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## MANAGEMENT | RESEARCH ARTICLE

# Role difference and negativity bias relevance in strategy review: An experiment

Jesica Handoko<sup>1\*</sup>, I Made Narsa<sup>2</sup> and Basuki Basuki<sup>2</sup>

**Abstract:** This study aims to examine whether there are differences between set roles when reviewing strategy execution in two new regions, especially when the initial period performance achievement is below target. This judgment differences will be explained through attribution theory and negativity bias theory. The 2 x 2 x 2 mixed-subject experimental research design was held during the Covid 19 pandemic involving the assigned roles (as an evaluator or evaluatee), Balanced Scorecard performance achievement (corporate performance indicators below target or above target), and regional managers. The sample consisted of graduate students from the universities in Surabaya who had passed their academic requirement courses and voluntarily participated through web-based media. The research data obtained was analyzed using repeated-measure ANOVA. One hundred and thirty-two participants passed the manipulation check questions and were processed in order to answer the question posed. The results show that there are differences between the structural roles and also when the corporate performance indicators are below target. The evaluator's negative bias is also higher than that of the evaluatee. These findings confirm the relevance of attribution theory and negative bias theory, but the correlation test shows that evaluators also consider external attributes when making strategy reviews. Overall, there is a misalignment between the decision-makers, especially when the performance is in a state of fluctuation.

### ABOUT THE AUTHOR

Jesica Handoko is a student of *Doctoral Program in Accounting of Airlangga University Surabaya*. She is also a lecturer at the Department of Accounting, the Business Faculty of Widya Mandala Catholic University in Surabaya. Her research interest are in the areas of management accounting, behavioral accounting and strategic management. I Made Narsa is a Professor at the Department of Accounting, the Economic and Business Faculty of Airlangga University in Surabaya. His research interest are in the areas of management accounting, auditing and experimental research. Basuki is a Professor at the Department of Accounting, the Economic and Business Faculty of Airlangga University in Surabaya. His research interest are in the areas of management accounting and qualitative research.

### PUBLIC INTEREST STATEMENT

This study aims to see whether there is a difference in judgment especially between structural roles, and when there is a negative performance achievement in BSc implementation. During pandemic months, fluctuative performance achievement tend to happen in organizations and it could demotivate member of organization because evaluator role tend to use different attributes compare to evaluatee when they made feedback. Testing and observe the decision makers behaviors is interested to conduct through experimental research.

The results obtained turned out to be quite interesting for organizations or management team. From this result they get the benefits to adjust it in their respective organizations, especially during pandemic months.

**Subjects:** Work & Organizational Psychology; Cognitive Psychology; Business, Management and Accounting

**Keywords:** Role; performance achievement; strategy review; balanced scorecard; attribution theory; negativity bias theory

## 1. Introduction

Zheng (2020) states that the management should support its employees during the Covid-19 pandemic as needed. Here the leader or management should be able to provide a sense of stability, empowerment and inclusion. This can include showing them appreciation, making an effort to support them individually, involving the employees in decision-making, entrusting the employees with new responsibilities and providing both space and time for the bonding of the team. These are all forms of support that can be provided (Zheng, 2020). In practice, this effort is more difficult because as an evaluator, the management will always be involved in evaluating, reviewing and making various decisions based on their subordinate's performance, especially when their performance is fluctuating. The evaluator's decision does not always align with what the evaluatee's perception is from the perspective of the actor observer effect (Carson et al., 2020; Hewett et al., 2018; Yelderman et al., 2020).

Judgment differences can potentially cause misalignment, especially when implementing a popular and complex strategic management system such as the balanced scorecard (BSc) (Rigby & Bilodeau, 2015). Alignment between the units in an organization is needed because the units often share consumers and resources (Kaplan & Norton, 2006), which is followed by performance achievement evaluations and feedback from the evaluators. According to attribution theory, when implementing a control system, it proposes that there will be differences in the decisions made between the superiors as evaluators and the subordinates as evaluators (Shields et al., 1981). Hewett et al. (2018) stated that these differences could be because of the observer-actor effect potential caused by the differences in the attributes being used to explain an outcome or achievement. Disalignment arises because the evaluatees tend to focus on situational cues such as attractions or constraints in the environment whereas the evaluators tend to focus more on the evaluatee's internal attributes.

The existence of this cognitive bias in the BSc implementation built by Lipe and Salterio (2000) concludes that evaluators tend to use common measures when assessing their subordinates' performance. The next studies can be divided into the judgment by evaluators (Banker et al., 2004; Cheng & Humphreys, 2012; Dilla & Steinbart, 2005; Humphreys & Trotman, 2011; Johnson et al., 2014; Kaplan et al., 2012; Kasingku & Goedono, 2017; Libby et al., 2004; Liedtka et al., 2008; Long et al., 2015; Roberts et al., 2004) or the judgment by the evaluatees (Capelo & Dias, 2009; Humphreys et al., 2016; Tayler, 2010). There are a few experimental studies that test whether there is a difference between the evaluators and evaluatees when utilizing BSc performance information.

The objective of this research was to test whether there are any differences between evaluatees and evaluators when reviewing the corporate strategies executed in their unit businesses, especially when there are fluctuating BSc performance achievements. The evaluators' cognitive difficulties are still empirically supported (Kaplan et al., 2012, 2018) but comparing whether the evaluatee (actor) has the same difficulty and whether there are differences in the attributes used by the different roles is still relevant, even during the Covid-19 pandemic. We provide three reasons that support our study's position. First, this study aims to provide empirical evidence for the management showing that in a pandemic, decision-making does not become easier, especially when companies use complex management systems. The difference in the evaluator's decision from the point of view of the evaluatee could demotivate the evaluatee when it comes to implementing strategies and pursuing the firm's objectives. Secondly, this study provides empirical evidence showing that evaluators also consider external attributes. This is consistent with Long et al. (2015). This evidence suggests that there need to be efforts to balance out the

evaluators' relative weighting of a set of BSc measures in order to avoid the evaluator tendency to disregard the evaluatee's capability and responsibility. Third, this experiment study provides empirical evidence showing that fluctuating performance achievements, especially under-target achievements, are likely to occur in the current conditions with a negative bias effect.

The contributions of this study are threefold. First, the present study contributes to explaining the relevance of the actor-observer differences by focusing on the evaluator and evaluatee judgments when there are fluctuating BSc achievements. It contributes to both theory and practice regarding the design and implementation of a strategic performance management system that has consequences on both the evaluator and/or evaluatee's behavior. Secondly, the present study contributes to reconfirming (Kaplan et al., 2012, 2018) the suggestions on the vividness of negativity bias. BSc designers need to be aware of the evaluators' tendency to weight the performance measures too heavily when the target was not met. Third, this study has expanded the work of Johnson et al. (2014) by considering the timeline in multiple performance measurement decision-making. The timeline information was given to each role, and it correlates significantly with the role variable. This means that the timeline information given to the participants is considered in their decision-making.

This paper begins with a review of the pertinent literature in relation to balanced scorecards, roles and attribution theory, the different performance measures and negativity bias theory. Next, the hypotheses were developed in detail. The research design and experimental methodology were then described before presenting the results. Finally, the research results were discussed again and the implications for the management can be determined. We concluded with a discussion tailored to the implications for both theory and practice as well as the limitations and suggestions for future research directions.

## 2. Background

In general, business units implement the intended strategy, whether that has been chosen by corporate management or determined by the business unit itself. When implementing various strategies, business units will share resources with the corporation and strive to show their best performance in order to get rewards and a greater allocation of resources in accordance with the planned strategy. When their performance does not meet the target, generally the corporate management will conduct a review which is generally in the form of a revision of the strategy in the upcoming period. The performance measurement system will assist the managers in tracking the implementation of the strategy and present the performance results in the form of feedback reports (Simons, 2000).

According to Kaplan and Norton (2006), the Balanced Scorecard (BSc) not only functions as a performance measurement system. The Balanced Scorecard (BSc) is a strategic management tool that is widely used and researched (Hoque, 2014; Rigby & Bilodeau, 2015) in manufacturing companies (Sanchez-Marquez et al., 2020), banking services (Bazrkar et al., 2017) and various other industries in the business world globally (Rigby & Bilodeau, 2015, 2018). As a strategic management tool, BSc is able to align various corporate strategies and the units under it (Kaplan et al., 2012). When there is an alignment of the corporate strategies or interests, business units and other supporting units, the company as a whole will be able to achieve the best managerial performance. With BSc, it is assumed that the performance evaluation and the giving of feedback will be able to achieve any theoretical goals, specifically to assist the management in adapting and learning (Simons, 2000). Strategy reviews as a form of feedback need to be done with careful consideration because it is an adaptive action which then prompts emerging strategies. Strategy reviews also have the potential to create organizational blocks due to disagreements with the strategic change decisions made, especially when the impact of the initial strategy implementation focuses more on the long-term.

The present study continues the work of Johnson et al. (2014) who proposed that there were differences in the strategy review judgment arising between the different managerial roles (evaluator and evaluatee) in the first period after the implementation of BSc. According to Johnson et al. (2014), to be relevant, the implementation of the BSc strategy requires information about the implementation timeline. When the time lag is known, the decision makers will not focus on financial measures only. Their decisions will be more oriented towards long-term performance measures. The research design by Johnson et al. (2014), even though they have included time lagging elements, indicates that they assume that the visualization of the strategy map is only for measures related to corporate strategy. This can be implied as a partial implementation of BSc or low-benefit users (Kaplan & Norton, 2006). Even though all BSc performance measures in a business unit are connected to the corporate strategy as well as to the business unit strategies to achieve high-end benefits, it is suspected that there are still differences in the strategy review judgments, especially when there is a below target performance achievement. This difference is explained by the actor-observer locus of causality and the consistency of negativity bias theory. Kaplan et al. (2012) and Kaplan et al. (2018) found there to be a negativity bias when the evaluators evaluated the underperforming evaluatees' performance even though the negative performance was indicated by BSc measures that were not strategic (non-strategically linked measures). This study proposes that there is a greater negative bias effect on the evaluator's role, which places more of an emphasis on the internal attributes of the subordinates (Shields et al., 1981).

The results of the present study involving 132 Masters students who have passed the academic requirements and manipulation checks show that there are differences in the corporate strategy review between the different roles, namely as either corporate management or business unit managers. The distinctions in the strategy review also occur when the performance achievements are different, especially the performance achievements of the corporate BSc measures below the target. The findings of this study also prove that there is a stronger negative bias for the evaluators than for the evaluatees when their performance is below the target. Furthermore, it was found that there was an attribute inconsistency as described by Shields et al. (1981). The relevance of actor-observer effects needs to be retested to determine the broader consistency of the results.

### 3. Theoretical literature review

#### 3.1. Balanced scorecard

Since Kaplan and Norton (1992) introduced the Balanced Scorecard (BSc), BSc has been widely used by various companies in developed and developing countries. It is even included as one of the 10 strategic management tools (Rigby & Bilodeau, 2018). BSc, which focuses on the financial perspective, customer perspective, internal business perspective as well as the learning and growth perspective as a management performance measurement tool, can overcome the weaknesses of traditional performance measurement tools by focusing on financial measures only (Capelo & Dias, 2009). In its development, Chenhall and Moers (2015) stated that BSc has evolved from a set of financial and non-financial measures into a mechanism for developing and implementing strategies. In addition, BSc directs attention to the stakeholders and not only the shareholders. BSc also releases the main focus from being on financial matters, which are generally not a priority for non-profit organizations (Chenhall & Moers, 2015).

BSc translates the company's mission and strategy into operational objectives and measures which are integrated into the four perspectives above. According to Atkinson et al. (2012), companies will be able to track the results of their financial performance as well as monitor whether they are able to achieve growth and profitability in the future (through non-financial measures). This is because the non-financial measures of BSc are the leading indicators of future performance, and they are related to one another. Although interrelated, the four BSc perspectives should be viewed as a "template" (Kaplan & Norton, 1996). Each organization wishing to adopt and implement the BSc can develop or replace the four existing perspectives with perspectives that it

considers to be the company's key success factors. Kalender and Vayvay (2016), for example, think that sustainability is a suitable perspective to add to the BSC in modern entities to emphasize social, environmental and economic performance. To be powerful, BSc can be simplified as needed, such as when using either a systemic methodology (Sanchez-Marquez et al., 2020) or the total quality model (Bazrkar et al., 2017).

To gain the optimum benefits of BSc, an alignment between the corporate management and the units or sub-units below is needed (Kaplan & Norton, 2006). Alignment arises when the corporation plays an active role in identifying and coordinating the various opportunities available to integrate the behavior of the various decentralized units. A business unit is also said to be aligned with the corporation if, in the BSc implementation, the business unit contributes to corporate-level synergies, combines the corporate themes with its BSc, and integrates and coordinates with other business units for other sources of value creation (Kaplan & Norton, 2006). In simple terms, the BSc business unit integrates the corporate performance measures as well as the unique performance measures of the business unit in a causal relationship in accordance with the company's value creation strategy.

Previous experimental research has been focused on strategically linked BSc measures but they have not been comprehensive (Bartlett et al., 2014; Cheng & Humphreys, 2012; Humphreys et al., 2016; Humphreys & Trotman, 2011). The study does not explicitly show the causal relationship of corporate strategy across the business unit BSc performance measures. The present research emphasizes the scenario that there has been an alignment of the various BSc business unit measures related to the corporate strategy and the unique strategy of the business unit itself. Even though there is an agreement between the corporate strategy and the unique strategy of the business unit in the BSc business unit, it is suspected that there are still differences in the strategy review when the outcome of a time period does not match the target according to both the evaluator and the evaluatee.

### **3.2. Role and attribution theory**

Nuijten et al. (2018) proved that different roles in the same organizational units will have different views about a task. In the context of information technology (IT), for example, IT managers and IT auditors in the same financial institution do not necessarily have the same perception of an IT-related risk. The study by Nuijten et al. (2018) proved the consistency of the previous findings (Liu et al., 2010) which showed that there were differences in the perceptions between senior managers and project managers. In terms of evaluating the financial decisions, Bryce et al. (2020) also found that independent directors also experience different perceptions than the stakeholders, where they tend to be under-evaluated regarding the financial decisions made. This difference in the judgment of the various roles is consistent with attribution theory which suspects the differences in judgment to be due to the differences in the locus of causality of each role. Attribution theory is thought to be relevant to the many decisions made both on a small organizational scale (for example, regarding family conflicts) and those made in relation to various managerial decisions (Carson et al., 2020).

Regarding the context of management control systems, Shields et al. (1981) described the logic of attribution theory as being due to the possibility of unclear or definite outputs. Each role is expected to use the available information to predict the causes of the outputs. Each conclusion about this cause is not only down to the information used but also down to the role of the decision maker as either an actor or observer. There are differences in the mental processes or individual conditions, or behaviors caused by the different management accounting practices, including when individuals or decision makers play the role of either superior or subordinate (Birnberg et al., 2006). Actors are thought to attribute their actions to external causes whereas observers tend to attribute the actions of others to internal causes. The ten items of internal or external attributes according to (Shields et al., 1981) include attributes attached to task ease, effort, leadership ability, decision-making ability, intrinsic motivation, extrinsic motivation, the ability to cooperate with their subordinates/other parties, the efforts of their subordinates/other parties, the capabilities of their subordinates/other parties and the validity of the performance measurement process. Tasks, efforts, leadership abilities, decision-making abilities, and intrinsic



motivation are grouped as internal attributes, whereas the last 5 attributes are external attributes. The tendency of evaluators to use internal attributes and evaluatees to use external attributes shows a bias called the actor-observer effect (Hewett et al., 2018). According to Carson et al. (2020), external attributes tend to be uncontrollable compared to internal attributes which are relatively stable.

This study focuses on the differences in strategic review judgments between the corporate management (evaluator) and business unit managers (evaluatee). It is suspected that there will be an actor-observer (evaluator-evaluatee) effect because there is a tendency to use a different locus of causality by the evaluators and the evaluatee. Research on differences in the context of BSc implementation is important to observe because the implementation of the BSc as a whole is an implementation of a modern management system with long-term and costly consequences (Farrell et al., 2012; Johnson et al., 2014). Kaplan and Norton (2006) encouraged the importance of the achievement of organizational alignment between the corporate and various other business units, supporting units, external partners and board members. Failure to achieve the alignment benefits can arise when the organizational management (evaluator) is unable to motivate the organizational actors (evaluatee) using decisions that are not in accordance with their expectations. In the context of a management crisis, when observers are able to understand the different attributes of the actors involved in crisis management, then will the evaluation related to responsibility, sympathy and organizational citizenship and behavior be more aligned between the two parties (Carson et al., 2020).

### **3.3. Negativity bias**

The results of the strategy execution are generally reflected in the performance outcomes that consist of both financial and non-financial performances. There are various benefits of performance measurement systems including evaluating the performance of managers, employees and operating units, allocating various resources the most productive and most profitable opportunities, and providing feedback to find out whether the company has made progress and has been able to meet the expectations of its consumers and shareholders alike (Atkinson et al., 2012).

As a performance measurement system that combines financial and non-financial performances, BSc has complexities when used as a management control tool. Both profit and non-financial performance measures have been proven to be weighted differently by decision makers when they are not provided with very specific guidance. As an early experimental research example, Lipe and Salterio (2000) found that there is a level of neglect in the use of unique measures that are poorly understood by evaluators as decision makers. Evaluators tend to rely more on general measures which are easier to understand and compare. Kaplan et al. (2012) continued the research of Lipe and Salterio (2000) in the context of BSc performance measures below the target to determine whether there was a negative bias. Kaplan et al. (2012) found that when there is negative information, the evaluator's assessment tends to be more negative (negativity bias). The relevance of this negativity bias also arises when the performance measures being evaluated are strategically linked measures (Kaplan et al., 2018).

Negativity bias is the tendency for an action unit to produce a greater change in output in negative motivational systems compared to positive motivational systems (Kaplan et al., 2012). In other words, negative cues are given more weight than positive or favorable indications. According to Skowronski and Carlston (1989), negative bias can be explained by expectancy-contrast theories. This contrast effect is related to a stimulus that is perceived as more extreme than it should be due to the comparison of the stimulus with a standard or internal reference point. In many cases, the point of perception or psychological anchor lies in the range of judgment which ends on a positive scale. When someone is exposed to people with positive characteristics, their perceptual anchor will shift towards the positive ending of the judgment-evaluating scale. However, when there is a negative stimulation (deviation from this scale), individuals with negative characteristics will be perceived as more negative than the perceptual anchor (contrast effect). Baumeister et al. (2001) also underlined that negative information has greater power in various impressions.

Bad is stronger than good, or in other words, negativity bias seems to be a psychological principle in everyday life and in empirical results (Baumeister et al., 2001; Corns, 2018). Negativity bias is one of the sub-fields of psychology that has been the focus of modern management accounting research (Wibbeke & Lachmann, 2020). Negativity bias arises when there is relative performance information that encourages comparisons. When there is negative information, there will be a distorting effect.

In the previous BSc experimental research, the empirical research supports the negativity bias theory stating that when there is negative performance, it is where the evaluator will have a tendency to place more weight on the negative information (Baumeister et al., 2001) and/or show a stronger negative assessment (Kaplan et al., 2012, 2018; Wong-On-Wing et al., 2007). The research by Kaplan et al. (2012) did not examine negativity bias from the evaluatee perspective, so this study will replicate and develop the research of Kaplan et al. (2012) to find out which negativity bias is stronger, whether it is related to the role of the evaluator or that of the evaluatee. This experimental research will also manipulate the information on the performance achievements of the BSc given to the experimental subjects, namely the performance achievements below and above the target. Performance achievements above the intended target refer to the corporate performance measures set by the corporation for new business units. They show better results than the performance measures set by the unique strategies of the business unit.

#### **4. Empirical literature review and hypotheses development**

##### **4.1. Role difference in strategy review**

According to Yelderman et al. (2020), actor-observer effects can be found in various types of differences in relation to decisions, explanations and roles. The difference between the two roles arises because the actors focus on situational cues such as attractions or constraints in the environment when coordinating their behavior, so it appears that the actors behave in response to said cues (Carson et al., 2020). On the other hand, observers focus more on the behavior of the actor, meaning that the observers may perceive the actor's behavior as a manifestation of the actor. As a result, observers perceive that the cause of an actor's behavior is due to their traits or innate qualities. This difference in actor-observer judgments can be caused by the amount of information (both in nature and level) that they possess compared to the actors or the perceived control over the available outcomes (Yelderman et al., 2020).

The locus of causality can be attributed to internal (ability, effort) or external (task difficulty, luck, etc.) attributes but the conclusion about which cause is chosen depends on the role of the decision maker (Birnberg et al., 2006; Hewett et al., 2018). This experimental research focuses on the topic of implementing BSc to prove the presence of differences between roles. Previous BSc experimental research has mostly focused on the cognitive aspects of evaluators in relation to performance evaluation (Banker et al., 2004; Bartlett et al., 2014; Cheng & Humphreys, 2012; Dilla & Steinbart, 2005; Humphreys & Trotman, 2011; Kaplan et al., 2012, 2018; Libby et al., 2004; Liedtka et al., 2008; Lipe & Salterio, 2000). From the evaluatee's side, in several BSc experimental studies, there has been a focus on decision-making related to resource allocation (Capelo & Dias, 2009; Humphreys et al., 2016), strategy evaluation (Tayler, 2010) and performance self-evaluation (Wong-On-Wing et al., 2007).

For the BSc research, a few have examined the differences between roles such as Wong-On-Wing et al. (2007). They predict that the top management (evaluators) who are not asked to be involved in assessing the effectiveness of the strategies will cause conflicts between themselves and their managers. This is known as division (evaluatee). This conflict arises because of the failure of the top management to consider the effectiveness of the strategy in their performance evaluation. In terms of the relationship between the corporate strategy that is executed by the units under it, it has not been studied much by previous researchers. It is important to prove these differences because successful BSc implementation requires alignment requirements between the different roles, contrary to the differences between the two caused by their differences in the use



of attributes. The current experimental research will examine the different structural roles of the evaluator and evaluatee.

The difference in roles is expected to lead to different strategy review decisions. This is because each structural role uses different attributes as stated previously. From the explanation above, the following hypothesis will be tested:

H<sub>1</sub>: There are differences in the strategy review decisions between the subjects who act as evaluators and evaluatees, where evaluators will tend to revise strategies when reviewing strategies compared to evaluatees.

#### **4.2. Performance achievement effect in strategy review**

Negativity bias is the tendency for an action unit to produce a larger change in output in a negative motivational system. In other words, negative cues are given more weight than positive or favorable indications (Kaplan et al., 2012, 2018). According to Lalwani (2006), positive or negative effects or stimuli can at least be explained in terms of expectancy-contrast theories. In this theory, in the various dimensions of judgment (related to people, brands, objects and life), there are many psychological anchors located in the range of judgment which end on a positive scale. Negative stimulations are a deviation from this scale and generally get more of an emphasis, which outweighs the positive stimulation as a result.

Kaplan et al. (2012) found that evaluators will consider strategic measures when the performance of their subordinates exceeds the target and when it does not. In addition, Kaplan et al. (2012) also found a negativity bias. This is when there is a negative performance of the strategic measures compared to when the performance of the non-strategic measures is worse. The results of this study are consistent with the theories of Skowronski and Carlston (1989) and Lalwani (2006) in that negative performance achievement cues are considered to be more informative. They will be weighted more by the research subjects as a result. Several other studies have also confirmed the existence of negativity bias when there is an under-target achievement (Long et al., 2015; Wong-On-Wing et al., 2007).

In the context of this study, bias due to negative cues refers to the under-target performance. It is suspected that when there is performance below the target, the evaluatee will make strategic revisions when the time dimension for achieving the goal is longer. Kaplan et al. (2012), Lalwani (2006), and Skowronski and Carlston (1989) concluded that there are differences in the response to the target and to the performance achievement. When the performance is below the target, there is a tendency for negative bias to arise which results in a greater or more extreme weighting of cues. From this explanation, the following hypothesis will be tested:

H<sub>2</sub>: There were differences in the strategy review decisions when the previous period's performance was either above the target or below the target.

In a performance management system, differences between the roles arise because of the differences in responsibility. The superiors (evaluators) are responsible for performance evaluations while their subordinates (evaluatee) are responsible for task performance (Birnberg et al., 1977). When there is an achievement, this starts the attainment behavior (achievement) of both parties, regardless of whether it is interpreted as a success or failure. After the output is classified, these people will use the available information (such as the probability of success of the task, their knowledge of the task being performed, etc.) to engage in causal attribution (Birnberg et al., 1977).

Subordinates who experience poor performance tend to attribute this to external causes such as overly difficult tasks, conflicts in their work and their extrinsic motivation (Birnberg et al., 1977; Carson et al., 2020; Yelderman et al., 2020). Attributing the problems to external things will tend to reduce the shame caused by failure, compared to if the subordinates attribute their failure to internal attributes. This will lead to a feeling of giving up. Shields et al. (1981) also found that superior parties attribute the performance of their subordinates to internal matters more. This diverges from the actors who focus more on external factors because they tend to think that an achievement is influenced by things beyond their ability. On the other hand, the superior will tend to see internal causes more often (such as the ability of the subordinate and the history of success of the subordinate in the past) so the difference in attribution between the two parties will lead to conflict. The findings of the actor-observer effect tend to be supported empirically (Yelderman et al., 2020).

From the explanation above, it can be said that when the performance of the subordinates is above the target, it is assumed that the evaluator will provide a positive assessment and support for the evaluatee to continue to execute the corporate strategy in the next period (assuming that there are no significant changes in the business environment). When the performance achievement is positive, it is assumed that the evaluator will align with the evaluatee. Conversely, when the subordinates' performance is below target or negative, it is suspected that the evaluator will pressure his subordinate managers to take more responsibility than they should. They will also ask the manager to review the strategy taken. There is a tendency for the evaluator to doubt the ability of the evaluatee (due to internal reasons or due to the attributes of the evaluatee) to achieve success in the coming period with the strategy that they carry out. This means that he will ask the evaluatee to revise the strategy. In other words, the negative bias of the evaluator will be greater than that of the evaluatee.

The findings of Wong-On-Wing et al. (2007) show that although they underperformed in terms of performance, the evaluatee as an actor attaches more to the situational factors that are not related to the effectiveness of the strategy implementation. In addition, as the main actor when implementing division BSc, the evaluatee knows better in that the successful implementation of BSc is not something that is either instantaneous or short-term. Kaplan and Norton (2004) stated that in practice, it could be that financial performance improvements take 36 months following the implementation of the strategy. From the previous explanation, the following hypotheses will be tested:

H<sub>3a</sub>: When the previous performance achievement was below the target, the evaluator's desire to revise the strategy was higher than the evaluatee's desire

H<sub>3b</sub>: When the previous performance achievement was below the target, the negative bias in the evaluator when he reviewed the strategy was stronger than that of the evaluatee.

## 5. Research design

This experimental research was conducted to test the hypotheses. The data analysis technique in this study used *repeated measure analysis of variance* (Huck, 2012). Partial correlations were also used to test which attributes, according to Shields et al. (1981), are significantly correlated with the participant's decisions. The results of the repeated ANOVA test were used to determine whether there were any differences between the treatment groups in the study. The main effect of the role variable (H<sub>1</sub>), the performance achievement (H<sub>2</sub>) and their interaction (H<sub>3</sub>) will be assessed using the F-value with a significance level of 5%.

### 5.1. Research design and variables

The experimental design developed from the work of Bartlett et al. (2014), Johnson et al. (2014), Kaplan and Norton (2006), and Kaplan et al. (2012) used a 2 × 2 × 2 mixed-subject design. There

were 2 variables between the subjects and 1 within-subject variable. The dual level of the role variable was either as the corporate management (evaluator) or as the business unit manager (evaluatee) related to the 2 areas that implement BSc. The two levels of performance in the previous period were (a) positive corporate performance achievement (above target) and (b) negative corporate performance achievement (below target). For the within-subject variable, there were 2 business unit regions, the East and the West.

The scenario in this experiment focused on the results of strategy implementation in a business unit in 2 regions (East and West). First year performance data was presented using tables and charts including the sixteen performance measures from 4 BSc perspectives. The addition of graphics aimed to reduce the level of participant information overload. According to Hirsch et al. (2015), presenting additional graphics or images improves the quality of the decisions made even though it does not affect the level of confidence when making various decisions. Both Hirsch et al. (2015) and Kasingku & Goedono, (2017) proved that the presentation of additional tables, graphs or images can improve individual decisions.

Kaplan et al. (2012) divided the sixteen BSc measures in their experiment into groups related to the business unit strategy (SBU). For those that were not linked to the business unit strategy, 2 measures each were provided each BSc perspective. In the present study, the sixteen BSc measures were stratified according to the measures associated with corporate strategy (2 measures each at each BSc perspective) and those linked to the business unit strategy (2 measures each at each BSc perspective), adopted from Kaplan and Norton (2006). The task of each role (evaluator and evaluatee) was the same: to review the corporate strategy (the dependent variable) and to assess it on a scale of 0–100 points (not highly recommend to highly recommend).

The review task in this study used Google Forms to reach more participants (b) to indicate the sense of responsibility of each role and the strength of the assessment as done by Lipe and Salterio (2000) and Wong-On-Wing et al. (2007). This aimed to increase the participants' awareness of the importance of strategy effectiveness and (c) to prompt them to complete various questions related to the attributes according to (Shields et al., 1981). This was in addition to checking for manipulation, the demographic details and other closing questions. The ten items (AT1-AT10) included the attributes attached to the performance of the regional managers in the research experiments related to task ease, effort, leadership abilities, decision-making abilities, intrinsic motivation (internal attributes), extrinsic motivation, the ability to cooperate with other managers, subordinate efforts, the abilities of their subordinates/other parties and the validity of the performance measurement process.

### **5.2. Research instrument and research protocol**

Before the experiment was carried out on real participants, first a pilot test (pretest) was carried out. The aim was to find out whether the given case was able to be understood by the participants, whether there was any unclear information, whether the implementation instructions were clear and to determine whether there were any inefficiencies in the allocation of the implementation. In addition, the researchers were able to identify any errors in the design and monitor whether the treatment had been delivered appropriately (Cooper & Schindler, 2014).

The experiment protocol for all participants was conducted online using the Google Forms software. Due to the absence of regular classes during the Covid-19 pandemic in Indonesia since March 2020, the data collection was carried out online by those who meet academic requirements. Even though it was not an in-lab or face-to-face experiment, the online delivery of the instruments still had several advantages (Brandon et al., 2014), namely that it allowed (a) the researcher to randomly assign participants to the research cells, (b) that links to the research materials could be sent via email, website or social media, (c) for the shorter speed in which the data was collected and coded for processing, and (d) for the reaching of difficult populations. The

various advantages of sending the online instrument included being able to increase the external validity. This is often the weakness of experimental research.

All of the participants were assigned randomly to one of 4 cells as part of the random response of the autoreply WhatsApp system that had been set up. The participation of potential participants was voluntary as evidenced by the approval collected in the early stages of the experiment by the participants filling out a form showing their willingness to participate as research respondents. Each participant received a complete Google Form file which contained the following sections: (1) one consent form indicating their willingness participate in the research and (2) one information package containing the business unit information and the questionnaire that must be answered. The information used for briefing and debriefing (opening and closing) was delivered online by the researchers or experimenters, using either WhatsApp or a separate email. The briefing information included the case information and participant's managerial duties, namely making decisions to assess two regional managers who were their direct subordinates or direct subordinates of the business unit manager. In addition to what information needs to be done, it is also indicated the rule that the experiment had to be carried out individually. The debriefing information included a thank you statement, an explanation of the purpose of the research carried out and souvenirs as thanks for participating in the research.

### **5.3. Research sample**

The minimum sample consisted of the students who were Masters in Management or Masters in Accounting from the Faculty of Economics and Business from universities in Surabaya and its surroundings who had taken and passed the Management Accounting or Strategic Management courses. The reason for using this type of participant is that they will be proxied as management: (1) the prospective participant has a sufficient knowledge basis for decision-making and (2) the prospective participant has received academic provisions regarding the balanced scorecard theory. In addition to the consideration of the academic provisions, according to Nahartyo and Utami (2019), the use of students is considered to be appropriate if the researcher only wants to examine the human cognitive processes involved in processing information and making general decisions. The sample also consisted of those who had passed the Master of Management or Masters in Accounting, who were Doctoral students of the Postgraduate Program from the Faculty of Economics and or Business. Khalifeh and Sivabalan (2014) also used a sample of students with a higher level of education than postgraduate students due to the consideration that most of the prospective participants already had work experience and a strong knowledge base. This type of sample is said to have been trained to think like future managers (Khalifeh & Sivabalan, 2014).

Overall there are four treatment groups. The number of participants for each treatment group as recommended by Nahartyo and Utami (2019) ranges from 9–15 people per research cell. Those who are willing will be asked to sign a consent form to participate in the experiment to find out the rights and obligations of the participants agreed by both parties (researcher and participant). Participants' participation is voluntary so that when they receive the material they say they are not willing to participate, they do not need to read and answer experimental cases.

## **6. Empirical results and discussions**

### **6.1. Empirical results**

Overall the research was conducted online using the WhatsApp, WhatsAuto and Google Forms applications. The data collection period was between July to August 2020. This was done by distributing invitations to participate in the experiment to a group of students on the Masters of Management or Masters of Accounting Programs, and to the Doctoral students of the Postgraduate Program from the Faculty of Economics or Business in Surabaya and its surroundings. Permission to disseminate the data via WhatsApp was obtained from several Heads of the Study Program and following the assistance of several colleagues. The participant's voluntary participation was stated by them clicking on the bit.ly link provided and/or filling in the "Willing

to Participate” statement on the Google Forms. The data on the bit.ly website shows that during the data collection period, there were 564 willingness to participate responses and 410 accessible experimental material bitlinks. The experimental materials that were filled in completely totaled 148 (36.1%).

To determine out the subject’s understanding of the manipulation of the research variables in the experiment, there were 3 sentences involving statements that were submitted at the end of the experiment. The first question was related to the role of the participants, specifically whether they were the manager of the business unit (evaluatee) or if they were part of the corporate management (evaluator). The second question was whether the Eastern Region Manager was able to exceed all of the targets for corporate performance measures in his jurisdiction unit. The third question was whether the Western Area Manager was able to exceed all of the targets of both the corporate and business unit performance measures in its jurisdiction unit. The first manipulation check question was a multiple choice question while the second and third questions used a 7-point scale labeled Strongly Disagree (STS) to Strongly Agree (SS). According to the results of the manipulation check questions, the number of samples whose data could be processed was 132 (89.19%).

The final sample is 132 (one hundred and thirty two) participants who are at least S-2 or S-3 students majoring in Accounting or Management or 89.19 percent of the initial sample. Overall, there were 77 women and 55 men who participated in this experiment. Sixty-two people are students of Master of Accounting or Master of Management (47%), 56 of them have passed the Masters Program of S-2 and the rest have passed the Doctoral Program of the Department of Accounting or Management. The mean (standard deviation) for the subject’s age and work experience was 33.56 (10.29) and 7.99 (9.24) years, respectively. Of these, most of the sample fields of study or work are related to Accounting, Auditing or Taxation (62 people or 47%), while the others are scattered in the fields of Finance, Strategic Management or others.

Subject demographic data in the form of gender, educational status, age, and work experience were further analyzed to determine the normality of the distribution of subjects for each cell. The results of the Chi-square test of independence for gender (JK) and educational status (EDUCATION) showed a significance level of above 0.05. The Kolmogorov-Smirnov test results for age (AGE) and work experience (AGE) only partially showed a significance level below 0.05, which is thought to be due to the different educational status of the participants. The analysis of variance test carried out on the demographic variables of gender, educational status (EDUC), and field of interest/work (FIELD) as covariates did not show a significant effect ( $p\text{-value} > 0.05$ ) on the dependent variable.

**Table 1** presents descriptive statistics for each experimental cell. Overall the minimum score is zero and the maximum response score is 100. On average, respondents tended to recommend changes in corporate strategy to Eastern Region managers whose performance fluctuates compared to Western Region managers. The mean response for Eastern Region (WT) managers was 62.98 (standard deviation 24.248) while for Western Region (WB) managers it was 53.24 (standard deviation 25.707).

This study used repeated measure analysis of variance (Repeated ANOVA) to determine whether there were differences in means between treatment cells caused by the contribution of each participant’s response to the two regional managers in this experimental study (Huck, 2012). Before testing the hypothesis, first the homogeneity of variance is tested. The results of Laveane’s test of equality of error variance shows that sample variants are the same (probability above 0.05).

The test results with repeated measures ANOVA are presented in **Table 2**, panel A shows a significant interaction both for the Manager \* Role variable (F-value 6.603 with  $p < 0.05$ ) and the Manager \* CK variable (F-value 6.609 with  $p < 0.05$ ), which indicates that  $H_1$  and  $H_2$  are supported. Subjects who act as evaluators show different corporate strategy review decisions from subjects who act as evaluatee. Mean in **Table 2** of panel B shows that for the performance of

**Table 1. Dependent Variable Descriptive Statistics (n = 132)**

| Corporate Performance Measures in BSc Region | Role   |  |
|--|--|--|
|  | Evaluator<br>(Corporate Management)<br>(n = 69)                          | Evaluatee<br>(Manager Unit Bisnis)<br>(n = 63)                           |
| Above Target (n = 60)                        | Mean WT = 65,16 (s.d 20,887)<br>Mean WB = 56,56 (s.d 22,592)<br>(n = 32) | Mean WT = 55,36 (s.d 29,025)<br>Mean WB = 60,54 (s.d 29,229)<br>(n = 28) |
| Below Target (n = 72)                        | Mean WT = 71,16 (s.d 20,138)<br>Mean WB = 48,05 (s.d 26,415)<br>(n = 37) | Mean WT = 58,46 (s.d 24,960)<br>Mean WB = 49,86 (s.d 23,840)<br>(n = 35) |

Eastern Region Manager whose results fluctuate more, participants tend to recommending corporate strategy changes versus recommendations to Western Region Managers (eg for the role of business unit manager, mean value from strategy change recommendations for Eastern Region Managers is 62.73 compared to Western Region Managers with mean 53.30). For participants who acted as corporate management, the recommendations for corporate strategy change were of a greater degree (mean 68.38) than those who served as evaluatee (mean 57.08). Means in panel B also showed that the time for performance achievement for corporate measures The results were below the target, so participants tended to be more likely to recommend changes in corporate strategy for Eastern Region Managers (mean 64.55) than recommendations for strategy changes for Western Region Managers (mean 48.93).

Table 3 shows the third hypothesis test result, namely the negative bias test for both roles. It is found that only when the performance achievement is below the target, there is a significant difference in the mean between the evaluator and evaluatee, that is, there is a desire for the evaluator to revise the corporate strategy (REVSTK) which is higher than evaluatee (mean evaluator 71.17 versus mean evaluatee 58, 46). Thus  $H_{3a}$  is significantly supported. In Table 3 panel B also found statistically significant support for  $H_{3b}$ . The  $H_{3b}$  hypothesis which suspects negative bias in evaluators is stronger than evaluatee when performance is below the target which can be seen from the mean difference between corporate strategy review scores for managers in the East and West Regions (mean difference WY-WB for evaluatee (business unit managers) is 8.6 versus 23,11 from evaluators).

## 6.2. Discussion

The findings of this study prove that the first hypothesis is supported, namely the existence of differences in strategy review decisions between evaluators (corporate management) and evaluatees (business unit managers). In the context of this research, the strategy referred to is the corporate strategy implemented by business units in both regions (East and West). The experimental results show that for the performance of the Eastern Region Managers, the results fluctuate. The participants with different roles tend to recommend a different corporate strategy review for the Eastern Region Managers.

Furthermore, evaluators recommend making changes to the corporate strategy executed by their regional managers, especially in the Eastern region. This recommendation is emphasized more by the corporate management than by those in the role of business unit managers. Corporate strategy tends to use general measures so then the organizational units achieve goals that are aligned with the corporate goals (Kaplan & Norton, 2006). This study found that when the performance of the business units (in this case, the East region) fluctuates, there is a tendency for the corporate management to encourage a review (tendency to change) of the strategy. According to Shields et al. (1981), superior parties attribute more to the causes or decisions than to internal matters. The research findings indicate that this is not consistent with the attribution theory of



**Table 2. Experimental Result for Review Corporate Unit Strategy (n = 132)**

**Panel A: Results of 2x2x3x2 Repeated Measures ANOVA for Review of Corporate Strategies Executed by Managers for East and West Regions.**

| Variable            | df  | SS         | MS         | F      | p            |
|---------------------|-----|------------|------------|--------|--------------|
| Between Subjects:   |     |            |            |        |              |
| Role                | 1   | 1.141,538  | 1.141,538  | 1,586  | 0,210        |
| CK                  | 1   | 414,599    | 414,599    | 0,576  | 0,449        |
| Role x CK           | 1   | 105,114    | 105,114    | 0,146  | 0,703        |
| Error               | 128 | 92.133,480 | 92.133,480 |        |              |
| Within Subjects:    |     |            |            |        |              |
| Manager             | 1   | 5.032,709  | 5.032,709  | 10,184 | <b>0,002</b> |
| Manager x Role      | 1   | 3.262,748  | 3.262,748  | 6,603  | <b>0,011</b> |
| Manager x CK        | 1   | 3.265,633  | 3.265,633  | 6,609  | <b>0,011</b> |
| Manager x Role x CK | 1   | 2,209      | 2,209      | 0,004  | 0,947        |
| Error (Manager)     | 128 | 63.251,897 | 63.251,897 |        |              |

**Panel B: Review of Corporate Strategies Executed by Eastern and Western Region Managers**

| Variable                       | Eastern Manager Value | Western Manager Value | Diff: WT-WB |
|--------------------------------|-----------------------|-----------------------|-------------|
| Role                           | 68,38 (s.d 20,559)    | 52,00 (s.d 24,90)     | 16,38       |
| Corporate Mgr (n = 69)         | 57,08 (s.d 26,664)    | 54,60 (s.d 26,690)    | 2,48        |
| Business Unit Manager (n = 63) | 62,73                 | 53,30                 |             |
| Mean total participant         | 60,58 (s.d 25,280)    | 58,42 (s.d 25,751)    | 2,16        |
| Above target (n = 60)          | 64,99 (s.d 23,342)    | 48,93 (s.d 25,036)    | 16,06       |
| Below target (n = 72)          | 62,785                | 53,675                |             |
| Mean total participant         |                       |                       |             |

A Evaluation is made on a 100-point scale, zero means strongly recommended no change and 100 means strongly recommended change.

B The value of panel B is the mean (standard deviation) of the participants' responses to each area manager in the experimental case

**Table 3. Experimental results to test the third hypothesis (n = 132)**

| Peran   | Mean (s.d) Review<br>Score Eastern<br>Manager | Mean (s.d) Review<br>Score Western<br>Manager | F-value (p-value)<br>Manager*Role<br>interaction |
|---|---|---|--|
| Panel A: Results of 2 × 2 Repeated Measures ANOVA for Reviewing Corporate Strategy when Performance is <b>Above Target</b> (n = 60) |   |   |  |
| Business Unit Manager<br>(n = 28)   | 55,36 (s.d 29,025)                            | 60,54 (s.d 29,229)                            | F-value 2,562<br>(p-value = 0,115)               |
| Corporate Management<br>(n = 32)  | 65,16 (s.d 20,887)                            | 56,56 (s.d 22,592)                            |  |
| Panel B: Results of 2 × 2 Repeated Measures ANOVA for Reviewing Corporate Strategy when Performance Is <b>Below Target</b> (n = 72) |   |   |  |
| Business Unit Manager<br>(n = 35)   | 58,46 (s.d 24,96)                             | 49,86 (s.d 23,840)                            | F-value 4,249<br>(p-value = 0,043)               |
| Corporate Management<br>(n = 37)  | 71,17 (s.d 20,138)                            | 48,05 (s.d 26,415)                            |  |

Shields et al. (1981) but that it does support Long et al. (2015). Evaluators focus on situational or external clues (non-contractible information) that are incompatible with attribution theory. An additional correlation test found that the evaluator's strategy review decision is correlated significantly with the external attributes, namely the ability to work with other managers (p-value <0.05) and the ability of the other parties (p-value <0.05). Table 2, panel B also show tendency to change the corporate strategy by the business unit managers. This result consistent with attribution theory, because as an actor, business unit managers tend to attribute the performance achievements to external attributes, which in this case is in the form of corporate strategies executed by the business units that they manage. However, the tendency to change strategy also arises from the evaluator.

The findings of this study prove that the second hypothesis is also supported, namely that there is a significant difference in the responses of the participants when observing treatment scenarios involving the performance of corporate measures above the target and performance below the target. The results show that there were differences in the response when reviewing the corporate strategies according to the Western and Eastern Region Managers. Decision-makers tend to recommend changes to the corporate strategy for managers in the Eastern region whose performance tends to fluctuate. The tendency to change strategy occurs not only when the corporate performance of the Eastern Region managers is below target, but also when the achievement is above target. The second hypothesis is accepted because decision-makers tend to revise their strategies when the previous performance achievements are below target.

Furthermore, it was found that corporate management (evaluators) tend to recommend changes to the corporate strategy in the Eastern Region. This means that there is significant support for a stronger negative bias from the evaluators than the evaluatee. The present study findings are presented in Table 3 and show significant differences regarding the review of the corporate strategies. There is a significant tendency to change the corporate strategy from the corporate side compared to that of the business unit managers (mean 71.17 versus 58.46) with an F-value of 4.249 (p-value <5%). Changes in the corporate strategy are recommended by the corporate management for the purpose of strategy execution in the Eastern Region, where the performance is fluctuating. The significant statistical test results for H<sub>2</sub> and H<sub>3b</sub> show that the theory of negativity bias is still relevant in managerial decision-making. This is consistent with the findings (Kaplan et al., 2012, 2018).

Overall, the results of this study support the theory of negativity bias but do not support the relevance of the attribution items of Shields et al. (1981). This is because evaluators do not only

use internal attributes when making decisions. The actor-observer effect in this research does not always correlate with the locus of causality theoretically, where the internal attributes are correlated with evaluator decisions and external attributes are correlated with external attributes (Carson et al., 2020). Differences in the laboratory setting, more naïve participants, and the different environmental conditions of this experiment can be the reason for this finding. The research shows support for Long et al. (2015) in that the evaluators no longer focus on internal attributes when recommending decisions. There are situational or external cues (non-contractible information) considered by evaluators such as Long et al. (2015) which encourages them to use various attributes other than the external attributes.

## **7. Summary and conclusion**

Based on the research results, general conclusions were obtained. First, the findings of this study prove that the first hypothesis is partially supported, namely the existence of a difference in corporate strategy review decisions between the evaluator (corporate management) and evaluatee (business unit manager). Several external attributes correlate with the decisions made by the participants, so it can be said that the relevance of attribution theory related to the evaluators according to Shields et al. (1981) needs to be tested further.

Second, this study found evidence that there is a significant difference in the responses of the participants when receiving the managerial case scenario treatment, especially regarding the performance of the corporate measures that were below the target. Support for negative bias effects was also found when the participants reviewed the corporate strategies. Overall, the findings of this study are empirical evidence of the inconsistencies in attribution theory and support for the negativity bias theory, both of which need to be tested further.

### **7.1. Limitations of the study**

This experimental study noted several limitations. First, the experimental data collection was carried out during the school from home (SFH) period due to the Covid-19 pandemic. The drawback of collecting data outside of the planned classroom laboratory is that some of the internal controls such as the simultaneous implementation of participant groups was not achieved. In addition to the different time of starting the experiment, the weakness of the data collection using the internet-based experiment method was such that the duration was quite long, namely 2 months. This is because there was less interest in participating in the experiment, therefore snow-ball sampling was carried out. The response rate of the return answers increased as previously explained. Overall, only 148 material forms were returned out of the 564 bitlinks of initial willingness to participate in the experiment (36.1%).

Second, there are various educational backgrounds of the participants to consider other than a Masters of Accounting or Management, namely those who have passed the Masters program. Most of them work as lecturers in the fields of either Accounting or Management. Even so, the covariate test was carried out and it has been proven that variables such as gender, educational status (EDUC), and field of interest/work (FIELD) relate to the two dependent variables of strategy review and resource allocation. Finally, the participant data is limited even though it reached the minimum sample size for each treatment group as recommended (Nahartyo & Utami, 2019).

### **7.2. Suggestions for future research**

The findings in this experimental research provide several implications for theory development and are beneficial to outsiders. From a theoretical point of view, the findings of this experimental study do not support consistency in terms of the relevance of the attribution items according to Shields et al. (1981), but they do support the effect of vivid negative bias. This finding implies that attribution theory interacts with other theories (negativity bias theory) when explaining the participant's decision-making. Furthermore, the findings of this study also imply that the evaluators not only use internal attributes but also external attributes like the findings of Long et al. imply (Long et al., 2015).

There are several possibilities for further research development. First, to avoid a high maturation effect, a simplification of the experimental design can be undertaken for further research. The results of this study can be the basis for the development as the simplification can be enacted by focusing on the negative performance achievements only. This can better explore the relevance of attribution theory. These simplifications will aid further research by improving the response rates. In addition, this research was conducted during the SFH period due to the Covid-19 pandemic, so the external validity that should have increased the inclusion of the internet-based experiment was potentially disrupted due to the participants' personal condition when participating in the experiment. It is hoped that this research can be replicated again after the pandemic to determine whether there is consistency in the findings, even though different tests have been carried out on the covariate variables and the results are not significant. Finally, it is also interesting to study the cultural background or values of the participants when exploring the effects of the structural roles as found from the survey (Le et al., 2020).

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