees working in collaborative environments tend to be more satisfied [7], we believe similar effects to be present in internal crowd work. However, while satisfaction in crowd work has so far been examined mainly as a motivational construct [e.g., 8], we thus analyze the crowd workers' perceptions with regard to work itself to reconceptualize the phenomenon [9]. Thus, this survey seeks to fill the outlined research gaps by addressing the following research question: *How does empowerment affect the employees' satisfaction with internal crowd work?*

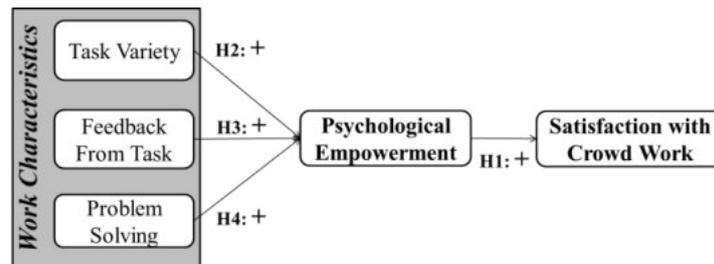
## **2 Theoretical Background**

As theoretical lens of our paper, we apply the self-determination theory (SDT) that evolved from research on intrinsic as well as extrinsic motivations and expanded to include research on work organizations [10]. In general, SDT suggests that both individuals' performance and their well-being are affected by the type of motivation they have for their job activities [10]. There are several concepts of SDT that have been extended to work characteristics literature as important aspects of individuals' work [11]. In particular, work characteristics provide several core objective features (e.g., task, variety, task significance, feedback, or task complexity) associated with any job and further drive psychological states such as self-determination [12]. In this context, Seibert et al. [13] found work characteristics to be contextual antecedents of empowerment. In general, the psychological construct of empowerment examines individual experiences and intrinsic motivational aspects of the employee [14]. In particular, the subjective and individual interaction of the employees with the given work structures is investigated [15]. Against this background, the organizational structures (i.e., work characteristics) influence the individual interpretations of psychological empowerment.

## **3 Research Model and Hypothesis Development**

Drawing on SDT [10], we unravel the mechanisms of how work characteristics affect satisfaction in internal crowd work. We assume psychological empowerment to be a mediator and thus to act as a mechanism through which the work characteristics influence satisfaction. On the one hand, internal crowd work initiatives provide a range of different tasks to be performed. On the other hand, due to the platforms automated evaluation and review processes, crowd workers receive direct feedback on their performance. Further, internal crowd work reflects an opportunity for employees to collaboratively work on more complex projects. Thus, we focused on *task variety*, *feedback from task*, and *problem solving* as work characteristics that are grounded in the very nature of internal crowd work. We expect employees who perceive high task variety, feedback from task and problem solving due to their participation to feel more

empowered and further satisfied. In our case, we developed our research model in the context of an internal crowd work project of a Swiss bank. The bank is currently developing new software and usually integrates their employees in the testing of its internal applications. In sum, figure 1 depicts our research model.



**Figure 1.** Research model

Previous research [12-15] has shown, that psychological empowerment can be regarded as mediating variable between structural work characteristics and job satisfaction. In this study, we assume similar effects since the voluntary testing of special internal software or applications enhance a feeling of self-determination and thus empower the employees. In turn, the employees might feel more satisfied due to their newly acquired freedom in task performance. Hence, we assume:

**H1)** *A crowd workers' psychological empowerment positively influences the satisfaction.*

As already mentioned, work characteristics seem to be associated with psychological empowerment [13]. Thus, we first introduce task variety that refers to the degree to which a job requires workers to perform a wide range of tasks [11]. Jobs of high task variety are more likely to empower subordinates since they break the chains of monotony [16]. In our case, the employees choose between various testing tasks (e.g., integration tests, interface tests, or security tests) that increase self-determination in daily work and foster satisfaction. Hence, we expect:

**H2)** *The positive effect of task variety on satisfaction is mediated by empowerment.*

The second essential characteristic is feedback from task that reflects the degree to which jobs provide direct and clear information about the effectiveness of task performance [17]. In this study, the employees receive direct feedback after the submission of their bug reports via the internal IT-platform. Thus, they are immediately informed about their testing performance and are better able to plan necessary next steps themselves. As a result, they are even more satisfied, which is why we suggest:

**H3)** *The positive effect of feedback from task on satisfaction is mediated by empowerment.*

Third, problem solving refers to the degree to which a job requires unique ideas or solutions and reflects the more active cognitive processing requirements of a job [18]. Jobs with high problem-solving requirements provide a chance for employees to perform in challenging, novel situations in which they are able to demonstrate their sense of competence [19]. In internal crowd work, the testing requires specific expert knowledge of employees [20]. In our study, the internal testers were asked to find all kinds of bugs within the new software. Since no best solution is specified in advance, the employees independently conduct explorative analysis. This procedure gives

meaning to the testing tasks and thereby empower the employees. As a result, solving challenging tests might further increase employee's satisfaction. Thus, we assume:

**H4)** *The positive effect of problem solving on satisfaction is mediated by empowerment.*

## 4 Research Method

We conducted an IT-based survey to collect data from internal crowd workers within a Swiss bank. In sum, a total of 118 internal crowd workers provided a completed questionnaire (response rate: 46.8%). We used well-established and valid items for the measurement of work characteristics [11], psychological empowerment [14], and satisfaction [21]. To minimize extreme response and acquiescence biases, we include items with both positive and negative wording [22, 23]. We have already applied exploratory and confirmatory factor analysis to confirm validity and reliability of our measures. The measure of sampling adequacy was 0.78, indicating excellent applicability of exploratory factor analysis. We extracted 5 clearly interpretable factors. Since the values for composite reliabilities and the average variance explained surpassed the value of 0.5, convergent validity could be assumed [24]. As part of further analysis, we assume a mediation effect that describes when and under what conditions an effect occurs. Thus, we will perform ordinary least squares (OLS) regressions with a nonparametric bootstrapping approach to compute bias-corrected confidence intervals for testing our hypothesis [25, 26]. This allows us to investigate our research model while ruling out alternative models [27].

## 5 Expected Contributions

To our knowledge, this study is the first to investigate the nature of internal crowd work from an individual's perspective and therefore provides two main contributions. First, we gain information for a better understanding of internal crowd work [5, 28]. According to Rivard [9], we conceptually clarify the construct of psychological empowerment by examining its antecedents and effects on satisfaction, based on the individual perceptions of employees. Second, in line with prior research on SDT [10, 29], we unravel different work characteristics (i.e., *task variety*, *feedback from task*, and *problem solving*) as predictors of empowerment in internal crowd work. Thus, we illustrate that organizations can empower and even enhance satisfaction among their workforce by implementing internal crowd work. In sum, we believe that the employees might feel more self-determined and free in daily work due to their participation.

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