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Measuring Pay-Conversation Effectiveness Using Organizational Justice in a Fortune 100 Organization

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MEASURING PAY-CONVERSATION EFFECTIVENESS USING ORGANIZATIONAL JUSTICE IN A FORTUNE 100 ORGANIZATION

by

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ABSTRACT

This study draws from the pay-communication and organizational-justice literature to evaluate the effectiveness of manager/employee pay conversations in a large, North-American insurance company. Collecting survey data from 2230 randomly chosen employees across all managerial levels, tenure, and age groups it has been found that pay conversation quality, assessed by measuring the extent which specific, recommended content was addressed, and best-practice recommendations were followed, affects perceptions of procedural and informational justice, controlling for distributive justice. A higher-order composite of the justice dimension was also positively related to the organization's definition of employee engagement and turnover intentions. The study's implication for organizational practice, recommendations around effective messaging, as well as existing limitations, are discussed.

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CHAPTER 1

INTRODUCTION

With an ever-accelerating pace and increased complexity of business environments, organizations increasingly separate themselves from each other through the ability to continuously change and improve processes (Teece, 2007). Component of the efforts to improve is a constant evaluation of existing processes, not only concerning core-business functions of an organization, but also human resources practices.

The Organization

The following study has been completed for a large, North-American company in the insurance industry, with about 45,000 employees across the family of companies based in the Midwest of the United States. The majority of employees are located in the United States. While the enterprise has subsidiaries in other countries and regions, only the employees located in the United States were part of this study.

The Setting

Every year, the organization adjusts the individual base compensation of employees based on overall organizational results and individual employee performance. How much of an increase each employee receives is mostly under the discretion of the specific departments and teams and is administered through managers to employees

directly, within boundaries and rules set by the corporate compensation department in conjunction with the organization's senior leadership. Boundaries were set using salary-band ranges that provided managers with soft targets when deciding annual base-pay increases. Soft, because managers could exceed suggested limits if they felt the employee was deserving of a higher than suggested base pay based on her or his value to the organization. This flexibility allowed managers to individualize their employees' increase based on the individual situation and factors. Once a decision was made, managers turn to communicate the base increase to the employee via a personal one-on-one conversation that summarizes the past accomplishments to link the increase with the work completed through the past year.

For the 2019 increase cycle, the organization decided to change some of the factors of this process. First, salary-band ranges, a metric that provided managers with information on an employee's compensation relative to other employees within the same salary band, were replaced by market ranges as the prominent metric for pay-decisions. Salary-band ranges continue to be used as the minimum and maximum pay allowed within a specific salary band. Market ranges, shift the comparison group from employees within a specific salary band within the organization to employees with similar job duties within the specific (external) job market. The shift provides more control to managers to make compensation decisions consistent with the organization's pay philosophy. To obtain market ranges, the compensation department matches internal jobs with external information, usually provided by compensation surveys from significant management advisory and consulting companies.

Second, the market-range information moved from a soft to a hard target, meaning that the limits set by the organization are now binding limits that cannot be surpassed or fallen short. Managers with employees below target are recommended to provide more substantial increases to drive employee's compensation to be more competitive to market over time. On the flip side, employees with base compensation above the target become ineligible for an increase.

From these changes arose an additional need for managers to communicate their decisions in more detail. On the one hand, employee conversations could be more favorable with employees that received a more substantial increase than expected because they were below or at the lower end of the target. On the other hand, employees that exceeded, or were close to the upper end of the target were in need for a more significant explanation of why their increase was smaller than expected, or why they would not get an increase at all. The compensation department provided a comprehensive package of recommended topics and best practices, and information for managers to prepare them for these, at times, painful discussions. Additionally, to increase transparency, employees were informed on their base-compensation facts, including their market-range percentile via an individualized report that serves as the foundation of the manager-employee discussion.

CHAPTER 2

PROBLEM STATEMENT

Original Evaluation Request

The new facets of the compensation system resulted in an increased emphasis on the manager/employee conversation to communicate the changes to employees and to explain potential consequences to individual employees' merit increases. The research project at hand started in January 2019 with the request to evaluate the quality of manager/employee conversations with their employees via a survey to a subset of the organization. More specifically, the project aimed to discover whether managers do a good job explaining the changes in a way that resonates positively with their subordinates (i.e., fosters change acceptance). The compensation department additionally conducted a yearly survey that evaluates the quality of guiding materials and whether managers perceive the support as adequate and helpful when planning and deciding annual merit increases. An effective merit-increase process requires managers that understand the system and the guardrails in place that give them leeway to make decisions. A comprehensive set of materials form the foundation to ensure that managers feel fully supported and are equipped with the information to make decisions in the best interest of the organization. The two surveys, in combination, would provide the capability for the compensation department to continuously improve their processes and documents.

Expanding the Scope

Upon initial conversation between the author of this document and the client, a plan was drafted that would address the questions initially raised. Due to the familiarity of the author with the underlying concepts of pay communication and compensation, an approach was presented to the client that would expand the scope from an evaluation – based approach ("how are we doing? Do we have a problem?") to an impact-based approach ("Does our program impact employees as intended"). Two central arguments served as a reason to look at the initial question from a different perspective. First, an impact-based approach evaluates the effectiveness of a program against organizational outcomes such as employee engagement and intention to stay with the organization. Second, given the sensitive nature of compensation for the employee-organization relationship, the impact-based approach focuses on the effect of the initiative on employees rather than the actions are taken themselves.

Generally, Human Resources makes increasing attempts to better quantify their services by measuring the impact of an initiative on the business, rather than solely analyzing individual components (e.g., participant satisfaction to a training module). In essence, measuring whether managers do a good job conveying and explaining the changes to employees is essential. Still, it does not tell us anything about employees' reaction to the explanation itself. Kirkpatrick (1994) describes a blueprint for the evaluation of training along four distinct levels: Reaction, Learning, Behavior, and Results. While this is a widely known framework in the training-space, the framework can also be successfully applied to program-evaluation itself. Analog to Kirkpatrick's four levels, measuring the business impact would constitute a Level-4 evaluation,

whereas measuring manager's successful behaviors would constitute a Level-3 evaluation. Both pieces of information are of importance to the organization. Level-3 information helps decision-makers to identify shortcomings but won't provide information about whether the initiative or process is overall successful. A Level-4 measurement would be required to find a conclusive answer to that question. The lack of a Level-4 objective in the initial request would have been a shortcoming that would have led to incomplete information on the program's effectiveness.

Project Questions

As described in the expanded scope section, the central question to be answered is whether manager/employee conversations have the intended main effect on employees, that is, provide an explanation for the base-pay increase decision that is satisfactory to the employee. As described in the upcoming literature review, compensation is a delicate matter for employees because it is at the heart of the employee-employer relationship. Changes to compensation are often highly scrutinized, and decisions that are perceived as unjust or unfair may damage the relationship beyond repair. The importance of the manager/employee conversations increases as the favorability of the decision for the employee decreases. An explanation of the results and procedures employed to make decisions provides employees with reference points that put decisions in context and, conversely, may positively influence employees' perceptions of being treated fairly. If managers fail to be effective communicators, the results for the organization could be lowered engagement and heightened turnover as employees cope with their negative perceptions of fairness. The concept of fairness will be defined at a later point in this study.

- Project Question 1a: Are manager/employee conversations effective in improving employee's perception of fairness?
- Project Question 1b: Provided that the conversations are indeed effective in improving employees' perceptions of fairness, do employees who indicated better conversations and higher satisfaction also display higher engagement and intend-to-stay results in the enterprise-wide engagement survey?

Another objective involves managers conveying the changes to the compensation guidelines and the impact on employees in an understandable manner. That includes providing and explaining tangible compensation information such as new salary and individual employee market ranges. The organization hypothesizes that detailed change explanations will have positive effects on how likely employees deem the base-pay decision as satisfactory. To support managers, the organization provides a set of recommended topics and best practices to focus on the manager/employee conversation. Managers are recommended to explain the total compensation package, cover the new market-range metric, how it is derived, how it is being used, and the impact of the metric as a guardrail for pay-increase decisions. Additionally, the compensation department recommended that managers jointly review an employee's contribution through the past year, but put the contributions in context to the base-pay decision, and leave room for the employee to ask questions. The compensation department is interested in the effectiveness of these best practices in providing necessary information and in improving employee's evaluation of the compensation-increase process and the information that the organization provides.

- Project Question 2: Do employees understand the changes to the compensation guidelines communicated through their managers?
- Project Question 3: How effective are the provided best practices in influencing employee's evaluation of the process and the information they receive?

The author recommended an approach to answer these questions sufficiently, which is based on the current literature in the field of pay communication. This approach will be briefly summarized in Chapter 3.

CHAPTER 3

LITERATURE REVIEW

Compensation

Compensation is physical or mental labor in exchange for monetary or non-monetary rewards. This transactional relationship is the heart of most employment agreements between individuals and organizations. Salaries, wages, and benefits are the most critical outputs that organizations deliver to employees. They accomplish a plethora of secondary functions, besides just fulfilling the transactional component of the agreement mentioned above, such as the communication of value, recognition, directing and motivating desirable (for the organization) behaviors, and rewarding performance (Berger & Berger, 2008). The importance of compensation as a factor and component to overall organizational effectiveness through the attraction, motivation, and retention of employees has often been labeled critical for organizations. Consequently, effective compensation systems can be a real competitive advantage (Gerhart, 2000; Guest, 2011). From an employee perspective, compensation is also a critical job factor (Gerhart & Rynes, 2003) that represents the primary exchange medium for the labor or human capital provided (Andersson-Straberg, Sverke, & Hellgren, 2007; Lawler, 2000), a form of recognition (Berger & Berger, 2008), a part of the performance management and feedback process (Aguinis, 2009) and a determinant of social status (Andersson-Straberg et al., 2007).

Given the importance of compensation for organizations and employees alike, it is essential to understand how employees form perceptions of equitable compensation and how these perceptions may influence behavior. The literature around equity theory, organizational justice perceptions, and pay communication can be used to understand the effects of the change on the workforce from an industrial/organizational psychology perspective.

Reaction to Compensation

Equity Theory

Equity theory (Adams, 1965) plays a foundational role in the compensation literature (Gomez-Mejia, Berrone, & Franco-Santos, 2010). Its theoretical foundation is derived from social exchange theory (Blau, 1964; Gouldner, 1960). Social Exchange theory posits that relationships and exchanges are formed and negotiated by individual cost-benefit analyses. Additionally, equity theory was influenced by cognitive dissonance theory (Festinger, 1957) that states that individuals drive to achieve consistency between their attitudes and behaviors. The dissonance between actions and behaviors will result in action by the individual aimed to restore balance and consistency.

Finally, equity theory asserts that every individual employee continuously compares his or her inputs such as education, effort, time spent, labor, performance, and loyalty to the respective organizational outcomes such as compensation, promotion opportunities, social relationships, and recognition (Day, 2007; Gomez-Mejia et al., 2010). Those comparisons, however, cannot be made in a vacuum. Employees cannot compare their inputs and outputs to themselves. Instead, employees use referent others (coworkers, other employees, workers, inside and outside of the organization) to assess

their situation. When employees perceive the balance (or ratio) between individual inputs and outputs to be equal to the inputs and outputs of their respective referent others, the employee feels equity. The relationship is demonstrated by the equation depicted in Figure 1a.

Figure 1a

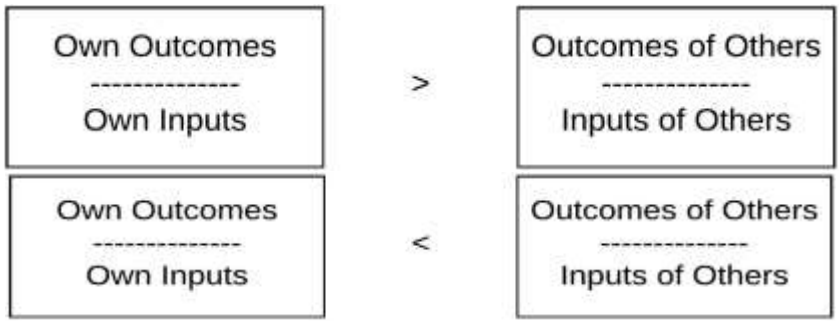
Perceived Equity

$$\frac{\text{Own Outcomes}}{\text{Own Inputs}} = \frac{\text{Outcomes of Others}}{\text{Inputs of Others}}$$

Any perceived imbalance would consequently be labeled inequity, as depicted in Figure 1b. It is essential to point out that inequity does not automatically have negative consequences. It can be positive or negative. An employee who just learned that he is being compensated twenty-five percent more than his colleague while performing similar tasks at similar quality and quantity perceives negative inequity (being over rewarded). In contrast, a colleague who receives twenty-five percent less for the same work as their comparison colleague experiences positive inequity (under-rewarded), should he or she get to learn of the pay gap (Kreitner & Kinicki, 2001). This example assumes that both parties involved do the same job, at the same quality, and that the 25 percent difference is actual. Hence, objective and perceived inequity align.

Figure 1b

Perceived Inequity



It is the subjective assessment of the individual that matters more than the objective information, regardless of erroneous assumptions, or incomplete information that led to false conclusions. Perceived and objective equity rarely fit together neatly. Employees differ significantly in the use and weighing of input and output criteria used for their comparison. As a result, employees tend to overemphasize their strengths over weaknesses and how both form collective employee inputs (Lawler, 1966). In combination with a general overestimation of own performance and achievements over that of peers and colleagues, perceived negative inequity is an outcome that is more likely (Kane & Lawler, 1979). Milkovich and Newman (2005) emphasize that money, with its centrality mentioned above to the employer-employee relationship, usually plays a vital role in the equation of inputs, outputs, and referent – other comparisons. When comparing outputs, or gain, employees usually base most of their evaluation on the comparison of compensation to their peers and coworkers. Other factors, such as preferential treatment by superiors, better standing within the organization, and other, non-quantifiable benefits generally have less of an impact on the overall evaluation.

If positive inequity is perceived as the outcome of the referent-other comparison, the employee will try to restore balance. That can be achieved through the following options: Either equity can be restored by reducing inputs (e.g., by withdrawal, absenteeism, reduced effort), trying to maximize the outputs (e.g., by complaining to a supervisor, asking for a raise, concerted actions), or by looking for other employment opportunities (Fisher, Schoenfeldt, & Shaw, 1999) with more favorable equity evaluations. Some employees may even resort to deviant behaviors such as stealing or sabotaging as a consequence when equity is unlikely to be restored, and other options are scarce (Skarlicki & Folger, 1997). Perceived negative inequity (a feeling of being over rewarded), conversely, is less common, and outcomes are less severe because the employee is directly benefitting from the inequity. Often, employees that feel negative inequity either perceive their performance to be higher and locus of control to be greater in comparison to colleagues (Thierry, 1998). However, employees may also feel guilt or anxiety (Homans, 1961; Jaques, 1961).

Fairness

While equity theory aids the understanding of motivational effects of pay communication, it does not go far enough to explore the attitudinal dimension of employees. It is essential to connect individual equity evaluations with resulting perceptions of fairness to understand the effects of pay communication on employee attitudes. Equity theory explained that fairness is determined by relative evaluations of one's input and outcomes in comparison to referent others (Adams, 1965). This theorem gives rise to more specific theoretical frameworks that explain the subsequent evaluations of perceived inequity as well as the psychological consequences that affect the individual

and, in sum, the organization. Two concepts, uncertainty reduction theory (Lind & Van den Bos, 2002), also sometimes referred to as fairness heuristic theory (Lind, 2001), and organizational justice (Colquitt, Conlon, Wesson, Porter, & Ng, 2001) are crucial components in understanding effects of compensation on employee behavior.

At its heart, uncertainty reduction theory describes mental shortcuts, heuristics, that individuals utilize to cope with the absence of crucial information to make evaluative judgments (Lind & Van den Bos, 2001). The more uncertain a situation, the more crucial information is missing to base judgments upon, and the more individuals seem to rely on the use of mental shortcuts. Lind and Van den Bos (2002) argue that fairness is particularly important in uncertain situations because being treated fairly induces confidence in good outcomes while the opposite amplifies feelings of uneasiness. As such, fairness perceptions direct an individual's affective reaction in situations of uncertainty. Restricting the flow of information concerning compensation introduces various degrees of uncertainty to the environment and, thus, forces individuals to rely on their shortcuts, heuristics, and ultimately fairness perceptions of the organization to inform critical judgments of their equity evaluation. In most privately-owned organizations, compensation information is restricted to employees in some form. Restrictions may range from complete secrecy, where employees only know their compensation but are generally not aware of the factors that go into it and are either actively or passively encouraged not to share information to complete openness, where organizations may choose to communicate as much compensation information as legally possible. Most organizations fall somewhere in between this range, making some information available while restricting other critical factors.

Organizational Justice

Uncertainty reduction theory helps to understand the importance of fairness perceptions. It does, however, very little to illuminate fairness perceptions as a construct, which is of critical importance to explore the consequences of such evaluations. Organizational justice represents a more fine-grained approach that describes fairness perceptions in more detail while trying to interpret and explain the impact of perceptions in organizational settings (Colquitt, 2001; Greenberg, 1990b). Over the years, the field of organizational justice has seen a substantial amount of research and has grown from a unidimensional theory to a multidimensional construct with four distinct dimensions (Colquitt, 2012):

- Distributive Justice (Adams, 1965), fairness perceptions associated with outcomes,
- Procedural Justice (Thibaut & Walker, 1975), fairness perceptions associated with the process that lead to the outcomes,
- Informational Justice (Bies & Moag, 1986), fairness perceptions associated with the information provided,
- Interpersonal justice ((Bies & Moag, 1986; Greenberg, 1990a, 1993), fairness perceptions associated with the interpersonal treatment.

Generally, the link between justice perceptions and individual employee outcomes and attitudes are complementary. Employees who feel treated fairly and equitably will subsequently have more positive attitudes towards the organization and, thus, are more likely to be more compliant and behave in manners benefiting the collective of the organization (Cohen-Charash & Spector, 2001). Conversely, unfavorable evaluations of fairness are more likely to result in negative attitudes with corresponding behaviors

characterized by a lack of cooperation and by selfishness (Cohen-Charash & Spector, 2001). To understand how pay-communication impacts the organization, a deeper understanding of the organizational justice construct is warranted. It provides a vital link between practice (degree of pay communication) and organizational outcome (Marasi, 2014). The work will explain the four dimensions of organizational justice to gain a deeper understanding of organizational justice; then, their impact to pay communication will be discussed.

Distributive Justice

The perception of being compensated or rewarded fairly (in comparison to others) is referred to as distributive justice. The concept is derived from Adam's equity theory (Adams, 1965), discussed above. Hence, people are concerned with the subjective, relative fairness of the allocated rewards more than they are concerned with the absolute level of rewards. While Adam's proposed the equity allocation principle as the basis of fairness evaluations, other researchers, most notably Leventhal (1976), proposed other potential principles based on "equality" and "need." Different contexts (family, work, society), goals (maximum performance, group harmony), or motives (self-interest, altruism) seem to activate different allocations principles within the individual and subsequently change the perception of distributive justice accordingly (Colquitt et al., 2001; Deutsch, 1975).

Additionally, Gilliland (1993) noted that individuals might use different allocation principles within the same context. Despite the sense of objectivity that these allocation principles evoke, the evaluation of whether an outcome is perceived as fair is a subjective process. Thus, research that touches the realm of distributive justice best includes

measures to collect individual perceptions because they cannot be inferred from other variables with certainty.

Procedural Justice

Distributive justice is only one facet of a multidimensional construct (organizational justice) that is comprised of three additional facets, namely procedural, informational, and interpersonal justice (Colquitt, 2012; Colquitt et al., 2001). Having its origins in the field of legal proceedings, Thibaut and Walker (1975) first described procedural justice as process control while explaining the positive effects of arbitration and mediation. Individuals were willing to give up control over the outcome of a procedure as long as they had the means to influence the procedure itself. This effect is also known as "fair process" or "voice" and has been frequently researched (e.g., Folger, 1977; Lind & Tyler, 1988). Leventhal subsequently applied the lessons learned in the field of litigation to an organizational setting (Leventhal, 1980; Leventhal, Karuza, & Fry, 1980). As a result, Leventhal developed six criteria that should be met for a procedure to be perceived as fair. Procedures should:

- Be applied consistently across all individuals and time
- Be free of bias and vested interest in a particular outcome
- Ensure that the information used for decision making is accurate
- Include a method to complain about, appeal, or correct flawed or wrong decisions
- Be in accordance with personal or universal standards of ethics and morals
- Consider the opinions of individuals and groups that are affected by it (voice effect).

Adherence to the guideline of procedural justice is believed to coincide with a multitude of positive outcomes on the individual and organizational level such as increased satisfaction, higher acceptance of rules (e.g., Tyler & Bies, 1990; Tyler & Folger, 1980), increased satisfaction with results (e.g., Folger & Konovsky, 1989; LaTour, 1978; Lind, Walker, Kurtz, Musante, & Thibaut, 1980), and increased citizenship behaviors (e.g., Fahr, Podsakoff, & Organ, 1990; Kamdar, McAllister, & Turban, 2006; Moorman, Niehoff, & Organ, 1993; Tyler & Degoey, 1995; Zeinabadi & Salehi, 2011).

Informational and Interpersonal Justice

The most recent advance in the justice literature was introduced by Bies and Moag (1986) through the addition of the final components, informational and interpersonal justice. The focus of these dimensions is the quality of social interactions between the individual and the organization or its representatives (supervisors, etc.) that can shape justice perceptions. It should be noted that the exact labeling of these dimensions is subject to an ongoing academic debate. Bies and Moag (1986) introduced informational and interpersonal justice as one dimension labeled interactional justice. Greenberg (1990a) subsequently split interactional justice into an explanation and sensitivity component, which was later re-labeled interpersonal and informational justice (Greenberg, 1993). Due to its proximity to procedural justice, it was long debated whether informational and interpersonal justice are a standalone facet or just separate sub-facets of procedural justice (e.g., Aquino, 1995; Niehoff & Moorman, 1993; Skarlicki & Folger, 1997). Recent work by Colquitt (2001) indicates a preference for four distinct factors and provided empirical support for the unique value of interpersonal

and informational justice. Thus, the author of this work preferred to use informational and interpersonal justice as separate dimensions.

Bies and Moag (1986) formerly comprised the construct of four criteria: justification: truthfulness, respect, and propriety. Justification refers to how adequately a particular outcome was explained, while truthfulness describes the accuracy and honesty of the justification. Employees that are given an accurate, timely, and complete explanation of procedures and outcomes are more likely to view them as fair (Andersson-Straberg et al., 2007). Respect refers to whether the individual was treated with dignity and sincerity, and propriety suggests that the presentation of outcomes or procedures is free of biases, prejudicial statements, and based on accurate information (Scott, Colquitt, & Zapata-Phelan, 2007). Greenberg's (1993) split follows the four criteria by Bies and Moag (1986) by including respect and propriety in the interpersonal category, and justification and truthfulness in the informational category (Greenberg, 1993). More information on the linkages in section 3.3.3.

Outcomes of Types of Organizational Justice

Organizational research over the last decades has firmly established organizational justice as an essential mechanism through which necessary employee attitudes are formed. Most notably, Colquitt et al. (2001) conducted a meta-analytic review that included 183 studies between 1975 and 1999. Results firmly relate the four dimensions of organizational justice to critical organizational outcomes such as job satisfaction, organizational commitment, performance, organizational citizenship behaviors, and withdrawal, among others. Additionally, it is one of several antecedents of work engagements in recent studies (Ghosh, Rai, & Sinha, 2014; Moliner, Martinez-

Tur, Ramos, Peiró, & Cropanzano, 2008; Saks, 2006). Before the role of organizational justice for this study is discussed in detail, it is important to introduce pay communication to the discussion first.

Pay Communication

Definition

Pay communication, or pay secrecy which it was often referred to, was viewed by early literature as an organizational practice that aimed to restrict the amount of information employees could potentially access about the compensation of coworkers (Burroughs, 1982; Colella, Paetzold, Zardkoohi, & Wesson, 2007; Thompson & Pronsky, 1975). As Marasi and Bennett (2016) pointed out, pay secrecy was treated like an "all-or-nothing" type of concept. Either organization employed a policy of total secrecy or complete openness. This labeling does not do justice to the complexity of the construct. Hence, the term pay communication is predominantly used nowadays, which treats complete secrecy and openness as two extreme ends of a continuum. The paradigm shift accurately reflects organizational practice as the use and degree of pay secrecy policies vary widely from employer to employer (Gomez-Mejia & Balkin, 1992; Milkovich & Newman, 2005). To one end, pay secrecy, as discussed earlier, aims at prohibiting employees from discussing aspects of their compensation amongst themselves as well as to outsiders. In this regard, it is essential to notice that neither the organization is actively communicating compensation-relevant information, nor are employees permitted to communicate their salary to others. The result is near-zero communication and no availability of information. On the other end of the spectrum, pay openness does not only

allow employees to disclose their individual information, the organization proactively discloses pay information in regular intervals (Marasi, 2014).

Substantiated Outcomes of Pay Communication

Pay communication has a mixed track record of clearly substantiated results. One of the first scholars to extensively investigate pay communication, or pay secrecy, which it was called at that time, was Lawler III. Beginning with a series of studies in 1965 and 1966 (Lawler, 1965a; Lawler, 1965b; Lawler, 1966), Lawler focused initially on the effects of pay secrecy policies on the accuracy of referent-other comparisons of lower- and middle-level managers. Results demonstrated that managers in both public and private sectors consistently overestimated the pay of subordinates and peers. Public sector managers were more accurate in their comparisons, which, according to Lawler (Lawler, 1965a; Lawler, 1965b), can be explained with the increased amount of salary information public managers have to their disposal compared to the private sector organizations. The study demonstrated that the absence of tangible information increases the likelihood of inaccurate pay estimations that, in turn, produce inaccurate referent-other comparisons. The result is perceived pay compression for managers (since they overestimate the compensation of their subordinates and peers) that leads to paying dissatisfaction and subsequently, according to Lawler (1965a), reduced motivation to perform and to be promoted.

Lawler was able to replicate his results in a follow-up study (Lawler, 1967) with varying research design. Milkovich and Anderson (1972) executed a similar study in an organization that utilized a less restrictive pay communication strategy (in comparison to Lawler's studies, whose organization maintained complete secrecy) in that some

managerial information was available and found similar results. In an additional follow-up study, Lawler (1972) additionally incorporated theoretical foundations (e.g., social comparison theory, equity theory) for hypothesis building and interpretation. While the same over/underestimation pattern was once again observed, pay satisfaction was affected by peer and subordinate pay overestimation. Contrary to results Lawler obtained from previous studies (Lawler, 1967).

Moreover, pay satisfaction was negatively related to the accuracy of pay estimations, self/other pay differentials, and perceived standing in the organization relative to others. Lawler (1972) also uncovered that Managers consistently overestimated superiors' size and frequency of pay raises and largely ignored their own, individual pay raise characteristics. Effects of the erroneous estimation reach beyond equity evaluations. Since pay raises are often tied to performance feedback, especially in organizations with a stronger emphasis on pay-for-performance, managers who overestimated their superior's raises interpreted their performance feedback as more negative. Mahoney and Weitzel (1978) were able to observe similar results in their replication of Lawler's (1972) study.

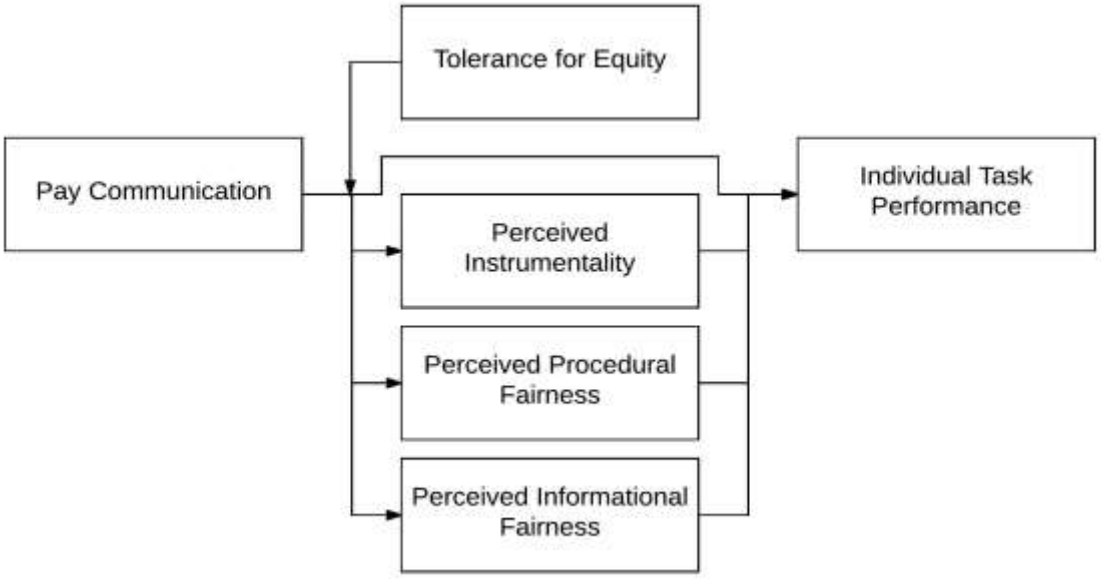
Pay Communication, Organizational Justice Perceptions and Organizational Outcomes

In 2007, Colella et al. (2007) reviewed the state of the pay communication literature that summarized cost, benefits, and tradeoffs for organizations that employ pay secrecy. Among the benefits are greater organizational control to maintain a workplace free of conflict, enhanced privacy for employees, and lowered risk of turnover due to compensation. The costs of such a policy are lowered perceptions of fairness, decreased employee task motivation, specifically in pay-for-performance situations, and labor

market inefficiencies. One of the costs associated with pay secrecy described by Colella et al. (2007), decreased task motivation, was not substantiated through empirical research at the time of the publication and, thus, only a hypothesis. Bamberger and Belogolovsky (2010) generated and tested a moderated-mediation model aimed to explore the validity of the proposed adverse effects of pay secrecy policies on individual task performance (see Figure 2).

Figure 2

Bamberger and Belogolovsky (2010) Proposed Model



Results of the experimental study using undergraduate students revealed no direct effect of pay communication on task performance. However, tolerance for inequity did moderate the relationship mentioned above in the expected fashion as individuals with lower tolerance experienced more negative effects on task performance in a pay secrecy condition. Additionally, instrumentality perceptions mediated the relationship between

pay communication and task performance when tolerance for inequity was included as a moderator. Hence, the study demonstrated the adverse effects specific pay communication strategies might have for certain populations.

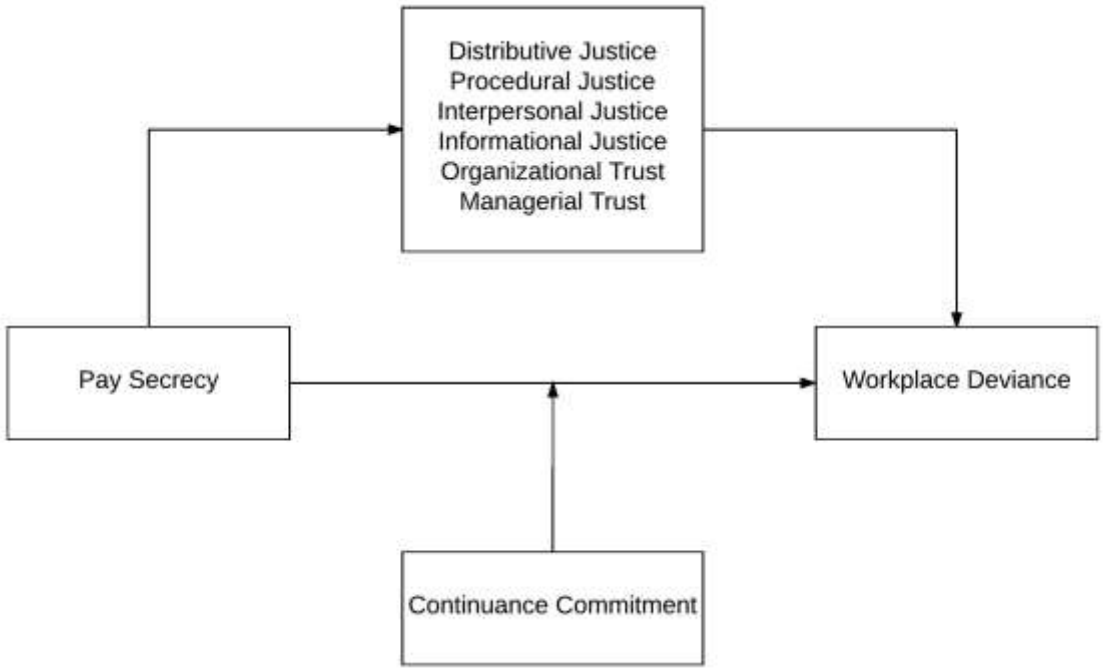
The non-significant findings of the mediating effects of procedural and informational fairness on task performance were surprising, given the meta-analytic findings of Colquitt et al. (2001). Bamberger and Belogolovsky (2010) explained the results with an overpowering effect of instrumentality perceptions in explaining the already low variance in task performance. Thus, given the sample size of the study and the experimental conditions, the results do not indicate that these types of justice perceptions may be excluded from future research, given the numerous limitations of the study (e.g., participants compensation was too low to cause meaningful justice reactions for participants). Allocation of the already limited rewards was based on an objectively measured performance metric that ensured maximum pay-for-performance allocation validity. Given the issues organizations and scientists experience with performance measurement alike due to the numerous contextual factors (Pulakos & O'Leary, 2011), one can reasonably expect a more significant role of justice perceptions in real-world, organizational settings where resource allocation is imperfect. On top of that, the interaction between participants in this simulation (two hours) may not have been enough for the development of realistic coworker dynamics that are the basis for the referent-other comparisons.

Building on the work of Noy (2007), Colella et al. (2007), and Bamberger and Belogolovsky (2010), Marasi's study aimed to explore the effects of pay communication on workplace deviance. Marasi (2014) build her central hypothesis on the argument that

pay secrecy fosters erroneous referent-other comparisons as accurate information upon which to base-pay estimations is unavailable. Since employees tend to overestimate peer-level compensation, an escalation of feelings of unfairness and negative emotions becomes more likely. Coupled with the uncertainty that arises when information is being withheld because it is "secret," employees are hypothesized to use workplace deviance as a method to offset or retaliate against the negative emotions created by the environment. Since this relationship is partially based on fairness perceptions, Marasi (2014) included organizational justice dimensions and perceptions of organizational and managerial trust as possible mediators (see Figure 3).

Figure 3

Marasi's (2014) Proposed Relationships



Results of the study indicated significance for the pay communication, justice perception, deviance interaction as described, with R^2 being of a small size. As for

perceptions of trust, managerial trust significantly mediated the pay communication deviance relationship while organizational trust did not. This study establishes organizational justice as a key mediator in the pay-communication literature.

Noy's (2007) work on a perceived organizational pay secrecy scale (POPS) provides additional evidence on the relationship between justice perceptions and pay communication. His findings supported the theorized, inverse relationship of pay secrecy and informational justice but failed to demonstrate a relationship between POPS and distributive justice. Day (2007), on the other hand, found distributive justice to be the most influential mediator in the relationship between pay communication and pay satisfaction.

As explained earlier, there is little doubt that distributive justice is an essential construct in the pay communication space based on the roots in equity theory. How much pay an employee receives and where it puts him or her in comparison to referent others (e.g., peers) is an essential driver of justice perceptions. The results of Noy (2007) and Day (2007) demonstrate distributive justice is likely not a mediator, but rather a moderator that influences the relationship between pay communication and its outcomes. Employees may be influenced in their perception of whether they are compensated equitably, based on the amount of compensation-related information their organization provides. The overarching, most important decision factor, however, is the amount of compensation about what the individual employee deems equitable. Consistent with this finding, Marasi (2014) theorized distributive justice to be a moderator in the relationship between pay communication and workplace deviance, mediated by informational and

procedural justice. In this relationship, distributive justice moderates the relationship between informational and procedural justice and workplace deviance.

Marasi (2014) argues, based on equity theory (Adams, 1965), that unfavorable referent-other comparisons result in negative distributive-justice perceptions, and, subsequently, feelings of anger, tension, and relative deprivation (Homans, 1961; Jaques, 1961), feelings directly associated with workplace deviance. Despite the arguments drawn from Marasi's (2014) study, points can be made for distributive justice to moderate the relationship between pay communication and informational and procedural justice instead. Empirical evidence from the performance-management literature suggests, for example, that the performance-management process is viewed as less fair procedurally (and informationally) when results are unfavorable to the employee, as it might trigger self-defense mechanisms to reconcile the discrepancy between self-image and rating (DeNisi & Kluger, 2000). The evidence implies that distributive justice perceptions (e.g., performance ratings) have a profound impact on informational- and procedural-justice perceptions of the instrument as a whole.

Apart from Marasi (2014), only Scheller and Harrison (2018) utilized a commitment dimension (affective commitment) as an outcome variable in the context of a pay communication study. Scheller and Harrison (2018) used a between-subjects factorial design to test the effects of pay transparency, distributive justice, and informational justice on pay satisfaction and affective commitment. In a study that utilized case studies on an MTurk sample, participants experienced more significant affective commitment when pay transparency was high. Additionally, the effects of pay transparency on satisfaction were more pronounced when perceived distributive justice

was low vs. high. This finding suggests that distributive and information justice could influence potential outcome variables of pay communication in a mediation-moderation fashion that Marasi and Bennett (2016) suggested in their conceptual piece. While the study performed by Scheller and Harrison (2018) suffers from a few conceptual weaknesses (pay communication was conceptualized as a dualistic variable, conceptual hypotheses between transparency, justice perceptions, and the outcome variables were linear and direct which leads to self-fulfilling prophecies), it provides an additional point of evidence that the proposed model and interaction by Marasi and Bennett (2016) is justifiable.

Situational Application and Research Questions

Before the effect of manager/employee conversations on employees can be hypothesized, individual conversation components need to be unpacked first. Each component by itself could individually impact employees' perceptions of fairness in different ways. The manager/employee conversation can be divided into four distinct components: The communication of the amount of annual merit increase (1), the provision of individual market-range percentages (2), the explanation of the changes to the compensation system (3) and the explanation of the merit – increase decision that combines the pay system information with individual performance throughout the year (4). All of these four components have to be considered ineffective research design, even though only component three and four (the explanation of the changes and how well managers can explain their decision) seems to be firmly in scope as described earlier. The variables to be included can be derived from the project question in combination with the research overview. The pay communication literature suggests an interplay

between pay-related information and organizational justice perceptions (Day, 2007; Marasi, 2014; Noy, 2007). Organizational justice perceptions are firmly related to outcomes of organizational interest:

Through the manager/employee conversations, managers have the opportunity to influence certain employee perceptions directly. More specifically, managers' explanations of the procedures and their availability to proactively provide information and answering questions should directly impact employees' perceptions of procedural and informational justice because they provide valuable context for how a decision is made, and upon what the decision is based. Thus, employees that received a conversation with their manager overall should have higher perceptions of procedural and informational justice.

Hypothesis 1a*: Employees who had pay conversations with their managers will have higher perceptions of procedural justice.*

Hypothesis 1b*: Employees who had pay conversations with their managers will have higher perceptions of informational justice.*

Building on the literature of pay communication, and the intentions of the compensation department to release more pay-related information to employees, the reception of the employee compensation statement should be included in the research design. The compensation statement provides information on how employees' compensation relates to external market conditions. Hence, it provides employees with an external point of reference to base their referent-other comparison. Furthermore, it provides managers with a foundation to put their increased decision in context. Based on the research mentioned above on equity – theory and organizational justice perceptions,

the compensation statement itself would be expected to have a positive impact on procedural and informational justice perceptions. Also, one would expect this effect to amplify when combined with manager/employee conversations, as it provides managers with the opportunity to supplement the information presented on the statement with further context. Distributive justice will only be influenced in situations where employees received the statement and had manager/employee conversations because it is the application of the information on the employee's situation in the organization that could influence whether employees feel fairly compensated. Without conversations, employees will lack the context to make this inference.

Hypothesis 2a*: Employees who did not have a manager conversation but received a compensation statement have higher perceptions of procedural justice than employees who did not receive anything.*

Hypothesis 2b*: Employees who did not have a manager conversation but received a compensation statement have higher perceptions of informational justice than employees who did not receive anything.*

Hypothesis 2c*: Employees who had a manager conversation AND received a compensation statement will show higher levels of procedural justice than employees who just had a conversation without receiving a statement.*

Hypothesis 2d*: Employees who had a manager conversation AND received a compensation statement will show higher levels of informational justice than employees who just had a conversation without receiving a statement.*

Managers that have better conversations should see higher levels of perceptions of procedural and informational justice when compared to managers that either does not

exert the same effort or are not communicators of comparable quality. The main recommended topics and best practices given to managers centers around the explanation of the changes to the compensation system. Thus, being more successful relaying the content to employees, which for this research was defined as "higher conversation quality," should positively relate to employees' perceptions of procedural and informational justice.

Employees' reactions to the conversation will, however, be influenced by the base-pay decision itself. Depending on the perceived individual inputs and referent-other comparisons, individual equity evaluations will result in a gamut of perceptions of distributive justice (Tekleab, Bartol, & Liu, 2005). While managers are responsible for the base-pay decision, the influence they have over perceptions of distributive justice during the conversation itself is limited. Hence, distributive justice was used to control for the effects of the decision itself on the quality of the conversation. Employees who received a satisfactory decision will more likely rate the conversation quality as higher, while employees that received a less satisfactory decision will feel more negative about their conversation.

Hypothesis 3a: *Conversation quality will be positively related to perceptions of procedural justice, controlling for perceptions of distributive justice.*

Hypothesis 3b: *Conversation quality will be positively related to perceptions of informational justice, controlling for perceptions of distributive justice.*

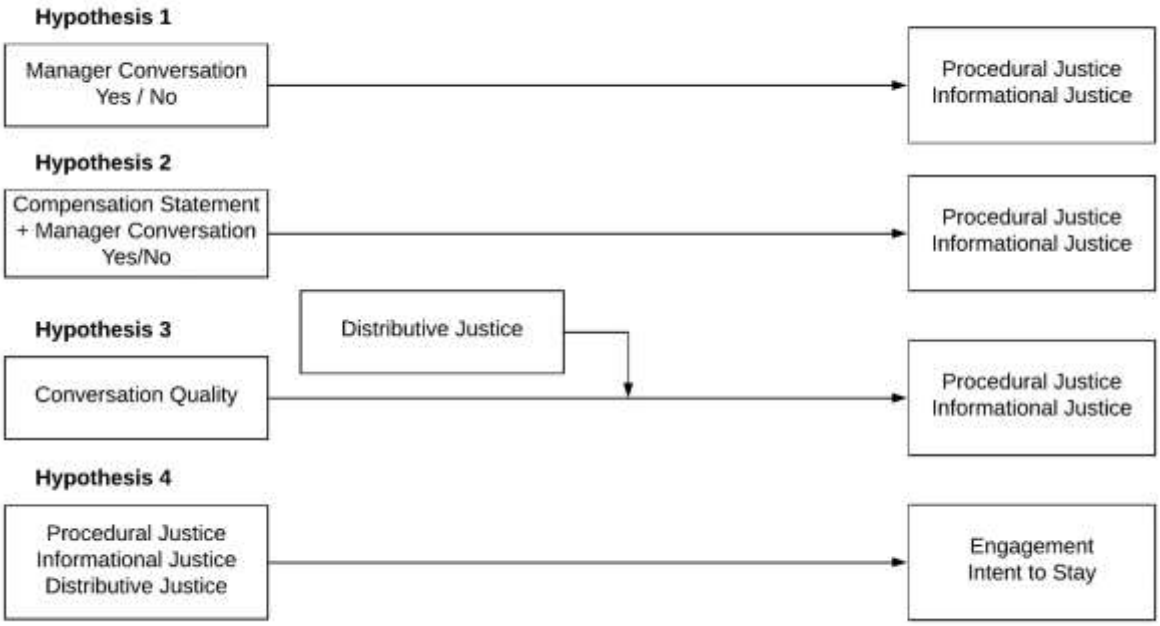
Organizational justice perceptions should be related to employee engagement and intent to stay if they are to validate the positive link between justice perceptions and organizational outcomes.

***Hypothesis 4a**: Higher perceptions of organizational justice will be positively related to the organization's definition of engagement.*

***Hypothesis 4b**: Higher perceptions of organizational justice will be positively related to the organization's definition of intent to stay.*

Figure 4

Proposed Relationships



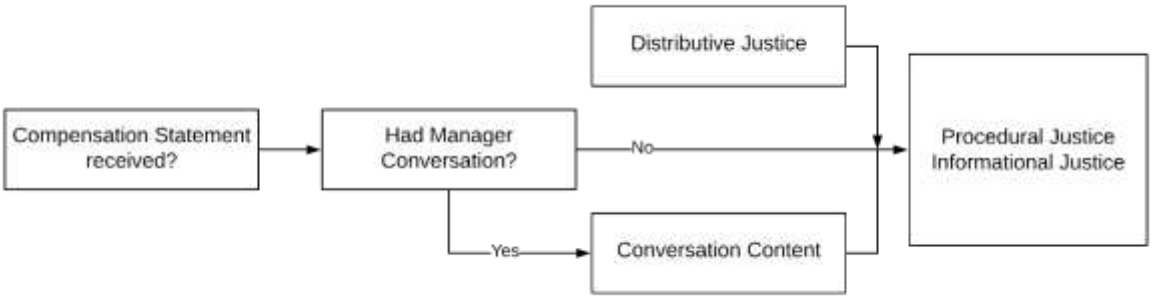
CHAPTER 4

APPROACH

For this organizational research, data from two surveys were used to test the hypotheses (see Figure 5). Most of the data stems from an employee survey that was designed and conducted specifically for this research. Information on intent to stay and organizational engagement was provided by the results of the enterprise-wide engagement survey. Additional demographics required for specific analyses requested by the client were pulled from the human resource system of record.

Figure 5

Measurement Design



Sample

A sample of 5000 employees was chosen for this research. A few considerations determined the sample composition and size.

While a random sample of a few hundred would have been sufficient for the analysis to adhere to minimum N-size recommendations, the client wanted to retain the capability to analyze results on the department level. Generally, the organization consists mostly of one large department employing about one-third of all employees. The remaining departments are smaller and varying in size. The author decided to deliberately oversample to ensure that sample sizes are large enough to draw meaningful conclusions from the results. The results were achieved by sampling 7500 randomly chosen employees across all types of responsibilities, band levels, tenure groups, etc. Then, about 2500 random employees from the largest department were removed from the sample. As a result, the final sample of 5225 invited employees (cleaned for vice-president or higher level of employees, attrition in the data, etc.) had a higher percentage of employees from smaller departments. See Table 1 for illustration.

Concern around the frequency of employees who indicate not having received a manager conversation also leads to increased sample size. It was the expectation of the author as well as the compensation department that not having a conversation is an incredibly rare occurrence. Thus, to make a comparison between the two groups, a significant enough sample would be required to safeguard against low *n* sizes for rare events.

Table 1

Illustration of Sampling Technique Employed

Random sample of 5000 employees by department			*Random sample of 7500 employees, removing 2000 from largest department*			
Department	*n*	*% of total*	*Department*	*n*	*% of total*	*% increase*
A	3250	65.00%	A (-2000)	2875	52.27%	-13.04%
B	100	2.00%	B	150	2.73%	33.33%
C	150	3.00%	C	225	4.09%	33.33%
D	250	5.00%	D	375	6.82%	33.33%
E	500	10.00%	E	750	13.64%	33.33%
F	600	12.00%	F	900	16.36%	33.33%
G	150	3.00%	G	225	4.09%	33.33%

Timing

The survey timing followed a deliberate sequence. The start date was about two weeks after employees should have had their conversations with their managers. That would give managers enough time to conduct their conversations, but it was close enough, so employees were able to recall necessary details. After seven days, nonresponsive employees were reminded to use their opportunity to participate. They were reminded again on the morning of the last day of the survey period.

The enterprise-wide engagement survey was released a few weeks after the closure of the research to provide another opportunity for engagement and to help employees stay informed, thereby aiding this research.

Instruments

In this section, the instruments used to conduct this research are described. The main focus of this section will be on the employee survey that was designed explicitly for this purpose. Additional time will be spent discussing decisions, tradeoffs, and

limitations that were faced by the author and how those limitations affected the outcomes of the analysis.

Employee Survey

The employee survey consisted of 18 items divided into three sections. The first section (two items) intended to measure which type of communication that had occurred between the manager and the employee. Specifically, whether the employee had a compensation conversation with their manager (Yes/No), and whether they had been provided with a compensation statement (Yes/No), the newer document that communicates necessary individual compensation information such as base salary, individual market-range percentile, and base-pay increase to the employee.

The second section of the survey asked questions regarding the quality of the manager/employee conversation. This 9-item section leaned on recommended topics and best practices that were provided to managers and measured the extent to which employees gained a good understanding of them during the conversation. Responses were measured on a 5 – point Likert – scale. Employees who indicated that they did not have a pay conversation with their manager did not receive this set of questions.

The third and final section consists of a loose adaptation of Colquitt's (2001) organizational Justice Scale. Colquitt's organizational justice scale is a validated instrument that has been frequently used in organizational justice research since its creation. The scale synthesizes previously created measures of all four dimensions of organizational justice in one scale that consists of 30 items. Using the entire scale, however, was impractical in this context. From personal experience, focus groups, and evaluation of organizational data, the author was aware that many employees perceive the

frequency with which they are surveyed as too high and the length of each the surveys as too long. The organization strives to make better decisions by employing data whenever possible; this is inherently a worthwhile goal for which to strive. Much of the data that is used to evaluate internal programs and processes originate from surveys administered to a specific subset of employees. Not always are these surveys appropriately vetted by subject matter experts with psychometric training or advanced consulting skills. The results are surveys that sometimes lack focus, prioritization, and quality, which contributes to perceived survey fatigue that manifests itself in lowered response rates.

In this environment, administering a 30-item scale to measure one construct with four subdimensions is neither feasible nor politically or practically defensible. After a quick analysis by the author, two items were selected from each of the distributive, procedural, and informational justice subscales, rewritten for the research project, and submitted to the client in a first draft. While this decision stands in contrast to generalized recommendations of a minimum of three items per subdimension (Hinkin, 1995; Marsh, Hau, Balla, & Grayson, 1998), it supported the chances for approval of the research in the first place and prevented fatigue and response bias in an already fatigued organization which can be a real problem for researchers when scales become too long (Hinkin, 1995). Moreover, employee perceptions in organizations can be a factor of many influences that cannot be isolated well, or not at all in comparison to lab studies or academic research that allows the researcher to control environmental factors (such as rewards, motivators, etc.). Given the messiness that often accompanies research within organizations, administering the full scale may have provided a false sense of measurement accuracy that seems unwarranted. However, the decision for two-item

measurements per construct is not without problems, as discussed. Hence, a post-hoc factor analysis seemed appropriate to confirm the appropriate psychometric properties of the revised instrument.

Another reason for the post hoc confirmation of the instrument stems from the changes that were made to the original items to fit the situation and organizational language. For example, the original scale item "Is your (outcome) justified, given your performance?" was changed to "To what extent was the recent decision made about your base pay reflective of your performance in 2018?". During the inception phase of this project, the client was made aware of the origin of the items, and that vast changes to the recommended items would put the efficacy of the instrument at risk. The client displayed a high understanding of these limitations and chose to keep changes as minimal as possible. The rating-scale anchors were revised as well. Colquitt's (2001) items are to be rated on a 5-point scale ranging from "strongly disagree to strongly agree." While the 5-point scale was retained, participants rated on answer options ranging from "to a very small extent" to "a very large extent." This change allowed the author to keep anchors consistent across the survey, which was intended to improve the user experience for participants. Different designs and scales require different amounts of interpretative efforts by the participant to translate their response into the response options provided by the instrument (DeCastellarnau, 2018). By keeping response options consistent throughout the survey, the author also attempts to keep the required amount of interpretative effort to a minimum.

Post administration, reliability of each justice dimension was assessed individually. Cronbach alphas were $\alpha = 0.895$ for distributive justice, $\alpha = 0.753$ for

procedural justice, and $\alpha = 0.863$ for informational justice, indicating acceptable reliability (Cortina, 1993). Given the magnitude of changes, a confirmatory factor analysis (CFA) was conducted post-hoc to confirm the factor structure of the measurement. A CFI value of0 0.958 and an SRMR of 0.039 indicates a good model fit in line with recommendations by Hu and Bentler (1999). An RMSEA of 0.193 violates these guidelines and indicates at least some issues. RMSEA has shown to be sensitive to sample size and simpler models with low degrees of freedom. Since the model includes three factors with two items each, the degrees of freedom of six are low. The RMSEA, along with the TLI, are also dependent on the chi-square value. With a large sample size, higher correlations among measures, chi-square values are high (this model has a chi-square value of 82.80). Thus, a low ratio of items to factors and a high chi-square value negatively influence the RMSEA and result in poor model fit (Kenny, Kaniskan, & McCoach, 2015). With the SRMR (that is not dependent on chi-square values) and the CFI adhering to the recommended guidelines, the data is still suitable for this study. See Table 2 for a comparison between the observed goodness of fit values and Hu and Bentler's (1999) criteria.

Table 2

Goodness of Fit Criteria

Fit Index	Cutoff Criteria*	Observed Value
CFI	0.95	0.958
TLI	0.95	0.895
RMSEA	0.06	0.193
SRMR	0.08	0.039

*Hu & Bentler, 1999

Engagement Survey

The engagement survey is administered to all employees across the enterprise on an annual basis. Engagement is measured with five items and is following a unique organization-specific definition of the construct that differs from academic definitions such as Kahn (1990) and Schaufeli, Salanova, González-Romá, and Bakker (2002). While individual items of the scale cannot be discussed due to confidentiality, it is the opinion of the author that items utilized seem more aligned with affective organizational commitment. Relationships of the organizational definition of engagement to critical organizational outcomes (such as measures of productivity) have been validated internally in 2014 and 2019 in internal analyses.

Additionally, intent to stay was measured with one item only. While a one-item measure can be problematic because of many reasons, there is evidence that one-item measures may suffice when constructs are very narrowly defined (e.g., Bergkvist & Rossiter, 2007). The argument can be made that intent to stay is such a narrowly defined construct. The relationship of the intent to stay measurement and organizational turnover has been analyzed and internally validated in 2014 and 2019 as well.

Demographics

Additional demographics necessary for the analysis of specific client questions were acquired from the HR systems of record, by appending this information to the data, allowing for the breakout of justice perceptions by market quartiles, actual pay increase, departments, and other factors that aid the utility of the collected data to the client. For the protection of personally identifiable information, no individual demographics besides

actual pay increases grouped into nine increase groups were retained above and beyond the research-survey data and the first six items of the organizational engagement survey.

Data Analysis

Data Cleaning

Missing data is a pervasive problem in data analysis. When data are missing at random, deleting, or excluding cases from the analysis is a viable solution (Tabachnick & Fidell, 2018). Missing data were not expected to be an issue that could undermine the efficacy to run statistical procedures for hypothesis testing due to the large sample size. Data were missing at random with no observed patterns. Thus, the decision was made to remove incomplete cases from the analysis. In total, 96 cases were removed, which represents roughly 4.3% of all cases.

Data Analysis

Multiple different analysis techniques were utilized. Independent-sample *t*-tests are used to test Hypotheses 1a, 1b, 2a, 2b 2c, and 2d. Hierarchical regression was used to test Hypothesis 3, and linear regression was used to test Hypothesis 4. Accordingly, when any individual effect is being reported, please note that it should be assumed that all other entered variables are being held constant.

CHAPTER 5

RESULTS

Data Preparation

Of 5225 invited employees, 2230 responded, which represents a response rate of 42.7%. Total scores were computed for distributive, procedural, and informational justice by the addition of the raw scores for each sub-dimension. An exploratory analysis was conducted on the total justice scores to examine the normality of the distribution. Guidelines on limits of normality vary from the use of fixed rules of thumb (George & Mallery, 2016; Tabachnick & Fidell, 2018) to the use of significance testing using z-scores (Field, 2013; Howell, 2012). However, Field (2013) noted that significance tests should not be used in large samples (like this study) because they are likely to be significant even though distributions approach normality. Tabachnick and Fidell (2018) recommend a range from + 1.5 to -1.5 for skewness and kurtosis to be considered normal. George and Mallery (2016) recommend a range of + 2.0 to -2.0. Skewness and kurtosis for all three total scores stayed within these limits, with kurtosis of -1.15 for distributive justice being the most extreme value. A visual inspection of the histograms displays a normal-looking distribution for procedural and informational justice with a high concentration of higher values at the top end of the distribution. The distribution of distributive justice shows a more even distribution across response ranges.

Q-Q plots do not show any information that would lead to the conclusion that the distribution of normality is an issue. Kolmogorov-Smirnov and Shapiro-Wilk tests both returned significant, indicating non-normal solutions. Despite these results, independent sample t-tests were used to assess Hypotheses 1a, 1b, and 2a, 2b, 2c, and 2d because these tests of normality are reactive to larger sample sizes and because t-tests are considered to be robust when larger samples are used (Field, Miles, & Field, 2012).

The absence of outliers was assessed by computing a Mahalanobis distance for each case, using informational and procedural justice as dependent variables, and by running a chi-square test on the Mahalanobis distance values to determine the *p* level. Per recommendation by Tabachnick and Fidell (2018), a critical value $p < 0.001$ was applied to create a cutoff. Cases that violated the threshold for either procedural or informational justice were removed from the data. As a result, 94 cases were removed.

Multicollinearity was assessed by assessing the variance inflation factors (VIF) for all continuous, independent variables used in this study. Across the literature, a wide array of recommendations is given for acceptable VIF values, ranging from five to 15. In the analysis for Multicollinearity, no VIF value exceeded 4.32. Thus, no multicollinearity was detected (see Table 3).

Homoscedasticity was assessed by examining the residuals on a scatterplot. From the observation, residuals are evenly distributed across a regression line. Thus, it can be concluded that the assumption of homoscedasticity is met (Tabachnick & Fidell, 2018).

Table 3

Mean, Standard Deviation and Correlations of Observed and Latent Constructs and Covariates

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Conversation Content																
1. Market Range 1	3.66	1.03	-	0.67*	0.67*	0.66*	0.54*	0.53*	0.45*	0.43*	0.40*	0.28*	0.38*	0.38*	0.20*	0.12*
2. Market Range 2	3.23	1.23	0.67*	-	0.83*	0.71*	0.49*	0.67*	0.52*	0.55*	0.51*	0.34*	0.47*	0.49*	0.25*	0.17*
3. Market Range 3	3.07	1.24	0.67*	0.83*	-	0.82*	0.52*	0.64*	0.52*	0.51*	0.48*	0.32*	0.44*	0.44*	0.26*	0.19*
4. Market Range 4	3.31	1.20	0.66*	0.71*	0.82*	-	0.57*	0.58*	0.52*	0.50*	0.49*	0.37*	0.46*	0.46*	0.27*	0.15*
5. Total Rewards	3.76	1.22	0.54*	0.49*	0.52*	0.57*	-	0.50*	0.43*	0.46*	0.40*	0.27*	0.38*	0.38*	0.22*	0.13*
6. Decision Factors	3.44	1.22	0.53*	0.67*	0.64*	0.58*	0.50*	-	0.74*	0.72*	0.68*	0.48*	0.61*	0.64*	0.33*	0.23*
7. Performance	3.57	1.22	0.45*	0.52*	0.52*	0.52*	0.43*	0.74*	-	0.71*	0.74*	0.63*	0.69*	0.72*	0.35*	0.24*
8. Ask Questions	3.77	1.17	0.43*	0.55*	0.51*	0.50*	0.46*	0.72*	0.71*	-	0.79*	0.55*	0.71*	0.70*	0.34*	0.25*
9. Answ. Questions	3.48	1.31	0.40*	0.51*	0.48*	0.49*	0.40*	0.68*	0.74*	0.79*	-	0.67*	0.76*	0.76*	0.40*	0.29*
Covariates																
10. Distributive Justice	6.42	2.69	0.28*	0.34*	0.32*	0.37*	0.27*	0.48*	0.63*	0.55*	0.67*	-	0.79*	0.78*	0.40*	0.30*
Outcome Variables																
11. Procedural Justice	7.01	2.34	0.38*	0.47*	0.44*	0.46*	0.38*	0.61*	0.69*	0.71*	0.76*	0.79*	-	0.88*	0.44*	0.23*
12. Informational Justice	7.24	2.42	0.38*	0.49*	0.44*	0.46*	0.38*	0.64*	0.72*	0.70*	0.76*	0.78*	0.88*	-	0.42*	0.33*
13. Engagement	20.78	3.31	0.20*	0.25*	0.26*	0.27*	0.22*	0.33*	0.35*	0.34*	0.40*	0.40*	0.44*	0.42*	-	0.66*
14. Intend to Stay	4.33	0.88	0.12*	0.17*	0.19*	0.15*	0.13*	0.23*	0.24*	0.25*	0.29*	0.30*	0.23*	0.33*	0.66*	-

*$p < .001$; Nmin = 1731; Nmax = 2037

Conversation Impact on Perceptions of Procedural and Informational Justice

An independent sample t-test was used to evaluate whether manager conversations had an impact on perceptions of procedural and informational justice. There was a significant difference in procedural justice perception scores between employees who did (M = 7.14, SD = 2.26), and did not (M = 4.01, SD = 2.11) receive an annual pay conversation with their manager, t (2109) = 12.99, $p < .001$. The equal variance was assumed as Leven's test was not significant. Effect size was found to be very large (d = 1.43) using Sawilowsky's (2009) criteria (very small d = 0.1, small d = 0.2, medium d = 0.5, large d = 0.8, very large d = 1.2, huge d = 2.0) that meaningfully expand Cohen's (1988) original suggested interpretation. These results suggest that having a manager conversation is associated with higher perceptions of procedural justice. Hypothesis 1a was supported.

For informational justice, there was a significant difference in justice perception scores between employees who did (M = 7.38, SD = 2.32), and did not (M = 4.16, SD = 2.48) receive an annual pay conversation with their manager, t (2116) = 12.90, $p < .001$. The equal variance was assumed as Leven's test was not significant. The effect size was found to be very large (d = 1.34) (Sawilowsky, 2009). These results suggest that having a manager conversation is associated with higher perceptions of informational justice. Thus, Hypothesis 1b was supported.

An independent sample t-test was used to evaluate whether receiving compensation statements affected employees that did not have manager conversations on perceptions of procedural and informational justice. There was a significant difference in procedural justice perception scores between employees who did (M = 4.67, SD = 2.30),

and did not (M = 3.64, SD = 1.92) receive a compensation statement, t (89) = 2.29, p < 0.05. The equal variance was assumed as Levene's test was not significant. The effect size was found to be moderate (d = 0.49) (Sawilowsky, 2009). These results suggest that just receiving a compensation statement without actually having a manager conversation positively influences perceptions of procedural justice (see Table 4). Thus, Hypothesis 2a was supported. Effects on informational justice, however, returned nonsignificant Hypothesis 2b was not supported.

Table 4

N-size, Mean, Standard Deviation of Hypothesis 1

Variable	*Manager Conversation Yes/No*	*n*	*M*	*SD*
Procedural Justice	Yes	2020	7.14	2.26
	No	91	4.01	2.11
Informational Justice	Yes	2027	7.38	2.32
	No	91	4.16	2.48

An independent sample t-test was used to evaluate whether receiving compensation statements affected employees that had manager conversations on perceptions of procedural and informational justice. There was a significant difference in procedural justice perception scores between employees who did (M = 7.26, SD = 2.21), and did not (M = 5.97, SD = 2.39) receive a compensation statement, t (2018) = 7.36, p < .001. The equal variance was assumed as Leven's test was not significant. The effect size was found to be moderate (d = 0.56) (Sawilowsky, 2009). Hypothesis 2c was supported.

There was also a significant difference in informational justice perception scores between employees who did (M = 7.51, SD = 2.25), and did not (M = 5.98, SD = 2.54)

receive a compensation statement, t (204.80) = 7.80, $p < .001$. Leven's test was significant, so equal variance was not assumed. The observed effect size was found to be moderate (d = 0.64) (Sawilowsky, 2009). Hypothesis 2d was supported. Receiving a compensation statement while having a manager conversation does moderately influence perceptions of informational and procedural justice.

Conversation Quality and Perceptions of Procedural and Informational Justice

Two two-stage hierarchical regressions were conducted to assess whether manager conversation quality influences perceptions of procedural and informational justice, controlling for distributive justice. Conversation quality consists of nine items developed to reflect the recommended topics and best practices. Distributive justice was entered in Step 1 as a control variable, followed by the conversation quality items in Step 2. Items were not aggregated since their creation was purely based on recommended topics and best practices provided by the compensation department and are not part of a validated scale.

For procedural justice, the hierarchical regression showed that distributive justice contributed significantly to the regression model (F (1, 1966) = 3192.37, p< 0.001), and accounted for 61.9% of the variation in perceptions of procedural justice. Adding the conversation quality items to the regression explained an additional 13.4% of the variation. This change was significant (F (10, 1957) = 595.07, p< 0.001). Thus, conversation quality positively influenced procedural justice perceptions of employees regarding the pay decision. However, out of nine conversation quality items, only four

items returned significant. Hypothesis 3a was supported. See Table 5 for full regression results.

For informational justice, the results of the hierarchical regression showed similar results. Once again, distributive justice contributed significantly to perceptions of informational justice (F (1, 1971) = 2943.54, p< .001), and explained 59.9% of the variance. Adding the conversation quality items added 15.0% of the explained variance. The increase was significant (F (10, 1962) = 585.96, p< .001). Thus, conversation quality positively influenced perceptions of informational justice. Out of the nine conversation items, six items returned, showing significance. Given the results, Hypothesis 3b was also supported. See Table 6 for full regression results.

Table 5

Hierarchical Regression Results of Procedural Justice

		Unstandardized coefficients		*Standardized coefficients*					
Step	*Predictor*	*B*	*SE*	*ß*	*p*	R^2	R^2 *change*	*F*	*p*
1						.619	.619	3192.37	.000***
	Distributive Justice	.407	.013	.481	.000***				
2						.751	.134	595.07	.000***
	1. Market Range 1	.001	.037	.001	.973				
	2. Market Range 2	.111	.040	.060	.006**				
	3. Market Range 3	-.077	.046	-.042	.095				
	4. Market Range 4	.049	.040	.026	.217				
	5. Total Rewards	.048	.027	.260	.074				
	6. Decision Factors	.019	.039	.010	.672				
	7. Performance	.099	.038	.053	.009**				
	8. Ask Questions	.444	.040	.230	.000***				
	9. Answ. Questions	.302	.038	.038	.000***				

Outcome: Procedural Justice, *N* = 1967, SE = Standard Error of B. * = p<.05, ** = p<.01, *** = p<.001

Table 6

Hierarchical Regression Results of Informational Justice

		Unstandardized coefficients		*Standardized coefficients*					
Step	*Predictor*	*B*	*SE*	*ß*	*p*	R^2	R^2 *change*	*F*	*p*
1						.599	.599	2943.535	.000***
	Distributive Justice	.379	.012	.774	.000***				
2						.748	.150	585.960	.000***
	1. Market Range 1	-.180	.038	-.008	.636				
	2. Market Range 2	.163	.041	.086	.000***				
	3. Market Range 3	-.156	.047	-.063	.001**				
	4. Market Range 4	.055	.041	.028	.185				
	5. Total Rewards	.012	.028	.006	.681				
	6. Decision Factors	.160	.040	.084	.000***				
	7. Performance	.239	.039	.125	.000***				
	8. Ask Questions	.294	.041	.148	.000***				
	9. Answ. Questions	.338	.039	.191	.000***				

Outcome: Informational Justice, N = 1972, SE = Standard Error of B. * = p<.05, ** = p<.01, *** = p<.001

Overall Perceptions of Justice and Organizational Outcomes

Perceptions of distributive, procedural, and informational justice were aggregated into one organizational justice score by creating a sum of each item. Since each dimension of organizational justice was measured with two items, distributive, procedural, and informational justice are represented equally in the overall score. This procedure was supported by evidence from the confirmatory factor analysis; after the inclusion of a higher-order factor to the measurement model, the fit indices did not change.

Scientifically, the procedure is supported by findings from Colquitt and Shaw (2005). They demonstrated that each of the four justice dimensions has a strong factor loading when aggregated to a latent "organizational justice" construct. While few studies had used organizational justice in this fashion (e.g., Liao, 2007) Fassina, Jones, and Uggerslev (2008) noted that such an approach would be feasible if the focus of the prediction is on the shared justice variance in an outcome, as it is the case for Hypothesis 4 (Colquitt, 2012)

Linear regression was conducted to investigate the relationship between perceptions of organizational justice and the organizational engagement variable as defined by the company. The regression was significant (F (1, 1788) = 443.88, p< .001). Overall, perceptions of organizational justice explained 19.8% of the variance in engagement. Hypothesis 4a was supported.

Additionally, a linear regression was used to examine the relationship between organizational justice and intent to stay. The regression was significant

(F (1, 1788) = 238.99, p< .001). Overall, perceptions of organizational justice explained 11.7% in variance in intent to stay. Thus, Hypothesis 4b was also supported.

CHAPTER 6

DISCUSSION

Implications

Results empirically showed that manager/employee pay conversations are a useful tool to positively influence employees' perceptions about the base-pay increase process and the information they receive. Perceptions of informational and procedural justice of employees without a conversation was substantially lower, as demonstrated by the large effect size. The number of employees without a conversation was small, with roughly 5% being affected, but it still seems like a missed opportunity that warrants a closer look. One potential explanation for managers not having a conversation with their employees could be the avoidance of having to communicate negative news, or not seeing the need to have a conversation if the pay does not change at all.

Actual pay increases, expressed in percentile, were formed into nine groups to evaluate this hypothesis; Group 1 received little to no increase, and Group 9 received more than a 5% increase. The distribution revealed that for employees without a conversation, 41.1% received either no or very little pay increase while the percentage is 20.4% for employees that had a conversation. The finding provides further support for the hypothesis that some managers either avoid or do not see the need to have a conversation when no or little increase is given. However, alternative explanations

cannot be excluded from the evidence presented. It is also possible that managers were unable to schedule time, had employees on leave of absences, or that other circumstances prevented a conversation. In those cases, we would expect the distribution across pay-increase groups to be approaching the distribution of the overall population. The fact that the group that makes for the least desirable conversation is heavily over-represented speaks to a non-random component within the data. The evidence of this study suggests that not having a manager-/employee conversation is a missed opportunity: When the data is filtered for employees in increase Group 1, only *t*-tests still reveal a significant, strong effect for procedural justice ($d = 1.02$) and informational justice ($d = 0.89$). Thus, managers should have a pay conversation even when the decision itself is unfavorable for the employee.

Another important client question centers around recommended talking points and best practices that are provided to managers, and whether those items are useful in influencing employees' perceptions. For procedural justice, only four out of nine recommended topics & best practices were significant in influencing employees' perceptions. Specifically, whether employees were able to ask questions and whether those questions were answered satisfactorily had the most significant impact, followed by the explanation of how individual performance factored into the ultimate base-pay decision. Recommended topics and best practices that aimed at explaining the new changes and guardrails of the compensation system to employees were mostly nonsignificant. Only the explanation of the new market-range metric, which was also part of the compensation statement, was significant. From a procedural justice perspective, these results seem to make sense: three of the six Leventhal criteria (Leventhal, 1980) of

procedural justice are involvement in the decision-making, consistency of procedures, and bias suppression (Colquitt et al., 2001). While involvement in the decision-making is relatively unlikely, having the opportunity to ask questions and having these questions answered clarifies the procedure and provides the employee with the relevant information to decide whether consistency and unbiased decision-making occurred. Additionally, it provides an opportunity to the employee to voice his or her feelings of the decision, which fosters acceptance of the process which is the 4th of the six Leventhal criteria (Leventhal, 1980; Leventhal et al., 1980) for procedures to be perceived as fair.

For informational justice, six out of nine recommended topics and best practices were significant. Similar to procedural justice, asking questions, and having questions answered satisfactorily were the strongest predictors, followed by understanding how individual performance factored into the base-pay decision. Additionally, having all the factors that went into the base-pay decision explained was a significant predictor as well as the explanation of market ranges. This new information also appears on the compensation statement. One item, self-evaluation of the understanding of the concept of market ranges, was a significant negative predictor. While a possible explanation could be that understanding the metric well could potentially raise more questions about its computations, which introduces more awareness of potential shortcomings, it is more likely that this could be a sign of a suppression effect (Tabachnick & Fidell, 2018). A simple correlation between this item and procedural justice was positive and thus in direct conflict to the results from the regression.

From a statistical perspective, using nine predictors in the same step of a hierarchical regression is not without problems. The concern is that predictors cause a

suppression effect where some predictors suppress variance that is otherwise unrelated to the dependent variable. One indicator of a suppression effect is a sign of a regression weight of a predictor that is the opposite of what one would expect (Tabachnick & Fidell, 2018). Such indicators are observed in Predictor 1 for procedural justice, and Predictor 1 and 3 for informational justice, although correlations for both variables with the outcome are positive. Additionally, Predictor 3 is significant for procedural justice. To appropriately address the concern, all recommended topics, and best practices around market ranges were aggregated to one factor. This aggregation seems justifiable since the aggregated variables stem from the same content space. Reliability analysis revealed that Cronbach alphas for these four variables were quite good ($\alpha = 0.915$). On top, confirmatory factor analysis was used to assess whether variables indeed tab into the same content space. The goodness of fit indices were all within the recommended ranges for Hu and Bentler (1999), except for the RMSEA for issues already discussed (CFI = .985, TLI = .955, SRMR = .020, RMSEA = .142). Thus, the regression analysis was rerun with this aggregated predictor, limiting the numbers of predictors added in Step 2 from nine to five. The overall results of the regression did not change. For individual predictors, the new combined market range variable was significant for procedural justice ($p < 0.05$) with beta weights that were quite small ($B = 0.020$; $ß = 0.037$). While small effects can have a significant impact in a large organization, this result should be interpreted with caution because a p-value of just below 0.05 with ample statistical power from the sample size of +2000 observations seems insufficient to have full confidence in the result.

For informational justice, the new aggregated market range variable was not significant. The reason this approach was not chosen for the primary analysis if the study is connected to client reporting concerns. This research aimed at providing the client with a comprehensive picture of which recommended topics and best practices support the goal of positively influencing employee's fairness perceptions of the process. Reporting back to the client on an aggregated predictor is potentially more ambiguous to report, to explain, and potentially raises more questions, so the approach with nine predictors was chosen.

Similar concerns also influenced a different research-design decision of this study. Hypotheses 2a, 2b, 2c, and 2d were analyzed using several independent *t*-tests. In psychological research, a MANOVA would be more appropriate in this situation. Due to the complexity of conducting and reporting a MANOVA, specifically in the organizational context, the approach, as mentioned above, was chosen. However, a MANOVA offers greater statistical power over multiple independent t-tests, so the decision was made to re-evaluate results from Hypothesis 2 using the more sophisticated statistical analysis. Results of the two-way MANOVA showed a significant effect on manager conversations on procedural and informational justice (see Table 7). The effects of the compensation statement were nonsignificant. The interaction effect of the manager conversation and the compensation statement was nonsignificant as well. The likely conclusion is that the compensation statement does not add positively to the perceptions of procedural and informational justice above and beyond the manager/employee conversation. Post-hoc two-way ANOVAs reveal that the results do not differ for procedural and informational justice. Caution should be exercised in treating these

results as definitive; however, as the sample size for some of the combinations of independent variables is an issue. For example, only 34 employees in the sample received a compensation statement without receiving a manager conversation. Given the observable difference in mean scores demonstrated for Hypothesis 2, the nonsignificant interaction effect of the MANOVA may be a product of low statistical power. An evaluation using GPower (Faul, Erdfelder, Buchner, & Lang; 2009) for post-hoc MANOVA analysis given an error probability of $\alpha = 0.05$ revealed a statistical power of $ß = 0.32$, well below the required threshold of 0.80 recommended by Cohen (1992), confirming inadequate sample size. Thus, the role of the compensation statement cannot be solved conclusively (see Table 7).

Table 7

MANOVA Results

Predictor	λ	*Hypothesis df*	*Error df*	*F*	*Sig.*
Intercept	0.925	2	2098	84.769	0.000*
Conversation_1_0	0.977	2	2098	24.205	0.000*
Statement_1_0	0.998	2	2098	2.257	0.105
Conversation_1_0* Statement_1_0	0.999	2	2098	1.158	0.314

DV: Informational & Procedural Justice, * = p<.001

Recommendations

Based on this research, a handful of recommendations were made to the compensation department. First, we have demonstrated that not having a pay conversation is a lost opportunity to soften the effects of unfavorable pay decisions. Managers who avoid the conversation are not behaving in the best interest of the organization. In more definite terms, they are displaying bad people management

practices. Given the damaging effects of not explaining decisions and practices to employees on organizational engagement and intent to stay, managers need to go out of their way to make these conversations happen. Additionally, the study demonstrated that investing energy and effort into the conversations is worthwhile to boost perceptions even further.

The latest guidelines recommended that managers should focus a reasonable amount of time explaining the changes to the compensation guardrails to employees more carefully. As already explained, most of these recommended topics and best practices have shown to be ineffective in improving employees' perceptions of procedural and informational justice, and thus, making these topics the main focus point does not seem the most effective strategy. Instead, it was recommended that managers summarize the pay-increase system but shift quickly to focus the conversation on explaining the employee's contributions and how they influenced their decision. Additionally, ample time should be given to the employee to ask questions to make sure everything is adequately explained. However, managers need to be prepared to explain the base-pay-increase system in detail when being asked by the employee.

The role of compensation statements as a strategy to elevate employee's perceptions of informational justice couldn't be illuminated conclusively. There are indicators that statements may have a small to medium positive effect on procedural and informational justice perceptions at best or don't contribute anything at worst. Thus, there is no harm in continuing the practice, primarily since statements are automatically generated. As described, there is no consensus in the pay communication literature on whether providing more pay-related information is beneficial or detrimental to an

organization's workforce (Colella et al., 2007). Some of the initial evidence gathered in this study seems to indicate that a moderate increase in transparency may result in more beneficial perceptions of informational justice, even though this statement cannot be conclusively proven with the information at hand.

Follow-Up Research

The results of this study provided the foundation for follow up research that aided the understanding of employee reactions to the annual pay-increase process. For example, detailed results by demographic and organizational variables were provided to the compensation department that enabled them to understand how specific groups that were more affected by the changes to the pay increase responded and whether their responses indeed lead to an increase in turnover. On a more general note, this research proved to the organization that there is value in using the science-practitioner model to make Human Resources a more data-driven operation.

Limitations

The first limitation of the study concerns the measurement of organizational justice. Colquitt (2001) constructed the most widely used scale of organizational justice totaling 16 items to measure distributive, procedural, and informational justice. For reasons explained, the present study only uses two items per factor, thus, deviating substantially from the original instrument. As a consequence, perceptions of distributive, procedural, and informational justice are not fully captured from a scientific perspective. The most obvious case is procedural justice. As discussed, Leventhal (1980) created six criteria for a procedure to be called "fair;" all of them very distinct components. For this

research, only two out of these six criteria were captured in the instrument (accurate information, and opportunity to express views and feelings), leaving four criteria unmeasured. Relative statements regarding employees' perception (e.g., whether they experience an increase, decrease) can be drawn from the research. However, the measure is deficient in making absolute statements on the base-pay-increase process overall. The same, albeit less severe, limitations apply to results for informational and distributive justice. The latter factor is the least affected by these limitations for several reasons. First, the original scale only consists of four items, which makes it the shortest subscale. Second, Colquitt's (2001) confirmatory factor analysis showed that three of the four items have very high, similar factor loadings. From these three items, one was included in our survey together with the fourth item from the original scale that seems to function a bit differently from the other three. Thus, confidence can be had that the two selected items cover a reasonable amount of variance of the full construct.

The second limitation concerns the common method bias for Hypotheses 1 to 3. Common-method bias refers to measurement error that is caused by common-method variance, that is, variance attributable to the measurement of the constructs rather than the constructs themselves (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Results for Hypotheses 1 to 3 may be influenced by this type of bias since they originate from the same survey. Variance Inflation Factor (VIF) values during data preparation showed that multicollinearity assumptions were met within reasonable thresholds. That alone is not enough to exclude the presence of common method bias, a cause of error that is difficult to control for outside of the research design itself (Podsakoff et al., 2003). As a result, care was being exercised during the interpretation of results with small effect sizes,

observable in the discussion of the value of compensation statements (Hypothesis 2), and the role of market range talking points (Hypothesis 3).

Another limitation of the study is the measure of the organizational outcome, engagement. The organization's definition of work engagement differs substantially from suggested definitions provided by the literature (e.g., Kahn, 1990; Macey & Schneider, 2008; Schaufeli et al., 2002). The scale that is used to assess this unique definition of engagement has some material weaknesses such as inconsistent factor loadings, one-item measures for sub-criteria, and lack of variance for some items, among others. These conceptual and practical deficiencies undermine the capability to detect consistent relationships between concepts that should otherwise be (theoretically) related by introducing additional noise into the statistical procedure.

Conclusion

The purpose of this project was to determine whether manager/employee pay conversations are effective in influencing employee's perceptions of procedural and informational justice. The evidence gathered in this study provided substantial support for the effectiveness of the practice and yielded particular conversation content recommendations that support the practice and effort to improve pay conversations in the organization continuously. Additionally, the importance of good pay conversations has been demonstrated by linking justice perceptions to organizational outcomes such as engagement and intent to stay. However, the topic of drivers of successful pay conversations has not been explored to a full extent yet. Future research can expand by finding more conversation-related predictors of procedural and informational justice such

as discretionary manager effort during the conversation, or the communication of other compensation systems.

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APPENDIX A

HUMAN USE APPROVAL LETTER

MEMORANDUM

TO: Mr. Christoph Gloger and Dr. Steven Toaddy

FROM: Dr. Richard Kordal, Director of Intellectual Property & Commercialization (OIPC)
rkordal@latech.edu

SUBJECT: HUMAN USE COMMITTEE REVIEW

DATE: April 2, 2020

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

HUC 20-095

"Christoph Gloger Dissertation"

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

Projects should be renewed annually. ***This approval was finalized on April 2, 2020 and this project will need to receive a continuation review by the IRB if the project continues beyond April 2, 2021.*** **ANY CHANGES** to your protocol procedures, including minor changes, should be reported immediately to the IRB for approval before implementation. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of Sponsored Projects.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Sponsored Projects or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.