

# Understanding the Relationship between Justice and Team Goal Commitment in Virtual Project Teams: An Empirical Investigation

Eric T.K. Lim  
 Segal Graduate School of Business  
 Simon Fraser University  
[etl4@sfu.ca](mailto:etl4@sfu.ca)

Yu-Ting Caisy Hung  
 Department of Information Systems  
 School of Computing  
 National University of Singapore  
[dishyt@nus.edu.sg](mailto:dishyt@nus.edu.sg)

## Abstract

*Virtual project teams are spontaneous group configurations that endeavor to overcome spatial and temporal restrictions in bringing together distant experts to create just-in-time knowledge sharing coalitions. Due to their time-constrained nature and the anonymity among members, we believe that team goal commitment might be a more pertinent factor driving task performance. We hypothesize that members' perceived distributive, interactional, and procedural justice are viable antecedents leading to the inducement of team goal commitment among virtual project team members. A longitudinal field experiment was carried out to test these hypotheses. The results suggest that: (1) distributive justice is a consistently strong predictor of team goal commitment over time; (2) the effect of interactional justice on team goal commitment manifests over time, and; (3) procedural justice has no effect on team goal commitment over time. Implications for both theory and practice are discussed.*

## 1. Introduction

Virtual teams are groups of geographically and/or temporally dispersed individuals brought together via collaborative technologies to create ICT-based "just-in-time knowledge sharing" networks that assimilate localized expertise and proficiencies [43, p.23, 238]. They endow an organization with greater strategic flexibility, expanded informational diversity and enhanced responsiveness to counter sporadic market conditions [19].

Project teams are short-term objective-oriented group configurations comprising skilled members who engage in rigorous deliberation to arrive at complex business decisions [27]. This in turn renders project teams exceedingly amenable to the adoption of ICT to support computer-mediated communication (CMC) [15]. With the growing acknowledgement among management that creative business solutions are often derived from the fusion of geographically scattered proficiencies [41], the formation of virtual project teams within organizations is thus beneficial by: (1) offering affordable and expanded access to distant experts; (2) providing scalability in

coping with the intensity of communication, and; (3) granting social equality in knowledge sharing [4].

Yet, the formation of virtual project teams presents its own challenges [17]. Chaar *et al* [8] suggested that social hurdles should prove to be daunting in employing such teams. The deficiency of social gestures in CMC environments poses a threat to project managers' ability to articulate goals and monitor assigned responsibilities [26], which in turn may potentially erode the level of commitment among virtual project team members.

Prior literature has established commitment as a salient driver of employee performance and satisfaction [48]. Powell [51] reported a strong correlation between team commitment and the dual measures of members' perceptions of goal satisfaction and task performance. While we do not dispute Powell's [51] emphasis on team commitment (i.e., a member's psychological bond tying him/her to the team), exclusive contextual characteristics of virtual project teams warrant an in-depth appreciation of **team goal commitment** as a distinct but equally pertinent concept in advancing the quality of participative decisional outcomes. The lack of social bonds due to spontaneous membership composition and the short-term collaborative nature of virtual project teams contributes to the focus on group objectives. Hence, we argue for team goal commitment as a more germane construct specific to virtual project teams and endeavor to answer the following research question: ***What are the salient factors driving members' team goal commitment in virtual project teams?***

## 2. Theoretical Foundation

Virtual project teams comprise members who have been assembled via ICT to address a specific business purpose through a series of intense digitized meetings [20]. Participants are selected on the basis of skill proficiencies to brainstorm and develop blueprints for sophisticated business problems [27] to create sustainable competitive capabilities [5]. Similar to Malhotra *et al* [43], we explicate virtual project teams in terms of its unique characteristics:

1. Main objective of the team is predefined to guide the recruitment of members but a substantial degree of latitude is accorded for the establishment of auxiliary goals as well as for the determination of the means by which to attain these targets;
2. Roles may be assigned at outset but are mostly decided through group dynamics, and;
3. Communication norms and the fostering of shared understanding may be inducted at the beginning but will likely evolve through ongoing computer-mediated social interactions.

## 2.1 Goal Commitment in Virtual Project Teams

Within strategic management literature, goals have prevailed as an integral and pervasive construct among modern theories of motivation that emphasize self-regulation [29]. Specifically, the task-goal theory, which depicts the relationship between task performance and goal setting [39], is crucial to appreciating the consensual goal-driven nature of virtual project teams.

A fundamental premise posited by the task-goal theory is that under certain conditions, specific and difficult goals can lead to higher levels of performance relative to vague or easy ones [52]. For this goal-performance relationship to hold, an individual's "commitment to that specific, difficult goal" [38] is a necessary precondition. Additionally, research within the task-goal domain has further revealed substantial boosts to productivity under participatory goal setting conditions [32, 65]. Therefore, inasmuch as virtual project teams are motivated primarily by consensually derived goals [27], the task-goal theory is instrumental in comprehending the relationship between team goals and performance.

Goal commitment is defined as the determination to try for a goal and the persistence in pursuing it over time [40]. This implies that the presence of goal commitment will automatically translate to an unwillingness of an individual to lower or abandon the goal [7]. The theoretical significance of goal commitment is clarified by Locke *et al* [39], who concluded from a review of extant literature, that "it is virtually axiomatic that if there is no commitment to goals, then goal setting will not work" (p.23).

Goal commitment should be distinguished from the seemingly synonymous concept of goal acceptance [39]. Goal acceptance generally refers to an individual's agreement with a prescribed course of action whereas goal commitment, as defined above, is conceived as the broader notion depicting one's attachment or resolution to reach a goal regardless of its origin [39]. It is thus probable for an individual "to initially accept a difficult goal and yet not demonstrate subsequent commitment to that goal over time" [21, p.212]. Latham and Yukl's [31] illustrated that goal achievement is more substantial in participative than in assigned conditions because

employees' involvement in the goal setting process may possibly induce a boost in their commitment to achieving the goal [31].

Given the capacity of goal commitment in engendering focus on goal attainment, we define *team goal commitment* as *the extent to which an individual is willing to voluntarily contribute towards the accomplishment of the goal of the collective body to the best of his or her capabilities* and postulate that it exists as a robust construct in mitigating the eventual performance of virtual project teams. The pertinence of communicating and institutionalizing team goal commitment among members of virtual project teams is best conveyed by Beranek *et al* [4]:

*"Team leaders must establish and document both a clear project mission and a priority-level commitment with upper-management and the team participants. All of the team members should understand what constitutes project success and share the common goal of achieving that end. If goal alignment is not formally established among team members, individuals tend to pursue different priorities and virtual projects often fail...A person's attraction to a group is connected to his/her assessment of the consequences of group participation. That, in turn, is linked to how clearly the nature of the group and its goals were delineated, how likely it is that the goal will be achieved, and how closely the characteristics of the group match the person's needs and values."* (p.250-251)

## 2.2 A Social Exchange Perspective of Justice and Team Goal Commitment in Virtual Project Teams

Tan *et al* [60] posited that the process of creating and sharing knowledge entails the exchange of tangible and intangible social resources among the parties involved because knowledge in itself is a valuable commodity to be 'traded'. Knowledge contributions can lead individuals to perceive a loss of control within the organization [18], but concurrently, they may serve to enhance contributors' image or reputation among peers and colleagues [3].

Because knowledge creation and sharing resides as the centrepiece of virtual project teams [20], it is viable to further extrapolate that relationships among members assume resource-based interactions such as those emphasized in the Social Exchange Theory (SET). Unlike economic transactions, knowledge exchanges function on the principle of *delayed reciprocity* whereby people do others a favour with an expectation of some future return but with no clear indication of its exact nature [25]. Though in such situations where altruism is a much sought-after virtue, Cook and Emerson [11] countered that individuals share a tendency to be opportunistic by manipulating others to acquire partisan gains or resources so long as such exploitations are not constrained by equity or justice mechanisms. The existence of unenforceable

psychological contracts [28] on reciprocal knowledge sharing agreements among individual members of virtual project teams thus invites the manifestation of justice measures to curb the realization of personal agendas.

Masterson *et al* [45] recommended the induction of justice measures to govern the derivation of outcomes within social exchange relationships. Managerial scholars have popularized the notion of justice as a means by which to induce perceptions of fairness in individuals through shaping one's thoughts, feelings and actions [64]. Investigative evidence has also pegged justice as an antecedent to organizational citizenship, satisfaction and group cooperation [63] – the very behaviors that are in sync with our conception of team goal commitment.

Justice is a multi-dimensional construct that includes three conceptually distinct dimensions – *distributive*, *interactional*, and *procedural* justice [10]. Adapting these concepts to virtual project teams, we define: (1) distributive justice as the extent to which an individual perceives outcome allocation among team members to be comparable to the amount of effort expended; (2) interactional justice as the extent to which an individual perceives he/she has been fairly treated by other team members, and; (3) procedural justice as the extent to which an individual perceives that structural controls are in place to ensure democracy in team deliberations [10].

Much of the pioneering research into *distributive justice* was extended from the work of Adams [1]. According to Adams, people are less concerned with the absolute magnitude of outcomes per se but are more particular about the commensuration of those outcomes relative to one's contributions [see also 53]. Whereas Adams advocated an equity principle to outcome allocation, other rules have also been recommended such as those based on equality or needs [33, 16]. Naturally, the presence of distributive justice may have a pre-emptive effect on alleviating initial worries among virtual project team members on possible ambiguities with regards to reimbursements associated with team and individual performances [see also 36], thereby suggesting a positive relationship between distributive justice and commitment [47].

**H1** An individual member's perceived distributive justice positively influences his/her team goal commitment in a virtual project team.

Bies and Moag [6] hypothesized that individuals' judgment of fairness is founded on the quality of interpersonal treatment received during the execution of procedures—a notion they labeled as *interactional justice*. Some, however, contested that interactional justice should be encompassed in the broader construct of procedural justice arguing either that interactional components such as structural elements impact procedural justice [13] or that interpersonal and structural variables are complementary and thus inseparable [62]. But as

countered by Masterson *et al* [45], individuals' "attributions for the source of interactional justice perceptions tend to generalize to the person carrying out the interpersonal treatment, and that procedural justice perceptions tend to generalize to the entity to which the procedures are attributable" (p. 739). Interpersonal empathy is a valuable commodity in virtual project teams in bridging estranged social relationships [4]. It fosters awareness and mutual understanding of the constraints confronting individual members especially when adverse circumstances beyond the control of the individuals were to surface. Nonetheless, interpersonal empathy can only be bred through respect and congeniality, which calls into question the influence of interactional justice. In other words, interactional justice should have a positive influence on team goal commitment in virtual project teams by nurturing interpersonal empathy to counterveil the impact of negative attribution on psychological contracts among virtual project team members. Existing empirical studies also offer reinforcing evidence of the applicability of interactional justice measures in the prediction of commitment tendencies [42, 44].

**H2** An individual member's perceived interactional justice positively influences his/her team goal commitment in a virtual project team.

*Procedural justice*, as originally conceptualized by Thibaut and Walker [61], refers to structural elements such as process control and opportunities for voice as major deterrents against exploitative power utilization in order to cultivate a perceived sense of equality among individuals. Schroth and Shah [54] suggest that "people look to procedures to assess their value by the group, organization, or authority using the authority" (p.463). Consequently, fair procedures lead to positive feelings about oneself because they signify respect by the group or authority that enacts the procedure whereas unfair procedures will lead to negative feelings about oneself as they indicate low regard by the group or authority [37]. Lane [30] proposed that procedural justice is often interpreted by the individual as an implicit evaluation of his/her worth by the collective body. Clearly, procedural justice is applicable to virtual project teams where promises assume the form of unquantifiable knowledge contributions. Not only does procedural justice offer some sort of assurance that members' individualistic contributions are not being neglected by the collective entity [54], it also enhances the visibility of one's effort towards accomplishing the mission of the collective body. Indeed, empirical findings illustrated that individual perceptions of procedural justice were positively related to commitment [44].

**H3** An individual member's perceived procedural justice positively influences his/her team goal commitment in a virtual project team.

### 3. Methodology

The hypothesized relationships were tested in a longitudinal field experimental setting for several reasons. As Cooper and Schindler [12] noted, experimentation studies involve an intervention by the researcher that goes beyond what is required for measurement. Field experimentation techniques thus contribute to MIS research in that they enable the development of models based on data collected in natural, and hence more generalizable, settings for studying phenomena that could not easily be replicated in a laboratory setting [66]. Furthermore, the research design offers a limited degree of experimental control, which might be useful for theory testing [66]. Considering the pragmatism of virtual project teams, a fitting investigative strategy is necessary to derive more insightful intuition into how justice perceptions influence the dependent variable of team goal commitment [57]. Because time may also alter the relationship among variables as discussed earlier [2], we opt for a longitudinal design to examine the temporal validity of our hypotheses.

The longitudinal field experiment was conducted in conjunction with a class project for an undergraduate module in an Asian university. The module accentuates strategic applications of ICT and is a compulsory course offered to undergraduates pursuing a degree in MIS. As part of the course credit, enrolled students are expected to complete a group assignment that necessitates the application of concepts and theories introduced in the module to solve various business problems. Further, it is a mandatory course requirement that this assignment was to be tackled in an anonymous virtual project team environment over a two-week period in order to expose students to the constraints and realities of working in today's modern companies. Such a setting in turn, is palatable to the context and purpose of this study.

#### 3.1 Scale Development

Scale items extracted from extant literature were utilized to measure the various constructs hypothesized in this study with minor adaptations. Measurements for team goal commitment together with the three dimensions of distributive, interactional and procedural justice were adapted with specific emphasis on items that demonstrated good psychometric properties [50], i.e. the scale only incorporated measurements which exhibit adequate reliability [Cronbach's  $\alpha > .80$ ] and sufficient construct validity in prior empirical inquiries [6].

To verify construct validity and evaluate the extent to which the elicited measurement items adequately tap on their corresponding latent variables, a round of labelled card sorting was conducted with a panel of selected judges comprising 5 postgraduate students who are either familiar with the topic of virtual project teams or, at the very least, have done research in the realm of MIS [49].

Each judge was presented with the 4 primary constructs and their definitions together with a randomly sorted list of reflective items. The judges were then instructed to assign each item to one of the constructs or to an 'ambiguous' category if they were unsure of its placement. Hit ratios averaged 88.5% and can be interpreted as a good indication of construct validity for the adapted measurement items<sup>1</sup> [49].

#### 3.2 Justice Manipulations

Given our research objective, manipulating low perceptions of justice would defeat the purpose of embracing a field experimental methodology because it is inconceivable for organizations to initiate virtual project teams with little regard for intra-group impartiality [4]. Instead, we opt to concentrate on inducing enhanced perceptions of justice among members so as to establish a formal basis for verifying our primary hypotheses.

For the manipulation of high procedural justice, distinction was made between general working and conflict resolution guidelines in keeping with Leventhal's [34] criteria, i.e. the prescribed general working and conflict resolution guidelines should: (a) be applied consistently across people and time; (b) be free of biases; (c) ensure that accurate information is collected and utilized in making decisions; (d) enclose mechanisms to correct flawed or inaccurate decisions; (e) conform to personal or prevailing standards of ethics or morality, and; (f) offer assurance that the opinions of parties affected by the decision have been accorded due attention. Whereas the general guidelines for working as a virtual project team govern the format of discussion, conflict resolution guidelines offer structured instructions on the sequence of steps to be taken in managing disagreements and reconciling dissenting opinions within the community [4].

For the manipulation of high interactional justice, a set of communication etiquette was advocated to encourage a congenial and deferential interactional environment [6]. Finally, for the manipulation of high distributive justice, project grading was partitioned into individual and group components. Concise grading criteria were meted out to offer virtual project team members with a comprehensible synopsis of how group-level assessments will be gauged by a panel of independent judges assembled from both academic and practitioner circles [33]. Additionally, virtual project team members were made aware that confidential peer-evaluation forms will be distributed upon project completion to enable participants to assess each of their peers on the quality of his/her contribution towards the accomplishment of the group mission and that responses from these peer-evaluation forms will be

<sup>1</sup> Due to space constraints, the list of measurement items is not included in this paper, but it can be made available upon request to the corresponding author at [et14@sfu.ca](mailto:et14@sfu.ca).

utilized to adjust the grades students receive for the project.

To validate our manipulations, the manipulated instructions together with the measurement items for the justice dimensions were combined to create an online survey instrument for pre-testing purposes. Given the predominantly Internet-savvy target audience, an electronic survey would be the most suitable option [56]. Students, who are not registered for the module, were recruited and promised a reward of \$5 in compensation for their assistance in the pre-test. In total, 20 pre-test subjects were solicited. Each respondent was instructed to go through the guidelines contrived for the various justice manipulations before responding to the measurement items. Because an online questionnaire is also planned for the actual field experiment in light of the anonymity of virtual project teams, these pre-test subjects serve a dual role in affirming the clarity of the survey instructions because there will not be any face-to-face communication between the researcher and the target audience. From the pre-test, our justice manipulations appear to be substantiated with reported means of above 5 and standard deviations hovering around 1. This implies that in general, the pre-test respondents agree that the prescribed guidelines induce perceptions of justice with tolerable fluctuation in opinions as exemplified by the relatively small standard deviation. Feedback from the pre-test subjects was utilized to refine the measurement items such that they synchronize with our justice manipulations.

### 3.3 Experimental Design

The lack of anonymity may be a potential confound in this study. As described above, the fostering of team goal commitment via justice mechanisms may serve to mitigate delinquent behaviours among members within virtual project teams by inducing single-minded focus on group objectives despite the predominance of estranged relationships [22]. Nonetheless, if members were to be acquainted with one another prior to the formation of virtual project teams, the successful accomplishment of the group mission may be relationally driven to the extent to which neither team goal commitment nor justice mechanisms are likely to be instrumental to its achievement. Therefore, to prevent virtual project team members from initiating face-to-face contact in a collocated environment, a series of measures were undertaken. First, dummy hotmail accounts were created and assigned to each subject. These hotmail accounts were intended specifically for correspondences among virtual project team members with regards to any project-related matters. The randomly generated userids for the hotmail accounts also serve as the only form of identification for members within a virtual project team and participants were cautioned that correspondences may

be monitored in order to further discourage the disclosure of real identities. Finally, to ensure that virtual project team members will not come to recognize one another via transmissions of audio and/or visual cues, CMC functions facilitating synchronous voice conversations and video conferences were removed from the technologies in use for the experiment.

To complement the course credit as a motivational factor in driving virtual project team members to derive quality solutions, the course assignment was simultaneously structured as a case competition in which members of the top three teams with the highest grades collectively assessed by a panel of judges independent of the research stood to win cash prizes of \$30, \$20 and \$10 respectively. Due to time constraints imposed by the module, it is imperative to ensure that the experimental subjects are well-equipped for group discussions the minute the virtual project teams convene. Consequently, the experiment was organized in a manner that compels individual subjects to perform autonomous research into the business problem before convening with other virtual project team members. This will guarantee that whenever the virtual project teams convene, the time allocated will not be wasted on unprepared members.

Each experimental subject was given a unique ID for accessing: (1) a detailed case competition timeline; (2) general working and conflict resolution guidelines; (3) first segment of the business case, and; (3) discussion questions for the individual report. Upon submission of a one-page individual report, the actual experiment then commenced by furnishing each subject with: (1) the IDs of his/her teammates and (2) an exclusive hotmail account together with its corresponding password. Subjects were also given discussion questions for their first group report. Upon the submission of the five-page group report due by week 1, they were directed to an URL containing the online survey. Participation in the online survey is completely voluntary, but the completion counted toward one tutorial attendance for the module. On the very next day, subjects were distributed the second segment of the business case and another set of discussion questions for the final group report. Upon submission of the second and final five-page Group Report due by week 2, the URL for the second online survey was announced to the subjects. As was the practice with the first survey, completion of the voluntary online survey counted towards another tutorial attendance for the course. Peer-evaluation forms were then made available to the team members, and subjects were instructed to return them to the course instructor. A de-brief was conducted approximately one month later to present key findings of the experiment to participating students and to award winners with the appropriate prizes.

Table 1. Descriptive Statistics of Latent Constructs

Latent Construct	Week 1 (N = 76)		Week 2 (N = 71)		Combined Data (N = 147)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
<b>Procedural Justice (PJ)</b>	5.27	0.81	5.20	1.04	5.24	0.93
<b>Interactional Justice (IJ)</b>	5.66	0.81	5.68	0.78	5.67	0.80
<b>Distributive Justice (DJ)</b>	5.12	1.13	4.79	1.41	4.96	1.28
<b>Team Goal Commitment (TGC)</b>	5.17	0.98	5.04	1.03	5.11	1.00

#### 4. Data Analysis

A total of 76 students participated in the experiment. They were assigned to virtual project teams consisting of 4-5 members. All 76 subjects completed the experiment and responded to both online surveys, thereby eliminating potential biases due to either attrition or non-responses. For both surveys, repeated and homogeneous responses<sup>2</sup> were removed, yielding 76 and 71 data points for week 1 and week 2, respectively. Table 1 depicts the descriptive statistics for the latent constructs.

Table 2. Inter-Construct Correlation Matrix

	PJ	IJ	DJ	TGC
<b>Procedural Justice (PJ)</b>	<b>.95</b>			
<b>Interactional Justice (IJ)</b>	.15	<b>.92</b>		
<b>Distributive Justice (DJ)</b>	.19	.53	<b>.96</b>	
<b>Team Goal Commitment (TGC)</b>	.08	.40	.50	<b>.90</b>

Exploratory Factor Analysis (EFA) was performed to examine the construct validities of the indicators using the combined sample of 147 data points<sup>3</sup>. From the EFA, indicators displaying exceedingly high inter-item correlations and relatively equal loadings across multiple latent constructs were dropped. Reliabilities for the latent constructs are deemed acceptable as they exceed .80 (see Table 2).

Data analysis was conducted with the Multivariate Moderated Regression (MMR) analytical technique on *standardized* scores for the *remaining* indicator variables. The equally weighted standardized indicator scores [9] were averaged for each constructs. The scores for procedural justice (PJ), Interactional Justice (IJ), and Distributive Justice (DJ) were regressed onto team goal commitment (TGC) for both survey data sets (Week 1 and Week 2) was carried out to test the hypotheses.

<sup>2</sup> Repeated responses refer to duplicate entries for a single respondent whereas homogeneous responses are those for which the standard deviation across all measurement items amount to *zero*, i.e. there is no variance recorded across constructs.

<sup>3</sup> Since the indicator variables reveal good psychometric properties, it is reasonable to presume that these measures will remain stable over time [50]. For parsimony, it is sensible to merge data points from both online questionnaires for EFA.

As we understand that team members may develop relationships and get familiar with the task and technology over time and these developments may have impacts on team interaction, we also conduct an identical analysis on within-subject differences (i.e., the difference between week 1 and week 2) across samples over time<sup>4</sup> [e.g., 14] to see the effects of time on these relationships. This exploratory analysis is to observe the trends of changes and sustainability of the three perceived justice dimensions (PJ, IJ, and DJ) and their impacts on team goal commitment (TGC).

Multicollinearity was not a concern in these analyses because: (1) none of the bivariate correlations were above .90 [59]; (2) tolerance values averaged more than .50, and; (3) the maximum variance inflation factor (VIF) was 3.00 and well below the prescriptive diagnostic of 5.0 or 10.0 [46]. Table 3 summarizes the analytical results.

#### 5. Discussion and Implications

##### 5.1 Effect of Procedural Justice

Procedural justice does not influence team goal commitment either at week 1 or at week 2. This is counter-intuitive to extant justice literature in which there is substantial evidence alleging to the pivotal function of procedural justice in fostering commitment within collective communities [e.g., 53]. Numerous studies have alluded to the applicability of procedural justice under circumstances whereby the phenomenon of interest centers on system-referenced outcomes (e.g., commitment) [10]. Therefore, contrary to the overwhelming support for a positive relationship between procedural justice and commitment, this research reveals that procedural justice may not significantly alter members' team goal commitment in virtual project teams.

A plausible reason for this finding may be traced to the inherent nature of virtual project teams. Virtual project teams are just-in-time knowledge sharing networks that emphasize adaptability through spatial and temporal

<sup>4</sup> Because 5 records were removed from the second survey due to data runs, longitudinal variation in variable scores were obtained by computing within-subject differences between the first and second surveys to yield a temporally consistent sample of 71 data points for multivariate regression analysis.

independency [4]. Indeed, virtual project teams are characterized by members working under autonomous conditions interspaced with sporadic episodes of intense group discussions, which rely heavily on ICT for communication and coordination [24]. Consequently, the institutionalization of structural controls may impose a layer of rigidity that undermines the flexibility of virtual project teams to accommodate individual constraints, thereby accounting for the absence of a statistically significant relationship between procedural justice and

team goal commitment. In other words, there is the distinct possibility that the prescribed procedures were too stringent and have been inflated beyond the ‘optimal level’ necessary for maintaining democracy within virtual project teams without sacrificing flexibility. For instance, in the context of this investigation, students attend courses beyond just this particular module such that instilling procedure controls may actually conflict with the sensitivity of virtual project teams to individual timetables in accomplishing the collaborative group assignment.

Table 3. Summary of Results for the Effects of Distributive, Interactional and Procedural Justices on Team Goal Commitment

Main Effects	Week 1 (N = 76)		Week 2 (N = 71)		Within-Subject Differences (N = 71)
	$R^2 = .248$ [ $F_{(3, 72)} = 7.929, p = .000$ ]		$R^2 = .368$ [ $F_{(3, 67)} = 12.987, p = .000$ ]		$R^2 = .259$ [ $F_{(3, 72)} = 7.791, p = .000$ ]
	Beta	Support	Beta	Support	Beta
Procedural Justice (PJ)	-.094	Not Supported	-.009	Not Supported	-.300
Interactional Justice (IJ)	.154	Not Supported	.401*	Supported	.291†
Distributive Justice (DJ)	.342**	Supported	.301**	Supported	.324**

\*\* Correlation is significant at the .01 level; \* Correlation is significant at the .05 level; † Correlation is significant at the .10 level

### 5.2 Effect of Interactional Justice

The relationship between interactional justice and team goal commitment is not statistically significant in week 1 but becomes statistically significant in week 2. This suggests that the positive influence of interactional justice on team goal commitment increases in strength over time. This deduction can also be corroborated by the statistically significant positive relationship between interactional justice and team goal commitment for within-subject differences, i.e. temporal variations in members’ team goal commitment can be attributed to corresponding changes in perceptions of interactional justice over time. Finding a positive relationship between interactional justice and team goal commitment is not a surprising discovery for this investigation given the pre-existence of prior research, which substantiated the impact of interactional justice on team goal commitment [e.g., 44]. What is fascinating from our research is the observation that the effect of interactional justice on team goal commitment only becomes salient over time. That is, virtual project team members tend to attach greater importance to the need for congeniality and respect as the assignment draws nearer to its designated deadline.

Another way of interpreting the findings for within-subject differences is that deferential treatment in virtual project teams deteriorates temporally, thereby causing members to appeal for congeniality during group discussions. Lim and Tan [35] hinted at a logical explanation for this phenomenon in positing that individuals possess an intrinsic character of *conflict avoidance* to the extent to which participants collaborating on group-oriented tasks share a stronger preference for self-censorship behavior at initial phases of

cooperation [see also 60]. Automatically, such desires for conflict avoidance nurture a cordial atmosphere for interaction, which may nullified the role of interactional justice. But as rightfully pointed out by Lim and Tan [35], self-censorship behavior comprises the quality of knowledge contribution, which may become more of a hindrance to the fulfillment of psychological contracts as the deadline for solving the problem approaches [see also 60]. Arguably, as the project submission deadline looms, virtual project team members could be pressured to perform such that they are less conscientious of their reactions when communicating with others. Furthermore, the short lifespan of typical virtual project team setup may not have allowed members to achieve consensus in their interpretation of the prescribed communication protocols and etiquette [27]. Consequently, the quality of interpersonal treatment may suffer, thereby prompting virtual project team members to place greater emphasis on interactional justice as evidenced by its statistically significant relationship with team goal commitment for within-subject differences.

### 5.3 Effect of Distributive Justice

The positive relationship between distributive justice and team goal commitment is statistically significant for both week 1 and week 2. This implies that distributive justice is a strong predictor of team goal commitment across time. Nevertheless, the predictive power of distributive justice on team goal commitment is not a temporal constant. As illustrated by the statistically significant relationship between distributive justice and team goal commitment for within-subject differences, longitudinal disparities in team goal commitment levels can be traced to perceptual variations in distributive

justice over time, i.e. the criticality of distributive justice increases in saliency as the project nears completion. To a certain extent, our findings coincide with pre-existing empirical evidence advocating a positive relationship between distributive justice and commitment [e.g., 53].

Interestingly enough, while McFarlin and Sweeney [47] acknowledged the impact of distributive justice on team goal commitment, they maintained that distributive justice is inferior to procedural justice in predicting collective outcomes whereas the reverse is true for personal ones [58]. Naturally, this begs the question as to why we witness a statistically significant relationship between distributive justice and team goal commitment despite the statistically insignificant effect of procedural justice. Perhaps the rationale for this observation resides in the delineation of the compensatory reward (i.e. project grade) into personal and group components such that the presence of distributive justice will guarantee an equitable outcome distribution, which not only reflects the quality of collaboration for the virtual project team, but also resonates with one's individual contribution [36]. In addition, as virtual project teams are task-oriented and outcome-driven [4], the emphasis by members on the equity of the payoff structure may be especially salient in shaping their team goal commitment. Whereas procedural justice dissuades virtual project team members from engaging in psychological contracts by imposing environmental restraints, distributive justice builds confidence in psychological contracts by securing commensurable compensation for every participant. It can be inferred from the increasing emphasis on distributive justice that virtual project team members were probably better informed in gauging their own contribution to the accomplishment of the task and thus, could adjust their commitment accordingly.

## 6. Conclusion

While virtual project teams have become part and parcel of modern management, there is still much to learn regarding how to structure the group to optimize its performance. This study offers a preliminary glimpse into an alternate source of intrinsic motivation that may be harnessed by managers to attain the aforementioned objective. Though goal commitment is not unfamiliar to management, its application to virtual collaboration has been rare if not non-existence. This research is thus founded on the conviction that team goal commitment, together with other forms of social motivation presented by past researchers, may bring organizations one step closer to maximizing the merits of virtual collaboration while simultaneously, avoiding the social pitfalls stemming from its inadequate support of social gestures.

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