

Insights on the use of advanced mixed-method quasi-experimental design for datafied pay for performance implementation

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Abstract

Many HRM research studies employ mixed methods across different domains, yet the use of embedded mixed-methods quasi-experiments in field interventions remains scarce. Despite this scarcity, their potential for significant benefits in HRM research is notable. This is particularly due to their direct application to practice and their capacity to facilitate a more effective connection between theory and practice, thereby addressing the persistent gap between scientific inquiry and practical implementation in HRM research. This paper highlights the key features embedded in field quasi-experimental mixed-methods designs. It provides methodological lessons that we learned while conducting a longitudinal, embedded mixed-methods field quasi-experimental study examining the change from a discretionary bonus system to a datafied variable pay-for-performance system. In regard to theory, the mixed-methods findings contributed to a better understanding of the dynamics in forming different fairness and trust heuristics dependent on the monetary rewards condition (discretionary bonus, team PfP, individual PfP). Whereas the quantitative model assumed that all fairness rules are equally important to judge overall fairness and trust in the employer, the qualitative findings indicated that dependent on the monetary rewards context different fairness rules are activated to judge trust in the employer. Based on our insights, we encourage HRM researchers to collaborate increasingly with HR practice and use mixed-methods experimental design in studying HR-related topics, especially in confidential, highly sensitive HR contexts.

Abbreviations

HR, human resource; HRM, Human Resource Management, PfP, pay-for-performance

Keywords

Mixed-methods quasi-experiment, datafied HR systems, variable pay-for-performance, fairness heuristic theory, trust in the employer, researcher–practitioner collaboration

INTRODUCTION

In recent years, HRM researchers have recognized the value of using mixed-methods research designs to extend and deepen empirical and theoretical insights (e.g., Jaga & Guetterman, 2023; Kooij et al., 2014; Pernkopf et al., 2021). Mixed methods research combines qualitative and quantitative data collection, analysis, and interpretation in various ways in the same study. Mixed-methods research assumes different forms and aims to balance out the disadvantages of using a single method by triangulating different methods to gain richer and more valid insights than a single method is capable of providing (Creswell & Plano Clark, 2017; Teddlie & Tashakkori, 2020). Indeed, “the concept of the triangulation of methods was the intellectual wedge that eventually broke the methodological hegemony of the monomethod purists” (Molina-Azorin et al., 2017, p. 183).

HRM scholars have become increasingly aware of the benefits of combining different methods (e.g., Bainbridge & Lee, 2013; Kiessling & Harvey, 2005). While mixed-methods research designs have gained ground in theoretical studies, field interventions using mixed-methods quasi-experiments are still rare—although their strong linkage to practice would greatly benefit HRM research. The benefits of these designs for HR research and practice remain underexplored. One reason is that they are complex and time-consuming to implement. Furthermore, HR scholars also require courage not to adhere meticulously to established methodological (i.e., experimental) guidelines when conducting field quasi-experimental mixed-methods studies.

We argue for greater methodological pluralism in HRM research, which is still dominated by more quantitative, survey-based approaches (e.g., Bainbridge & Lee, 2013). In our work, we seek to showcase that field quasi-experimental mixed-methods would

enable scholars to better bridge the ongoing science-practice gap in HRM research, which is being increasingly criticized by scholars and practitioners (e.g., Bleijenbergh et al., 2021; Guerçi et al., 2023; Kougiannou & Ridgway, 2022; Timming & Macneil, 2023). For this purpose, we first provide a general overview of mixed methods and describe the elements and design of embedded mixed-methods quasi-experiments. Second, to investigate this approach's current use and methodological developments in HRM, we conducted a systematic literature review to identify articles using quasi-experimentation or similar approaches. Here, we seek to establish how common is mixed-methods quasi-experimentation in HRM-related research. Third, we demonstrate the complex, yet promising nature of doing mixed-methods quasi-experimental research and its benefits for both research and practice. We use a real-life example from a research project that conducted a field quasi-experiment to investigate the impact of changing an employee performance management system. Based on this example, we discuss the challenges and the promises of using mixed-methods quasi-experiments in HRM-related research.

Our work contributes to current methodological debates lead in HRM research. First, we show how quasi-experiments based on mixed-methods design can enrich theoretical and empirical understanding by highlighting issues and contradictions that would not surface if addressed only quantitatively. Precisely the “mixing” of methods and the quasi-experimental design enable researchers to analyze unforeseen events and confounding topics in practice (e.g., Creswell, 2021). We also highlight how advanced mixed-methods field quasi-experiments can benefit from the collaboration between HRM research and practice despite their complexity and methodological limitations. We do so by addressing the process of conducting a mixed-method quasi-experimental study, a strongly practice-informed approach to intervention research. Furthermore, we also contribute to the debate on researcher-practitioner collaborations (e.g., Reason &

Bradbury, 2001; Reedy & King, 2019) by showing how the roles of researchers and practitioners can evolve during mixed-methods field quasi-experiments.

MIXED-METHODS QUASI-EXPERIMENTS

Mixed-methods designs are multifaceted and involve various steps before, during, and after research designed. Thus, different typologies exist to distinguish the numerous types of mixed-methods designs (Creamer, 2017; Creswell, 2021; Creswell & Plano Clark, 2017). Overall, the choice and the type of design can be specified according to three core characteristics: the timing of each qualitative and quantitative phase, the priority assigned to these phases, and the mixing of the insights from each phase in data interpretation. Depending on the specific position and research perspective, three basic designs can be distinguished: exploratory sequential, explanatory sequential, and convergent (Creswell & Plano Clark, 2017). In addition, more advanced distinctions have been proposed, such as embedded, transformative, and multi-phase methods design (Creswell, 2021; Creswell & Plano Clark, 2017).

Mixed-methods field quasi-experiments belong to advanced mixed-methods designs, which are often applied in health sciences, education sciences, or social justice research (Creswell & Plano Clark, 2017; Johnson & Schoonenboom, 2016). Advanced mixed-methods designs are more complex and incorporate elements of the three basic mixed-methods designs (i.e., convergent, explanatory sequential, and exploratory sequential) in different ways (Creswell, 2021; Creswell & Plano Clark, 2017). Creswell and Plano Clark (2017) distinguished three types of advanced mixed method designs: embedded, transformative, and multiphase mixed-methods. Transformative mixed-methods designs are usually used in social justice research to address inequality or injustice. The special feature of this advanced design is that methods (and their combination) can be adapted or adjusted during a study to better account for contextual

complexity (Mertens, 2007). For example, a transformative mixed-methods experimental design enables adjusting the intervention based on the initial qualitative findings. Finally, multiphase mixed-methods designs are often used to evaluate the implementation of longitudinal research design, which include several phases with qualitative, quantitative, or mixed-method studies (Creswell & Plano Clark, 2017). For reasons of space, we are unable to explain every type of mixed-methods design in detail (for a detailed discussion consult Creswell & Plano Clark, 2017; Teddlie & Tashakkori, 2020). What follows focuses on the main features of an embedded quasi-experimental mixed-methods design.

Regarding the timing, prioritizing, and mixing of qualitative and quantitative phases in an embedded quasi-experimental mixed-methods design, the quantitative phase is positioned between two qualitative phases (timing). Hereby, the quantitative phase represents the core data collection source (priority) and the mixing of the different phases happens in a sequential manner (mixing). The qualitative phases serve to guide and support quantitative quasi-experimental data collection (Creswell & Plano Clark, 2017). Quasi-experiments are a special form of field-based experiments that enables measuring how an intervention impacts employee perception in a real-world context. Contrary to a field-based experimental design, random assignment is not always possible in quasi-experiments (e.g. Eden, 2017; Grant & Wall, 2009). Instead, nonrandom assignment to the conditions (treatment versus nontreatment) is performed by self-selection or by external selection (e.g., White, 2013). Embedded mixed-methods experimental designs integrate quantitative and/or qualitative data before or after (sequential) or during (convergent) the experiment. Adding qualitative research can provide further insights into the contextual or individual factors potentially mediating or moderating the effects (Johnson & Schoonenboom, 2016; White, 2013).

Embedded Mixed-Methods Quasi-Experiments in HRM Research

We found no methodological studies that highlight the use of mixed-methods quasi-experiments in HRM research. Therefore, our methodological review first required establishing the status quo on the use and design of quasi-experiments with a particular emphasis on HRM research. We conducted a systematic search of articles from renowned and high-impact journals. In so doing, we followed Grant and Wall’s (2009) seminal article on the use, benefits, and challenges of quasi-experimental designs. We included broadly focused journals (e.g., Journal of Organizational Behavior) and HRM-specific ones (e.g., Human Resource Management Journal). We combined our search in US-based journals (e.g., Academy of Management Journal) with journals in other geographical regions (e.g., European Management Journal), ones publishing experimental work (e.g., Organizational Behavior and Human Decision Processes), ones renowned for their methodological pluralism (e.g., Human Relations), and methodology-driven journals (e.g., Organizational Research Methods). See Table 1 for the journals included in our systematic search.

INSERT TABLE 1 ABOUT HERE

We systematically searched Web of Science for studies involving quasi-experiments, either alone or in combination with other methods, using the terms “quasi-experiment*” and “quasiexperiment*” in the Abstract, Title, and Topic. Taking Grant and Wall’s (2009) work as the starting point, our systematic search spanned from January 2009 to January 2024. Since 2009, only 94 organizational behavior and HRM articles have used some form of quasi-experimentation as part of their research design (see Table 2). 81 of the articles were published on more OB-related, 12 on more HRM-related topics. Given our focus on the use of mixed-methods quasi-experiments in HRM, we only consider the latter studies and their methods (e.g., design) to assess state-of-the-art quasi-experiments in HRM research. Reviewing these

studies (see Table 2) revealed three features of quasi-experimental studies in HRM research. First, despite their quasi-experimental design, several quasi-experiments involved pre-post-assessment. Second, quasi-experiments are often used as a stand-alone methodology. Third, single-method design still prevails (7 out of 12 studies). In contrast, only a few studies conducted in the field have used complex, multi-method approaches, with scholars mostly combining quasi-experiments with other quantitative designs (e.g., Dai & Si, 2023; Zhou et al., 2022). We identified only one study that used a mixed-method design involving interviews and word counting. Other in-depth, qualitative approaches that combined quasi-experimental designs with in-depth qualitative data collection and analysis were lacking. Also, although one of the key features of quasi-experimental research involves comparing a control group with a treatment group and pre-post assessment, several of the identified studies neither included a comparison group nor conducted a pre-post survey to enable deriving causal explanations about the initiated change (e.g., Dai & Si, 2023; Payne et al., 2009). Although most of the identified studies had a relatively small sample size, on the positive side, they were increasingly undertaken in field settings (e.g., Dai & Si, 2023; Delanoeije & Verbruggen, 2020; Liao et al., 2023; Zhou et al., 2022), and as part of workplace intervention in contrast to other settings (e.g., online panel data, student population).

Grant and Wall (2009) highlighted how quasi-experiments can help researchers build better theories and connect their research to practice. The call to better connect research and practice has also been voiced in relation to HRM research, which has been criticized for being too science-savvy and too far removed from practice (e.g., Deadrick & Gibson, 2007; Kougiannou & Ridgway, 2022; Timming & Macneil, 2023). While Grants and Wall's (2009) arguments for using quasi-experimentation are compelling, more than two decades later, our review concludes that studies using quasi-experimental research design remain scarce. What is also lacking is research pluralism and variety. Mixed-methods studies are increasingly used

in HRM research, and although they are being steadily recognized for contributing to scholarly knowledge (e.g., Bainbridge & Lee, 2013; Jaga & Guetterman, 2023; Kiessling & Harvey, 2005) and are used in the field (e.g., Kooij et al., 2014; Lembrechts et al., 2018; Pernkopf et al., 2021), research combining quasi-experiments with qualitative approaches to create more complex, and hence more effective mixed-method designs is almost nonexistent. Summing up, although several calls have urged scholars to combine quasi-experimental designs with other qualitative data collection and analysis (Creswell & Plano Clark, 2017), because of their strong potential to inform each other and generate novel, contextual insights, those voices have barely been heard.

INSERT TABLE 2 ABOUT HERE

ILLUSTRATIVE CASE: CHANGE TO DATAFIED PFP SYSTEM

Field Context

Our study took place at an European insurance company. Participants were customer claims handlers facing a new, increasingly datafied performance measurement system. The organization had decided to implement data technologies capable of collecting and interpreting performance data based on algorithmic decision-making (e.g., Loscher & Bader, 2023; Schafheitle et al., 2020). The newly introduced datafied performance system measured claims handlers' performance daily. However, employees were not told how these measures were relevant for their annual assessment. One year after the implementation of the new system, the claim handlers requested greater transparency and began raising concerns about how the system measured performance. They did not understand whether and how their performance (also in the datafied performance system) was measured. Senior management

decided to test a prototype of the datafied variable PfP system as part of a field quasi-experiment before implementing the system for the whole division.

Individual-level pay information is a sensitive and confidential topic. Organizations are often reluctant to reveal such fine-grained information to outsiders. The first author of this article was therefore asked to conduct a field quasi-experiment to support the organization in identifying how the datafied performance management system was perceived by claim handlers in terms of fairness and trust.

Thus, the research questions were determined strongly by a practical problem facing the company and served three purposes: (1) to examine how the change from the previous discretionary bonus system to transparent datafied variable pay impacts overall fairness; (2) to establish whether group differences existed between the experimental and control conditions; (3) to analyze whether the overall fairness of the new variable PfP system impacted employee trust in the employer.

Theoretical Context

Given the focus of our study on transparency, fairness, and trust, it was plausible for the study to start from fairness heuristics theory (Van den Bos et al., 1998). Central to this theory is the assumption that fairness information “is used as a heuristic to decide whether an authority can be trusted” (De Cremer & Tyler, 2007, p. 640). Fairness heuristics theory indicates that employees reevaluate overall fairness during fundamental changes in organizational relationships (Proudfoot & Lind, 2015), causing employees to face a “fundamental social dilemma” (Lind, 1994, cited in Proudfoot & Lind, 2015, p. 373).

In discretionary bonus arrangements, the monetary rewards information between employer and employee is asymmetrical (e.g., Colella et al., 2007). Employees do not know how well they are performing compared to others in their group, which likely increases their perception that their bonus outcome and their organization’s distribution procedure are unfair.

This happens even when the employer attempts to ensure equal distribution (Colella et al., 2007). When information is withheld, informational justice and procedural justice will be perceived negatively. In addition, employees cannot control the accuracy or correctness of bonus decisions. In line with these insights, research has indicated that employees' perception of distributive and procedural fairness is high when performance is evaluated by a few subjectivity measures. When performance is assessed by many subjectivity measures, employees' perception of distributive and procedural fairness is low (Voußem et al., 2016). In such a situation, employee trust is low.

In contrast, changing from a discretionary bonus to datafied variable PfP creates a new situation for employees. According to fairness heuristics theory, trust must now be build in this new PfP context. It takes employees time to develop knowledge about the new system. Accordingly, they form fairness heuristics based on the justice signals of the new monetary reward system. Employees tend to form "positive fairness beliefs" (Proudfoot & Lind, 2015, p. 377) to deal with their uncertainty. From a trust-building perspective, the *basic hypothesis* is that, overall, *employees in a transparent variable PfP system activate positive fairness heuristics to reduce their uncertainty about whether they are being exploited, thus increasing their trust in their employer.* Increased transparency, and the link between variable PfP demanded by employees, would signal their greater influence and performance data accuracy in determining their variable pay compared to the traditional discretionary bonus practice.

Research Design

We used an embedded mixed-methods design consisting of (1) an exploratory preliminary qualitative phase (qual), (2) a main quantitative phase with the field-quasi-experiment (QUAN), and (3) a final explanatory qualitative phase (qual) (Creswell, 2014; see Figure 1). The core of our study was a quantitative quasi-experiment, which was embedded in two qualitative, interview-based phases.

INSERT FIGURE 1 ABOUT HERE

Figure 2 describes our research process in detail.

INSERT FIGURE 2 ABOUT HERE

Our study began with a preliminary qualitative phase to gain a better, firm-specific understanding of the context in which the claim handlers were operating. This phase served to establish the control variables for the main quantitative phase. We first conducted informal talks with different stakeholders in the organizational division, analyzed internal documents (e.g., claim handling reports, scorecards, HR guidelines about the rewards process, organizational charts etc.), and conducted 20 face-to-face semi-structured interviews with participants over a period of two weeks before the start of the field quasi-experiment. Qualitative data were gathered from three types of sources. First, initial talks were held with department heads, group leaders, the controller, and the HR compensation specialists to gain insights into the organizational context (strategy, organizational structure, functions, tasks, performance, and rewards process). Second, we analyzed documents and organizational charts to understand the division's organizational structure and hierarchy.

The quasi-experiment consisted of a longitudinal survey-based assessment of fairness perceptions, trust, and various confounding variables (e.g., rewards preference, task interdependence, socio-demographic variables etc.). Group allocation (to the control or treatment group) was decided by senior management. Two groups of employees whose bonus system was changed from a discretionary to a datafied variable PfP system formed our treatment conditions. For employees, treatment was masked to a certain extent. Although employees knew that they were receiving variable PfP, they did not know that their group had

been randomly assigned to one of two variants (individual vs. team-variable pay). But they did know that their department was the only department that had switched from a discretionary bonus to a datafied variable pay system. Each of the eight teams was debriefed after the post-qualitative study. The control group consisted of employees whose bonus was still subject to discretionary distribution.

Figure 3 shows the intervention procedure with the two-part treatment compared to the standard bonus procedure of the control condition. In Part 1, team leaders informed every group member personally that the monetary reward system was going to be changed to a mixed performance-related variable pay system involving a transparent measurement system. They explained the change with a standardized variable PfP calculation example and ensured that employees understood the change and the calculation example. In Part 2, team leaders announced the variable PfP outcome and explained the decision and calculation mechanism using a new variable PfP card. For both parts, team leaders were trained by the researcher and received a communication guideline with detailed instructions on which information should be communicated in which order.

In the control condition, employees still received “traditional” discretionary bonus. Employees in the discretionary bonus condition participated in the survey and did not know that they had been allocated to control groups. At the beginning of the year, divisional senior management distributed bonus pots to every department. In turn, the department head distributed the bonus among teams according to a discretionary distribution key. However, bonus determination criteria were not communicated and implemented consistently. Discretionary bonus distribution allowed team leaders to reward outstanding performance and make corrections.

INSERT FIGURE 3 ABOUT HERE

Following a control-group time-series design (Creswell, 2014), the control and experimental groups all took a pretest and three posttests (see Figure 4). Thus, the dependent variables were measured at four different time points. All four surveys took place over a period of 18 months (see Figure 4: December 2017 – May 2019).

INSERT FIGURE 4 ABOUT HERE

After running four surveys as part of the quasi-experiment, we conducted a further, originally unplanned qualitative research. We did so to better understand the quantitative results, which did not confirm the assumed positive impact of the datafied variable PfP system on trust via the positive conditional effect of fairness. We conducted 24 face-to-face semi-structured interviews at participants' place of work and over two weeks after the final variable PfP payout. Qualitative data analysis focused on the treatment group members' experience with the intervention (Johnson & Schoonenboom, 2016). The qualitative data provided insights into the implementation process and enabled detecting relevant fairness heuristics among participants.

Results

The findings are presented according to the mixed-method research design.

Preliminary qualitative findings: The claims specialists, mainly women, worked remotely and only part-time, thus they did not often see each other face-to-face. In both the experimental and control conditions, the group members were responsible for their cases, which were randomly assigned to them by the datafied task allocation system. Every group member knew who was working on which claim. Cases were assigned proportionally across the group based on workload and employment level. All group members had access to the same information and tools, but the group members had varying competence levels. Task interdependence was perceived as moderate in both experimental and control groups, but it

was considered as an important control variable. The main confounding topics of both the control and experimental groups were gender, age, education, tenure, and task interdependence. Thus, gender, education level, organizational tenure, team tenure, and employment level were matched at the individual level.

Main quantitative findings: Overall, the assumed conditional indirect positive effect of overall fairness on trust in the employer in the experimental vPfP condition was not confirmed. The main quantitative results did not indicate activation of positive overall fairness heuristics concerning trust in the employer in the new vPfP context compared to in a discretionary bonus context. The first part of the treatment, the vPfP announcement (Time 1), had no conditional effect on the impact of overall fairness and thus on trust in the employer. Surprisingly, significant conditional direct and indirect negative effects were found after the second part of the treatment, meaning after the first vPfP payout at Time 3. The vPfP payout had a significant conditional direct negative effect on the impact of overall fairness when comparing the experimental, overall vPfP condition to the control (discretionary) bonus condition (see Figure 5).

INSERT FIGURE 5 ABOUT HERE

Contrary to the positive assumption, group members who were rewarded based on both individual and team performance perceived overall fairness to be significantly lower than group members who received a discretionary bonus. In the first contrast condition (D_1), when the vPfP groups were compared with the discretionary bonus groups, the moderated mediation effect was significantly negative ($a_4b = -0.230$, 95% CI $[-0.064, 0.420]$, $p < .05$). Thus, there is a conditional indirect negative effect of overall fairness 2 on trust in the employer 3, as mediated by overall fairness 3. The negative moderated mediation effect is higher in the vPfP condition than in the control discretionary bonus condition (see Figure 6).

In the second contrast condition (D_2), when the team vPfP groups are compared with the individual vPfP groups, the moderated mediation was found to be positive yet not significant ($a_5b=.112$, 95% CI [-0.064,0.420], $p>.05$). This result indicates no different treatment effect between the two vPfP group conditions. Both vPfP conditions show negative moderated mediation effects on trust in the employer 3, yet only in the team vPfP condition is the conditional indirect effect significantly negative (see Figure 6).

 INSERT FIGURE 6 ABOUT HERE

Post-qualitative findings explained the negative conditional effect after the vPfP payout. Employees activated different fairness heuristic rules in three monetary rewards conditions (see Table 3): the equity and equality rule of distributive fairness, the accuracy rule, the influence rule, the neutrality rule, the correctability rule, the consistency rule of procedural fairness, the justification rule, and the truthfulness rule of informational fairness. Of these fairness rules, the accuracy rule was the only common procedural fairness heuristic that were activated in all three monetary rewards conditions to when assessing trust in the employer. Especially, in the team vPfP condition, the negative conditional indirect effect was stronger than in the individual vPfP condition because all group members were indirectly penalized when customer satisfaction scores were not achieved by the group. This led to employees perceiving the team vPfP system mainly as a malus system, which activated negatively the accuracy rule of procedural justice. Employees used this rule as a cue to assess their trust in the employer.

 INSERT TABLE 3 ABOUT HERE

Lessons Learned and Methodological Insights

In 2009, Michael Pratt (2009) published a provocative editorial in the *Academy of Management Journal* on the lack of a boilerplate in relation to then barely existing rules on how to write and present the results of qualitative research. We extend Pratt's term of boilerplate to constructing and conducting mixed-method quasi-experimental research: We find that such research lacks a boilerplate due to its richly faceted and complex nature. Below, we provide first insights and decisions from our project that were deemed important to consider for a first attempt to find a boilerplate. We describe the main learnings of our contextual analysis, including its methodological, empirical, and theoretical implications.

Prior to the Field-Quasi-Experiment

As the datafied performance system was already implemented in the firm before our study, we had to include a preliminary qualitative phase for two reasons: (1) to identify potential confounding factors and include them in our quasi-experimental assessment; and (2) to better understand the context in which the claim handlers were operating.

Highly sensitive and confidential monetary rewards communication: In the context of highly sensitive and confidential monetary rewards communication, the traditional bonus procedure was discreetly decided on and communicated confidentially face-to-face. Senior management emphasized the importance of keeping these personal communications confidential. To ensure confidentiality about and sensitivity to monetary rewards, the treatment could not be administered by the researcher, but had to be conducted by team leaders. This was one of the most key paradoxes that we faced at the intersection between conducting rigorous research and having reasonable expectations about accessing the field to study how the datafied performance management system affected fairness and trust.

Insights (methodological): In the context of changing monetary rewards, safeguarding confidentiality is crucial for generating pertinent insights and takes precedence over rigidly following perfect experimental guidelines, such as maintaining one's role and responsibilities as a researcher. Practitioner-research collaboration is strongly recommended in the treatment condition.

Characteristics of datafied performance measurement system: The organization's claims allocation system is algorithm-based and distributes claims randomly and equally among the available claims handlers within the regional claim work groups. Random distribution ensures fair claims distribution. The same system also measures employees' claims performance based on given criteria (e.g., number of claims, processing time, type and complexity of claims, customer satisfaction, etc.) The main task of claims handlers is to smoothly process claims (i.e., without complications for customers). Specialists are responsible for their assigned cases and follow a standard claims handling process. They had already been working with the datafied task allocation system for a year. In addition, they knew the performance criteria, as their supervisors discussed their performance targets based on a monthly scorecard. The datafied system influenced employees' performance focus (i.e., quantitative rather than qualitative). It became clear why employees (and not only supervisors) wanted performance data to be considered in their variable pay instead of the traditional discretionary bonus practice.

Insights:

- *The datafication of the task allocation system influences employee behavior and performance.*

- *The variable PfP system depended on the datafied system because it measured performance automatically. This restricted the design of the variable PfP system because performance criteria could not be changed.*

Longitudinal monetary rewards process: We entered the field when the rewards process had already been in place for some time. Based on decisions by senior management and, the annual monetary rewards process had to be overseen by senior management. We as researchers had no influence on this process, which posed challenges for our quasi-experimental design: The intervention needed to be split into two components (introduction of the new variable PfP system and communication of the variable PfP payout) because performance evaluations were conducted over the entire year, while variable pay was disbursed in the subsequent year (see Figures 3 and 4 for details).

Insights (methodical, theoretical, empirical):

- *Time is a crucial factor in designing field quasi-experiments. Researchers need to carefully consider when to time and execute the treatment, as well as when to time and repeat surveys.*
- *Time plays a significant role in both the conceptual and empirical aspects of the fairness-trust model, and must be carefully factored in.*

Non-random assignment: The senior management decided which two departments to select as the control and experimental conditions because they knew which departments were most similar. No individual-level random selection was possible either. Claim handlers in the same team had to be rewarded based on the same rules. Random assignment would have meant that members of the same group would be rewarded based on different rules. They would, however, not have accepted different reward rules for their team for reasons of

fairness. Thus, applying random criteria would not have been practicable as this would have influenced the perception of overall fairness (mediator variable), and consequently employees' perceived trust in the employer (dependent variable). Nonrandom assignment required matching the demographic data to minimize selection bias. We therefore matched gender, age, education, team, and organizational tenure at the individual level and over time.

Insights (methodological, empirical): Real-world group structure can prevent randomized treatment. Nonetheless, imposing randomization might lead to adverse outcomes by affecting the impact on the moderator, the mediator, and the dependent variables.

Balancing task and rewards interdependence: Nonrandom group allocation compelled the researcher to better analyze similarities and differences within the groups and between the control and the experimental groups. Claims handlers, mostly women, worked remotely and only part-time, thus limiting in-person encounters. Every group member knew who was working on which claim. Cases were assigned proportionally across the group based on workload and employment level. All group members had access to the same information and used the same tools, but their competence varied due to their work experience. In both the experimental and control conditions, claims handlers were individually responsible for their cases. Thus, task interdependence (Van der Vegt et al., 2001) within the groups was perceived to be low. If employees perform their tasks autonomously with minimal reliance on their peers for task completion, the variable PFP system should consider rewards interdependence, that is, how far an individual's rewards are contingent on peer performance (Wageman & Baker, 1997).

Insight (theoretical, empirical): Implementing a team-based variable PfP experimental condition (i.e., high reward interdependence) might prove to be ineffective, as it fails to accurately represent the actual within-group task interdependence. The ratio of task interdependence to reward interdependence in a team should be balanced. Thus, our empirical model considered task interdependence to be a control variable.

During the Field Quasi-Experiment

Below, we describe the key learnings of our main quantitative study. The field experiment involved various challenges that potentially threatened internal validity. Table 4 presents these challenges and which actions were taken by the researcher to overcome them.

INSERT TABLE 4 ABOUT HERE

Attrition vs. large sample-size requirements: One of the most severe constraints and concerns facing our project was participant dropout. Matching data over a longer period required the same employees to participate in all surveys whenever possible. One risk was that sample size would decrease over time because employees showed signs of fatigue from repeated survey participation. The researcher therefore needed the team leaders's support to motivate employees. At time 0 (before the intervention), the population totaled 101 potential participants (100%), of which 52 were assigned to the experimental condition and 49 to the control condition. To keep the response rate high, and to ensure that sufficient data for matching was available over time, the dependent variables and the control variables were programmed as mandatory information in the survey. In addition, four identical surveys were programmed per region and experimental condition to identify which group needed to be motivated by their team leader. Despite these countermeasures, the sample per group decreased over time—not only because of response fatigue but also because some employees

resigned or transferred internally. In the end, 60 employees were matched over time and took a pretest (time 0) and three posttests (time 1,2,3).

Insights (empirical): Longitudinal analysis in real-world groups requires a large sample from the outset, as sample size per group will very likely decrease over time despite countermeasures.

Blurred researcher- practitioner boundaries: In our field quasi-experiment, researcher-practitioner collaboration became more dynamic (e.g., Ramirez & Islam, 2022). The researcher acted as a practitioner by demonstrating and explaining the new artefacts (e.g., communication guideline and variable pay card) in practice. The researcher developed and used a standardized communication guideline and a variable pay card to instruct team leaders how to consistently explain variable pay decisions. This guaranteed that every employee within the experimental groups received a consistent minimum level of information when the team leader communicated the variable pay decision. This measure reduced potential communication differences within the experimental groups. As differences might have interfered with the effects of the intervention, consistent communication was paramount. Team leaders acted as researchers by performing the treatment and self-reflecting their communication practice after the intervention with researcher (see Figure 7). Team leaders had to explain the variable pay decision and assess whether employees had understood the information in part 2 of the treatment. The researcher encouraged team leaders to ask employees to paraphrase the information in their own words. Afterwards, the researcher queried team leaders explicitly about this. In a few cases, team leaders indicated that they did not motivate employees to summarize the information because it was clear that they had understood it. For this reason, we introduced manipulation checks in the last survey.

INSERT FIGURE 7 ABOUT HERE

Adding manipulation check: In the treatment group, leaders explained the results of the evaluation as part of the intervention. We thus had to introduce manipulation checks to test employees' level of understanding of the system. As a result of this step, we measured whether the employees in the treatment group understood the variable PfP structure better than employees from the control group and because of explanations provided by their team leaders using the approach by Voußem et al. (2016). Employees were required to specify what proportion of their annual variable pay or bonus was based on quantitative, qualitative, subjective, or other targets. The manipulation check findings indicated that only 30% of the experimental sample gave a correct answer.

Insights (empirical, methodical): Because the manipulation check was not successful, we decided to carry out a qualitative manipulation check with the employees after the treatment. Employees should explain the variable PfP mechanism with the variable card to the researcher.

Data matching procedure over time: Since randomization is not possible in quasi-experiments (Grant & Wall, 2009), scholars must ensure that they match participants according to other criteria. Matching ensures that the distribution of variables in the model is as identical as possible across the control and experimental groups (Mansournia et al., 2018). In particular, matching confounding variables can increase statistical efficiency. This means that variance can be reduced and the power of effect estimation can be improved (Mansournia et al., 2018). In this study, different matching approaches were used to increase validity, reduce interfering topics, and avoid significantly reducing the data set. Three different matching procedures were used. First, the control groups were matched to the same regional experimental groups to minimize potential confounding regional cultural effects. Second, individual data were matched over time based on selected demographic characteristics (gender, age, organizational tenure, team tenure, employment level, and education level) that

remained reasonably stable over time. Third, the data of the experimental and control groups were matched at the same time point based on demographic variables.

Insights (methodical, empirical, practical): Matching requires from scholars a sufficient understanding of the context to be successful and choose the right variables for inclusion and control in the experiment. Additionally, ensuring that matching can take place in practice requires time and effort because scholars must explain the design to organizational leaders involved in the process to ensure that matching works and agrees with practitioners' concerns.

Contrary findings: Overall, the assumed positive effect of overall fairness on trust in the employer in the experimental variable PfP condition was not confirmed. The main quantitative results did not indicate activation of positive overall fairness heuristics to judge trust in the employer in the new variable PfP context compared to the discretionary bonus context. The first part of the treatment, the announcement (time 1) of the variable PfP, had no impact on overall fairness and on trust in the employer. The second part of the treatment, the personal communication of the first variable PfP, had a contrary significant negative effect. The variable PfP had a significant conditional direct negative effect on the impact of overall fairness when compared to the control discretionary bonus condition. Contrary to the assumption, group members who were rewarded based on variable individual and team PfP both perceived significantly lower overall fairness than employees in the control group who received a discretionary bonus. In addition, in the experimental team-focused condition, a significant indirect negative effect of overall fairness over time on trust in the employer was found. Group members who were rewarded based on team-performance showed lower levels of overall fairness than those who received a discretionary bonus. In the experimental individual condition, the conditional indirect negative effect was not significant.

Insights (methodical, theoretical):

The unexpected quantitative findings required additional explanation to understand the counterintuitive insights that were against prevalent theoretical assumptions based on fairness heuristics theory. An understanding of the reasons underlying these surprising insights could not be provided from the quantitative study variables. Including an additional, post-quantitative phase was thus necessary to allow scholars to better understand these conflicting results.

After the Field Quasi-Experiment

Due to the surprising results, we decided to conduct an additional post-quasi-experimental, qualitative study (e.g., Creswell, 2014; Johnson & Schoonenboom, 2016). to better understand the reasons. Conducting this qualitative study aided in comprehending and identifying the predominant fairness rules within each monetary reward condition.

The qualitative findings showed that employees used different fairness heuristics to judge the overall fairness of their monetary reward system. Seven fairness rules were activated in all three reward conditions: the equity and equality rules of distributive fairness; the accuracy rule, influence rule, neutrality rule, and consistency rule of procedural fairness; and the justification rule of informational fairness (Colquitt et al., 2013). Of these fairness rules, the accuracy rule was the only common procedural fairness heuristic that employees activated in all conditions to judge trust in the employer.

Related specifically to the treatment condition, customer-related performance (e.g., customer satisfaction) was not well conceived. Some customer satisfaction ratings could not be directly influenced. For example, if the claim was not fully covered, the customer was dissatisfied. However, this had nothing to do with the employees' quality of work in handling such claims. Nevertheless, the system considered them. Thus, such customer-related

performance ratings were not accepted by the employees. Second, the objective emphasis of the variable PfP system neglected the values of subjective work quality. For example, if experienced employees tended to work on more complex cases, this was not considered in their performance evaluations. Third, the focus on team performance in the second treatment condition was only accepted to a certain extent because the claim specialists were solely responsible for the cases. Finally, the accuracy of the datafied performance measurement system was perceived as low so employees manually checked their own performance data.

For all these reasons, the new variable PfP system was rated less fair and less trustworthy, even though it was more transparent, more comprehensible, and less subjectively biased than the traditional discretionary bonus practice. The comparison to the previous bonus system became less relevant in judging the variable PfP system. In the control group, employees perceived team leaders as referents for trust.

Insights (theoretical): The qualitative post-study contributed to the theoretical advancement of fairness heuristics and trust in the employer in different monetary reward systems. A context-sensitive lens is central to understand how employees perceive fairness concerning trust in the employer. Depending on the characteristics of the monetary rewards system, employees activated other fairness rules to assess overall fairness as a cue for trust in the employer.

Consequences for Practice

The results of this intervention, especially the results of the post-quasi-experimental qualitative interviews, increased the awareness of organizational leaders for the unpredicted and unseen side effects of the new datafied PfP system. The mixed-methods findings were the starting point of a major shift in the company's practice. They led to an adjustment of the datafied performance measurement system in the organization. Specifically, the organization

decided against implementing the variable PfP system for other units and teams with customer-relevant tasks. Some measurement results, such as customer satisfaction ratings, were heavily questioned, generating additional monitoring work for leaders and employees. For example, the customer-relevant performance criteria were adjusted. Employees were measured only according to customer satisfaction ratings of covered claims. Certain performance targets were only measured as a team goal and no longer assigned individually. Additionally, the team leaders included employees' voices during the goal-setting phase to avoid non-influential performance targets.

Insights (practical): The qualitative results explain the unexpected contradictory effects of the new system. Practitioners have now the chance to adjust the inaccurate datafied performance measurement system and reconsider the originally planned expansion of the variable PfP system to the whole division.

DISCUSSION

The field of HRM is marked by numerous studies that often utilize sophisticated quantitative methods using quantitative, multi-level, longitudinal research and large or nested samples (e.g., Boon et al., 2024; Peccei & Van De Voorde, 2019; Shen et al., 2018). Large-scale surveys and solely experimental research still prevail, especially in performance measurement and compensation systems literature (e.g., Fulmer et al., 2023; Park & Conroy, 2022). Alternative methodological approaches that allow scientists to gather more nuanced, process-oriented, and, above all, novel explanations for complex, confidential, and sensitive phenomena such as performance measurement and compensation systems are rarely utilized (e.g., Boon et al., 2024; Fulmer et al., 2023). The use of mixed methods is still an exception, even more so for innovative, novel approaches, such is the case with the mixed methods quasi-experiments. This methodical article aims at initiating the use of embedded mixed-methods

research in HRM. It elaborates on and examines the prospects of conducting embedded quasi-experiment mixed-methods by highlighting its key features and providing an illustrative, real-life empirical example that demonstrate the advantages and challenges of employing this underused yet promising design.

We argue that compared to solely quantitative, hypothesis-driven research, in cases where scientists are entering uncharted research fields, process-oriented research using embedded mixed methods allows for a deeper theoretical understanding of these dynamics (e.g., Boon et al., 2024) related to the impact of HR practices over time called for in current research. A methodological opening up of some practices in organizations would allow for nuanced explanations of successful implementation or failure in implementing these practices. This is hardly possible with a survey, but through an intensive dialogue with practitioners through more qualitative approaches. Particularly in cases where lesser-known phenomena are infiltrating the workplace (e.g., data and algorithm-based performance measurement systems), research would benefit from hearing from those involved in the organization about how and why they respond to these changes in a particular way. We show how every phase is valuable in answering the research questions and how the integration phases between the qual–quan–qual phases were used to integrate the knowledge of the previous phase and lead to new findings that go beyond what could have been identified using the prevalent quantitative paradigm.

We demonstrate that embedded mixed methods using quasi-experimentation can provide valuable explanations for unexpected, contradicting, or surprising theoretical and empirical insights. In regard to HRM theory, the mixed-methods findings contributed to a better understanding of the dynamics in forming fairness perceptions towards a new, datafied PfP measurement system and, in this way, to fairness heuristic theory (Lind, 2001). More specifically, whereas the quantitative model implicitly assumed that all fairness rules are

equally important to judge overall fairness, the qualitative findings indicated the opposite. Depending on the monetary rewards context, employees activated other fairness rules.

In relation to empirical contribution, although not initially a priority, working closely with practitioners to better understand the processes and mechanisms that were puzzling and could not be explained by previous theories. An important consequence of these mixed-method findings is that the company decided not to roll out the new datafied PfP any further. The datafied PfP system did not meet senior management's expectations. Some measurements were too inaccurate so the team leaders and employees had additional work to control and correct the final PfP decision than initially assumed. In addition, the team leaders agreed that they had too little self-determination in this PfP system. They felt less responsible for the system's decision than before the implementation.

The highly sensitive topic could be dealt with in a differentiated way using the mixed method. The first qualitative study allowed to better understand the context. The field researcher could focus on the confidentiality of the study right from the start by paying attention on the special requirements of the organization and increase the informal consent of all participants. As King et al. (2013) also emphasize, attention was paid to a high level of professionalism during the intervention. This includes careful planning of training and role-specific communication. Careful attention was also paid to coordinating the timing and location of the interviewees. A respectful interaction with all those involved was also essential.

FUTURE DIRECTIONS

Our work highlights that quasi-experimental mixed methods can help scholars effectively bridge the growing gap between gathering novel scientific insights and producing practice-relevant research (e.g., Bleijenbergh et al., 2021; Timming & Macneil, 2023). Although the science-practice gap is narrowing, there is still a long way to go, especially

when it comes to implementing a system for measuring the datafied performance of employees and guiding pay decisions in organizations. A way to bridge this gap is to allow scholars to inform practices by conducting systematic, rigorous research on a small scale. Implementing such mixed research practices in companies can initiate effects not only on practice, but also on science. Such studies enable theoretical approaches to be critically scrutinized and expanded. Our study provides an example of how such confidential, relevant company data can still be extended with additional data sources (e.g., qualitative interviews) to get the most out of it and generate some valuable insights.

Embedded mixed-methods field quasi-experimental studies could be conducted in other emerging and novel research contexts. Especially with the advent of technological developments, AI, and big data, we can envision using these methods to provide a valuable contribution in collecting initial insights and understanding the impact of such technologies on organizations and employees (e.g., Kim et al., 2021). Organizations increasingly rely on new technology types to provide instant feedback, information on performance, and progress in fulfilling one's task. In such areas, establishing the initial impact of implementing new technological tools designs such as embedded mixed-methods using quasi-experimentation, could be a great addition to the quantitative, large N assessments. They could be increasingly used to accompany and understand the initial impact of these different technologies on employee outcomes on a small scale first, both at the individual and team level and as a great addition to conducting purely quantitative studies. They are a tool to better understand the results and to try to find new explanations for any surprising findings.

The limitations (e.g., non-randomization, small size) were reduced with the additional qualitative pre- and post-study, which gave qualitative insights into confounding topics and explanations for the negative effects of overall fairness on trust in the employer. This echoes the upcoming calls in research to open up for investigations using smaller sample sizes, especially in novel contexts. The insights we gathered beyond the quantitative study were

thought-provoking, highlighting the value added even of small sample sizes to theory characterized by unique team constellations and sensitive issues (Kane & Emich, 2025).

CONCLUSION

Mixed-methods quasi-experimental designs deliver a more comprehensive picture and understanding of the phenomenon and the mechanisms under study. The later qualitative phase enabled us to better understand the unintended or unforeseen effects of datafied systems because they incorporate the views of leaders and employees and thus enable a diverse analysis and reflection on the datafication phenomenon in HRM. Additionally, they allow organizational changes to be studied in confidential, sensitive HR contexts where closer collaboration between practice and research is highly recommended during the intervention. Temporary roles of practitioner as researcher and researcher as practitioner allow for maintaining confidentiality. Finally, mixed-methods quasi-experimental studies support organizational leaders to make more sustainable decisions.

Our empirical illustration delineates some hurdles and stumbling stones on the use of this method based on an illustrative case, and lessons learned were gathered from conducting this type of research in general and, more specifically as for the design of performance measurement systems. Based on our insights, we encourage researchers to increasingly collaborate with HR practice and use mixed-methods experimental designs to address the intended and unintended effects not only on datafication HR systems, especially in confidential, highly sensitive HR contexts, but also consider them for other types of organizational change interventions and initiatives.

APPENDIX: TABLES AND FIGURES

TABLE 1

Overview of the Journals

Journal Domain	Overall	OB- centered	HR- centered
Broad			
Academy of Management Journal (AMJ)	12	11	1
Administrative Science Quarterly	0	0	0
Applied Psychology: An International Review	3	3	0
European Management Journal	0	0	0
European Work and Organizational Psychology Journal	12	10	2
Group and Organization Management Journal	0	0	0
Human Relations	2	2	0
Journal of Applied Psychology	15	12	2
Journal of Management	2	2	0
Journal of Management Studies	1	1	0
Journal of Managerial Psychology	10	7	3
Journal of Mixed Methods	0	0	0
Journal of Organizational Behavior	4	4	0
Journal of Vocational Behavior	8	8	0
Leadership Quarterly	5	5	0
Organization Science	6	5	1
Organization Studies	0	0	0
Organizational Behavior and Human Decision Processes	2	2	0
Organizational Research Methods	0	0	0
Strategic Management Journal	0	0	0
Specific			
Human Resource Management	2	1	1
Human Resource Management Journal	0	0	0
Human Resource Management Review	0	0	0
International Journal of Human Resource Management	4	2	2
Personnel Psychology	6	6	0
	94	81	12

TABLE 2
Overview of the HR-oriented Quasi-Experiments Based Studies and their Research Design

	Title (Journal)	IF	Overall Research Design	Quasi-Experiment Design	Quasi-Experiment Scale
1	Liao et al., (2023, AMJ)	10.5	Multi-method: Quant-Quant	Non-random Selection No Control	No pre-post-surveys Field Setting N=103 China
2	Dai & Si (2023, OrgScience)	6.2	Multi-method: Quant-Quant	Convenient Sample Candidate vs. Recruiter condition Scenario based	No pre-post-surveys Field Setting Online Panel Data N=79 (ncand=40; nrecr=39) N=403 (ncand=201; nrecr=202) China
3	Zhou et al., (2022, JAP)	11.8	Multi-method: Quant-Quant	Random Selection Non-Choice vs. Choice Condition	Pre-post-surveys Field Setting N=345 Taiwan
4	Delanoeije & Verbruggen (2020, EAWOP)	5.8	Multi-method; Quant-Quant	Non-Random Selection Control vs Treatment	Pre-post-surveys Field Setting N = 64 (nt=34; nc=30) Belgium
5	Intindola et al., (2019, IJHRM)	5.6	Single-method: Quant	Non-Random Selection No Control Treatment	Pre-post-surveys Student Setting N = 105 (nt1=44; nt2=61) USA
6	Tafvelin et al., (2019, EAWOP)	5.8	Single-method: Quant	Non-Random Selection Control vs. Treatment	Post-surveys Field Setting N = 524 (nt= 245; nc = 279) Sweden

7	Moore et al., (2017, JAP)	11.8	Multi-Method: Quant-Quant	Non-Random Selection Treatment	Cross-sectional Student Setting N=62 UK
8	Merriman et al., (2016, JMP)	4.03	Single-method; Quanti	Random Assignment Scenario based	Online Panel Data N=400 (financial objective n=123, environmental objective n= 277). USA
9	Yan et al., (2011, HRM)	6.6	Single method; Quant	Random Selection Control vs Treatment	Pre-Post-Surveys Field Setting N= 280 participants two departments (n = 140; n =140; nc=70; nt=70 per department) China
10	Linna et al., (2011, IJHRM)	5.6	Single method; Quant	Non-Random Selection Control Group Treatment Groups	Pre-post-surveys Field Setting N=1584 (nc=440; nt=1144) Finland
11	Morganson et al., (2010, JMP)	4.03	Single-method; Quanti	Non-random Assignment No Control vs. Treatment	Cross-Sectional Post-Assessment Field Setting N=578 USA
12	Payne et al., (2009, JMP)	4.03	Single-method Quanti	Non-random Sample Comparison & Treatment Group	Post-Assessment Field Setting N=235 (nt1=83; nt2=152) USA

TABLE 3

Fairness Heuristics as Cues to Assess Trust in the Employer in three Monetary Rewards Conditions

		Team vPFP	Individual vPFP	Discretionary Bonus
Distributive Fairness	Equity Rule*	+	+	
	Equality Rule*	—	+	
	Need Rule*			+
Procedural Fairness	Voice Rule*			
	Influence Rule*			
	Accuracy Rule*	+/-	+/-	—
	Consistency Rule*			
	Correctability Rule*	—		
	Neutrality Rule*			—
	Ethicality Rule			
Informational Fairness	Justification Rule*		+	—
	Truthfulness Rule*		+	—

Note. *Fairness heuristic rule was activated when judging the overall fairness of the dominant monetary rewards condition.

+ Fairness heuristic rule was positively activated when assessing trust in the employer.

— Fairness heuristic rule was negatively activated when assessing trust in the employer.

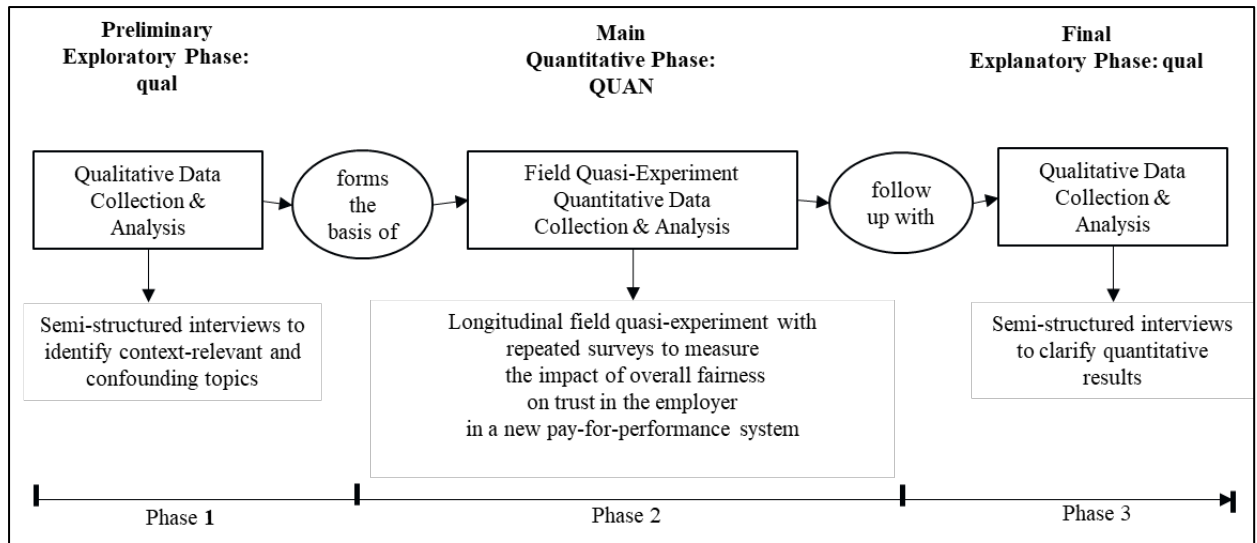
TABLE 4

Challenges to Internal Validity of the Field Quasi-Experiment

Challenge	Description	Action of Researcher
Prior to the Field Quasi-Experiment		
Highly sensitive and confidential monetary rewards context	Senior management emphasized the importance of keeping these personal communications of monetary reward decisions confidential.	Researcher and senior management decided that treatment had to be conducted by team leaders.
Datafied performance measurement system	Datafied performance system measured automatically pre-defined targets.	Researcher accepted the limitation of variable PfP design: performance criteria could not be changed.
Annual rewards process	Annual performance measurement and annual rewards process had to be maintained.	Longitudinal intervention was split into two parts (communication of change; communication of first variable pay).
Non-random assignment	Regional groups had cultural differences that needed to be taken into account. In addition, group members in the same group had to be rewarded based on the same rules.	Regional matching of treatment and control groups to minimize cultural differences
Task and rewards interdependence	Employees performed their tasks autonomously; rewards interdependence in the team condition did not represent the actual task interdependence.	Researcher added task interdependence as a control variable in the empirical model.
Field Quasi-Experiment		
Attrition vs. large sample-size requirement	Motivation to participate in the survey decreased over time; participants dropped out because of termination or internal change.	Researcher increased collaboration with practice. Team leaders personally motivated the employees to participate.
Blurred researcher-practitioner boundaries and manipulation check	Researcher explained the communication guidelines and the variable pay card to team leaders. Team leaders performed the treatment and reflected on their communication.	Researcher-practitioner collaboration became more dynamic. Manipulation checks were introduced in the survey and qualitative post-study to check whether employees understood communication and the variable pay card.
Data matching procedure over time	Since randomization was not possible, participants had to be matched according to the potential confounding criteria over time.	Three matching procedures were used: (1) regional matching of treatment and control groups, (2) individual matching over time, (3) demographic data matching of treatment and control groups at the same time point.
Contrary findings	Theory-driven assumptions on the positive effect of overall fairness on trust in the employer in the treatment condition (i.e., variable PfP) was not confirmed.	Decision for an additional qualitative post-study to understand conflicting results.
After the Field Quasi-Experiment		
Additional qualitative study to explain conflicting results	The longitudinal empirical model is limited; the context needs further analysis.	Interviews with employees in the treatment and the control groups to compare their perceived fairness heuristics
Consequences for practice	Mixed-method results require new strategic decision-making.	Researcher point out the inaccuracy of the system and its unintended side-effects to senior management.

FIGURE 1

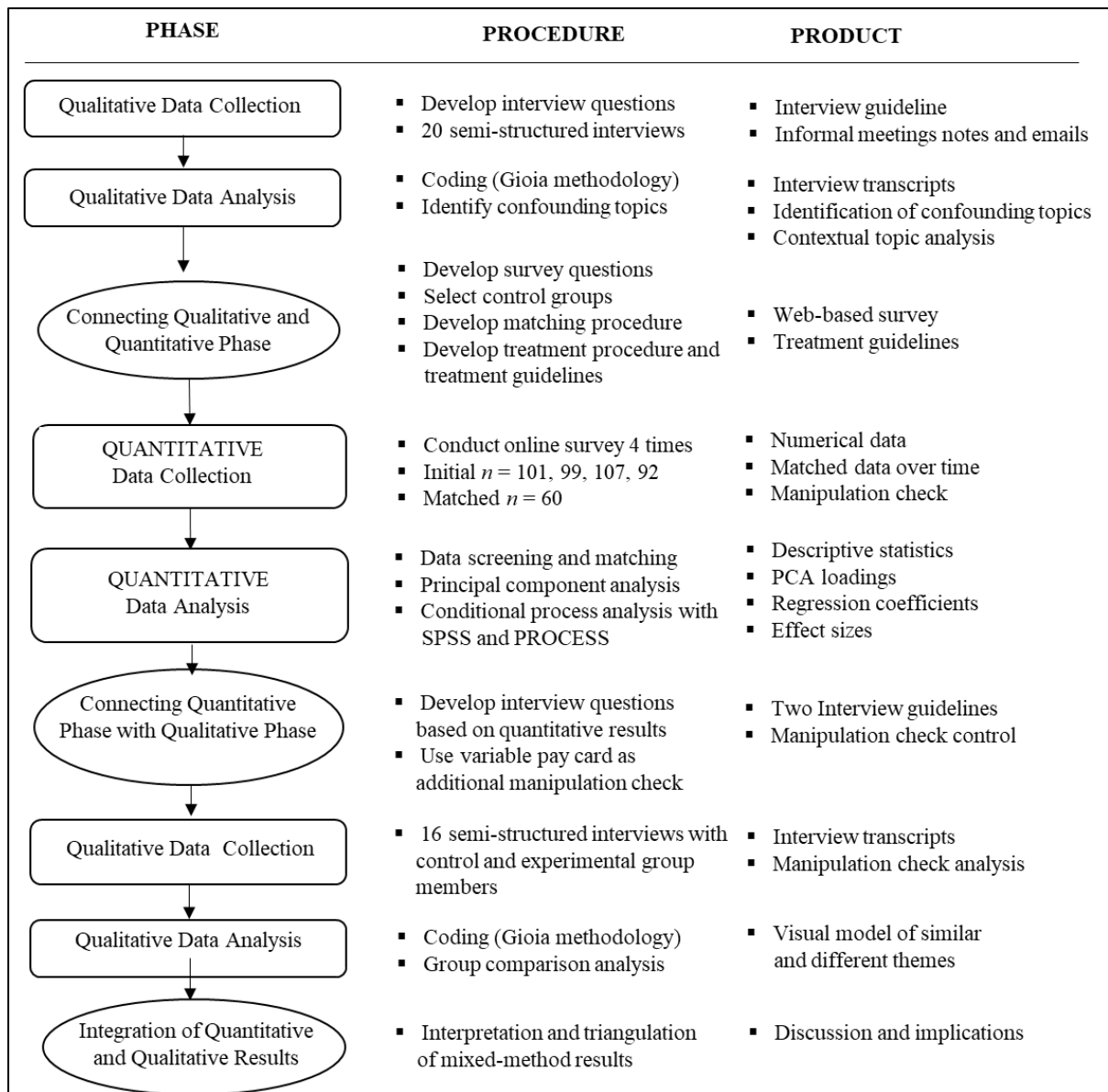
Embedded Mixed Method Field Quasi-Experiment Design.



Note. Figure adapted from Creswell, 2014, p. 220.

FIGURE 2

The Phases of Mixed Methods Research.



Note. Figure adapted from Ivankova, Creswell & 2006, p.16.

FIGURE 3

Two-Part Implementation of Treatment

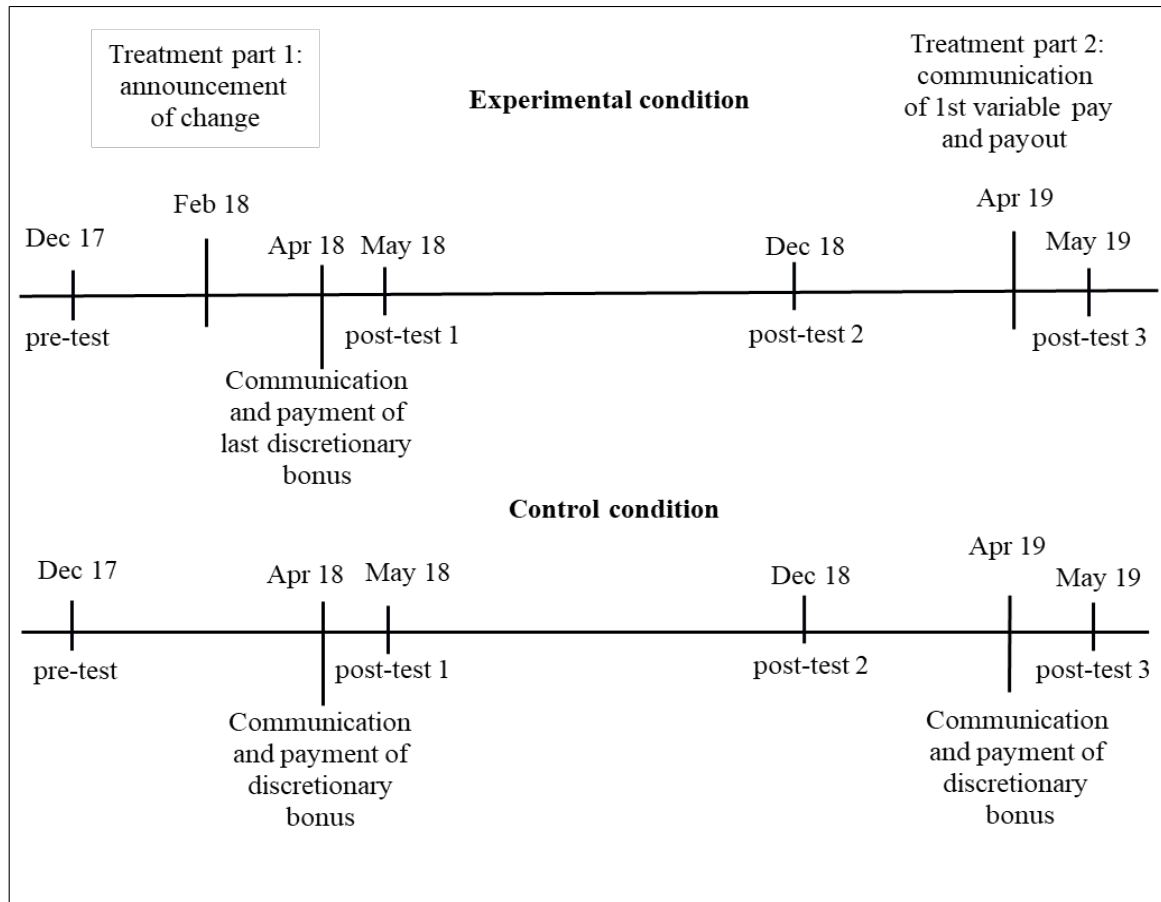


FIGURE 4

Timeline of major events in the mixed method study

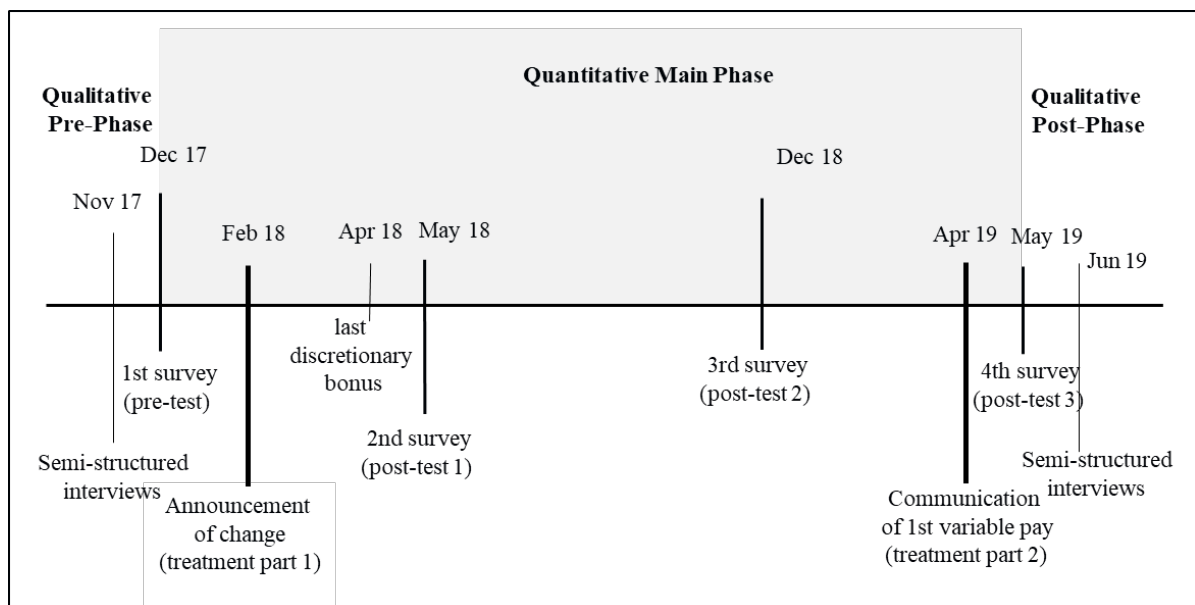
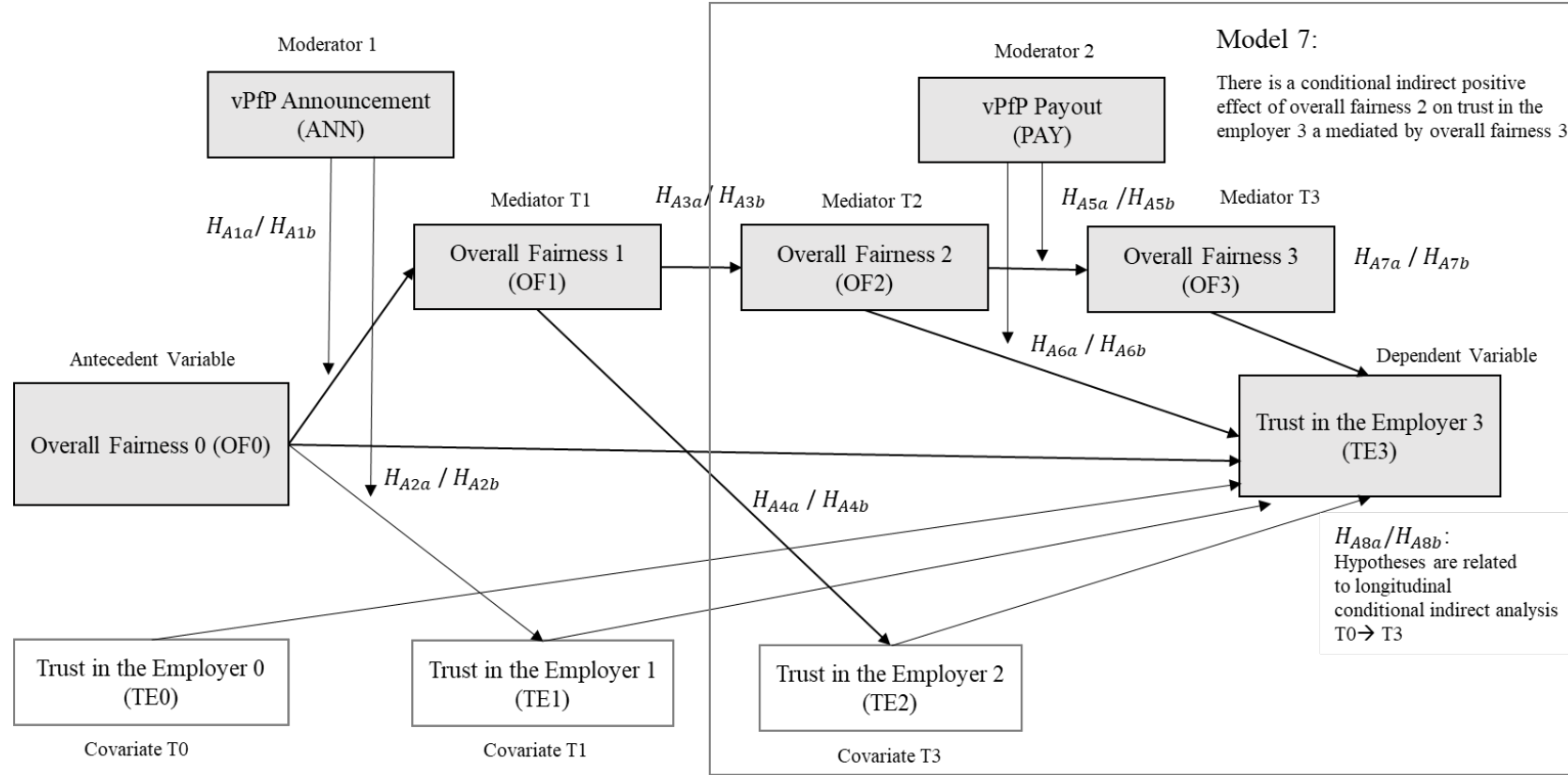


FIGURE 5

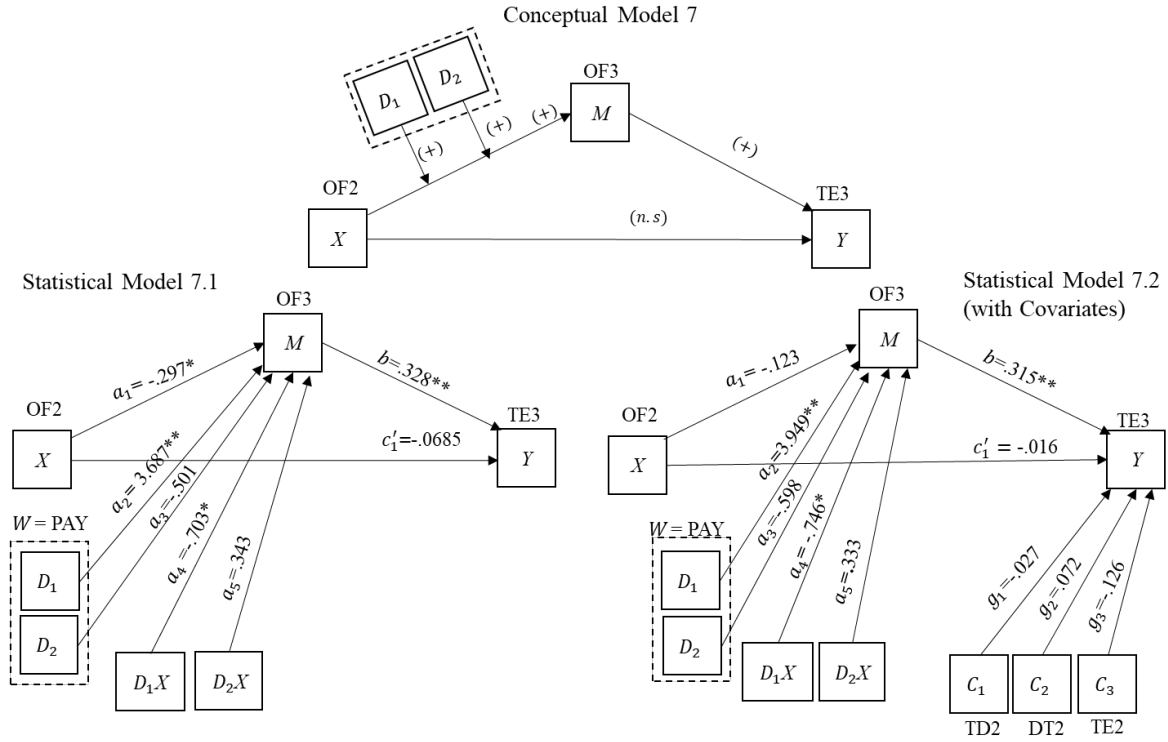
Conditional Indirect Effect Model of Overall Fairness on Trust in the Employer



Note. Conceptual diagram of the longitudinal conditional process model with multicategorical moderators representing two orthogonal contrast conditions (Contrast 1: Both experimental vPfP conditions vs. discretionary bonus control condition; Contrast 2: Experimental team vPfP vs. individual vPfP condition). Moderator 1 represents the first part of the intervention in which the vPfP implementation is announced. Moderator 2 represents the second and final part of the intervention, in which the first vPfP outcome is communicated and paid out. Model 7 measures the hypothesis, if there is a conditional indirect positive effect of overall fairness on trust in the employer 4 mediated by overall fairness after the payout. T0=Time 0 (before intervention), T1=Time 1 (after announcement of new vPfP system), T2=Time 2 (year-end performance) T3=Time 3 (after first vPfP payout)

FIGURE 6

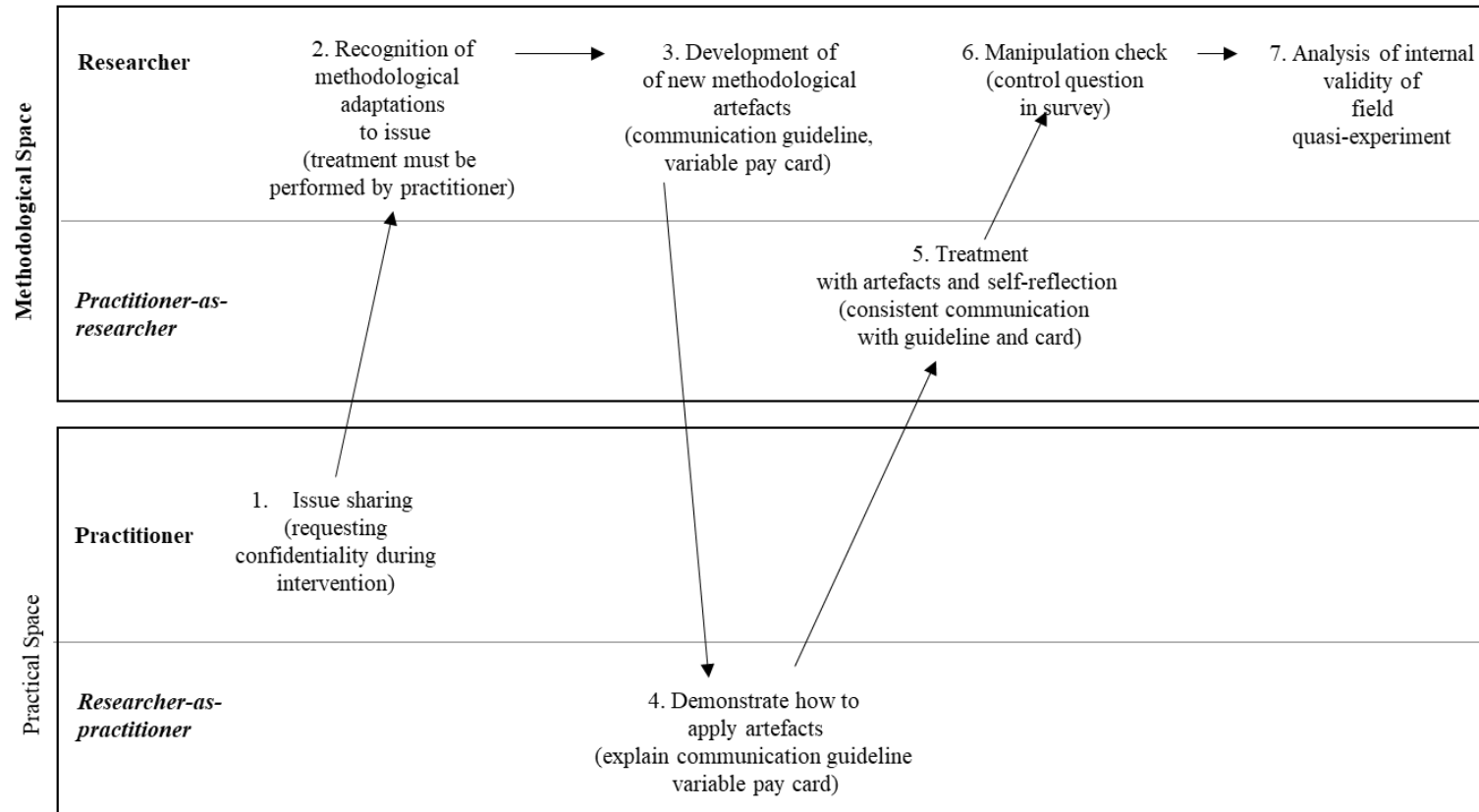
**Empirical Conditional Indirect Effect Model of Overall Fairness
on Trust in the Employer**



Note. The conditional process model 7 with a continuous antecedent X , a multicategorical moderator W of the $X \rightarrow M$ with three categories. In the regression equations, the three categories are represented by two variables (D_1 and D_2). $W = PAY$ (vPfP Payout); $X = OF2$ (Overall Fairness 2); $Y = TE3$ (Trust in the Employer 3); $M = OF3$ (Overall Fairness 3), D_1 = First contrast between the vPfP condition and the discretionary bonus condition; D_2 = Second contrast between the team vPfP condition and the individual vPfP condition; Covariates are $C_1 = TD2$ (Task Interdependence 2); $C_2 = DT2$ (Disposition to Trust 2); $C_3 = TE2$ (Trust in the Employer 2). $+ = p < .10$, $* = p < .05$, $** = p < .01$, $*** = p < .001$. Figure adapted from Hayes (2018, p. 442)

FIGURE 7

Creation of a Methodological–Practice Space during the Field Quasi-Experiment.



Note. Figure adapted from Ramirez & Islam, 2022, p. 15.

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