

## The Effect of Levers of Control and Leadership Style on Creativity

Maria Paramastri Hayuning Adi<sup>1\*</sup>, Aegisia Sukmawati<sup>2</sup>

<sup>1</sup> Department of Accounting, Faculty of Economics and Communication, Universitas Bina Nusantara, Jakarta, 11480, Indonesia

<sup>2</sup> Department of Accounting, Faculty of Economics and Business, Universitas Gadjah Mada, Yogyakarta, 55281, Indonesia

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### ABSTRACT

**Introduction:** This research aims to investigate how leadership assists the levers of control (LOC) to influence employees' creativity. **Background problem:** Managing a company is challenging due to the numerous issues faced, including those relating to the employees' creativity. Prior studies showed different results concerning how company controls constrained or enhanced the employees' creativity. Previous studies explained that incentives can influence the employees' creativity, but only temporarily. However, organizations require creativity continuously in order to sustain themselves. In response to this issue, it is essential to investigate other determinants that encourage employees' creativity, and how the process is relevant to each organization's core values. This study examines this through companies control systems and leadership aspects. **Novelty:** Our study attempts to complement previous studies and answer Spekle's call. This study offers transformational leadership to strengthen employees' creativity, aligned through the LOC. **Research Methods:** The data were collected via an online survey. The questionnaires were sent to startup companies' employees who had worked in the creative divisions of those companies for a minimum of six months. There were 109 responses that we processed. This study used SEM-PLS to analyze the data. **Finding/ Result:** The LOC positively influenced employee creativity. The more leaders behaved as transformational leader, it strengthened LOC to influence employees' creativity. **Conclusion:** This study shows that the dimensions used to establish the LOC should be integrated, to align the employees' creative ideas for new methods of working. Furthermore, this study supports the prior research into the self-determination theory and answers Spekle et al (2017), that leadership is required to influence the employees. Particularly, companies should appoint appropriate leaders to encourage their employees' creativity. Transformational leaders should be considered to be an option.

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\* Corresponding Author at Department of Accounting, Faculty of Economics and Communication, Universitas Bina Nusantara, Jalan KH. Syahdan 9, Jakarta, 11480, Indonesia  
E-mail address: maria.adi@binus.ac.id, aegisias@gmail.com

## INTRODUCTION

The business environment adapts continuously to the latest conditions, known as Industry 4.0. This encourages companies to develop and be more creative by optimizing technology. One particular business type that has increased significantly is startup industries. Spender et al. (2017) explained the definition of a startup through the perspective of Steve Blank (2010), that a startup is a company, partnership or temporary organization that is organized to attain an appropriate measurable and repeatable business model. Therefore, the essential aspect that should be considered is creating a competitive advantage to allow the new company to compete and sustain itself. The condition can be facilitated through company innovations in its goods and services' production activities. The innovation can be generated by creative employees. Creativity is the generation of novel ideas for innovation, which facilitates a company and provides it with a competitive advantage in the changing business environment (Simons, 1990; Davila et al., 2009; Adler and Chen, 2011; Anderson et al., 2014). Creativity allows employees to use their imaginations and to create something, which help with the adaptations needed to survive and compete in the ever changing markets (Spekle et al., 2017; Neto et al., 2019). Creative employees have the ability to share their new ideas and create improvements to handle the rapidly changing business environment (Simons, 1990; Davila et al., 2009). In other words, creative employees should be noted and considered as valuable members of the organization who can create innovations for handling the challenging business environment.

The creativity of employees cannot be separated from the management control systems in the organizations. Management control systems play a central role in encouraging

innovation through creativity (Bedford, 2015). Creativity and control should be prominent parts of every company (Spekle et al., 2017). Freedom to be creative does not mean that employees behave without any supervision. Control is implemented by the management to ensure the employees' actions are aligned according to each organization's goals (Spekle et al., 2017). But in fact, many organizations face challenges when trying to align control and creativity. Organizations are highly dependent upon control systems, standardized procedures and practices to ensure smooth operations, but these systems have consequences since they tend to shut down or inhibit the creative propensities of the employees (Amabile 1988). Ideally, an organization's control systems should not terminate its employees' creativity. Organizations should ensure that creativity can synergize with their control systems. As a consequence, each company should comprehend that creativity and control are two important components for every organization, even if the relationship between them is sometimes contradictory.

Prior research used many types of controls to align creativity and control. Using incentive based controls, Kachelmeir et al. (2008); and Kachelmeir and Williamson (2010) delineated that rewards and incentives based on creativity could improve the employees' creativity initially, but it would not last long. Adler and Chen (2011) used performance based incentives to align creativity with control, but the result showed that they were not important motivators. Chen et al. (2012) had a different result. A reward system can increase group creativity, but it does not work for individual creativity. From this result we predict that there is another control system, beside incentives and rewards, which aligns creativity. Bedford (2015) examined management control systems using the levers of

control (LOC) on firm performance and showed that interactive and diagnostic controls have interdependent effects on firm performance through innovation. Spekle et al. (2017) suggested that the levers of control provided a creative environment and motivated employees to take action, made decisions and produced novel ideas. According to the research, control systems that motivated the employees' creativity, and were able to work in balance with the control systems in place, were more interesting for further investigation. Therefore, this research is an attempt to answer that call empirically.

The framework of the levers of control (LOC) was proposed as an alternative management control system to create synergy between creativity and control (Adler and Chen, 2011; Spekle et al., 2017). The LOC framework was proposed by Simons (1995), and consists of four types of control: (1) beliefs control, (2) interactive control, (3) boundary control, and (4) diagnostic control. The LOC's framework was based on the self-determination theory by Deci and Ryan (1985; 1987) and Ryan and Deci (2000). The self-determination theory views human beings as proactive individuals whose natural or intrinsic functioning can be either facilitated or impeded by social contexts (Deci and Ryan, 1985; 1987). The self-determination theory explained the level of an individual's confidence in his/her ability (Deci and Ryan, 1987; Ryan and Deci, 2000). The LOC, based on the self-determination theory, motivates individuals' perceptions of their self-confidence in order to increase their creativity (Spekle et al., 2017). However, implementation of the LOC is not effective when it is not supported by the right leader. A leader is a key person, who drives the control systems in organizations (Abernethy et al., 2010). When control systems are applied, leaders influence the synergy between control and creativity by taking a role in all the

company's activities. The leader encourages employees to have autonomy with their new experiences, as long as they relate to the company's expectations.

A leadership figure is a fundamental component of an organization (Bass, 1985). Transformational leaders encourage employees' creativity based on analytics and the leader's persuasive attitude. A leader motivates employees to seek different perspectives of their work routine, and challenges them to attempt different approaches to complete their assignments (Podsakoff et al., 1990; Henker et al., 2014). Through this treatment, a transformational leader can empower the workforce and encourage employee creativity. There are a number of studies about leadership and creativity. Banerje et al. (2017) found that transformational leadership is positively related to employees' creative performance. Harbi et al (2018) explained that transformational leaders provide creative methods to reinforce their followers' attempts to discover new approaches to existing challenges. Shafi et al. (2020) showed that transformational leadership promoted employee creativity, because transformational leadership gives intrinsic motivation to employees by inspiring them to think out of the box. Therefore, a transformational leader is a leader who is always open to change, has broad views, and encourages employees to think creatively.

Due to the huge number of startup industries, this study was conducted in a number of startup companies. They are considered to be the initial stage of a business's development and attempts to foster creativity to build the company (Davila and Foster, 2007). Prior research is still limited and insufficiently comprehensive to analyze the effects of the LOC on employees' creativity in startup companies. This research has empirical contributed by examining specifically and

extensively the phenomenon of control and creativity in startup companies, which form one of Indonesia's fastest growth industries. This research has empirically contributed by examining the levers of control (LOC) as one of the management's control systems to increase the employees' creativity. Prior research has studied the use of incentives, but found they do not work effectively. Therefore, this study suggests that organizations need to use another control system. This research also offers the transformational leadership style to moderate the influence of the LOC on employees' creativity to answer Spekle et al's (2017) suggestion.

## LITERATURE REVIEW

### 1. Self-determination theory

The self-determination theory (SDT) refers not only to goal-directed behavior, but also the necessity to satisfy *innate psychological needs*, which consist of competence, autonomy, and relatedness (Deci and Ryan 2000, 2002). Satisfaction of these three needs influences intrinsic motivation, the integration of extrinsic regulations, and the movement for well-being (Deci and Ryan, 2000; Gagne and Deci, 2005). The existence of intrinsic motivation supports certain actions and can be influenced by social factors (Deci and Ryan, 1987; Ryan and Deci, 2000).

Competence explains the ability to accomplish tasks and roles to the expected standard (Eraut, 2009). It is achieved and maintained through numerous processes, such as exploration or though involving cognitive and active aspect of behavior (White, 1959). Previous research indicated that feedback influenced the perception of competence. Negative feedback undermined the intrinsic motivation to perform tasks, while positive feedback increased it (DePasque and Tricomi, 2015; Fong et al. 2018).

SDT explains the mechanism and phenomenon of human autonomy, while supporting it. Autonomy is essential to comprehend one's agility and self-regulation to integrate and handle challenges (Gagne and Deci, 2005; Niemiec et al. 2010). Autonomy encourages the employees' self-determination, which assists them to experience a greater sense of choice concerning their actions through integration and the absence of conflict and pressure (Deci and Ryan, 1987). An individual is motivated intrinsically to endorse and pursue him/herself, explore activities and have conviction concerning their ability to act (Deci and Ryan, 1987; Ryan and Deci, 2000). In other words, most actions are self-organized by considering both the outer and inner term when an individual experiences autonomy.

Relatedness emphasizes an individual's requirement to relate to, and feel belongingness with others (Ryan and Deci, 2000; Reis et al. 2000). Internalization is a process to assist an individual to link more fully with others and also integrate with their aims, values, behavior, and interests (La Guardia, 2009). There are some activities that develop relatedness through social activities, such as participating in shared activities, showing appreciation and feeling understood (Reis et al. 2000). When individuals experience deeper and more meaningful conversations and interactions, the tendency to connect is greater. This condition encourages the individual's intrinsic motivation to internalize and maintain a closer connection.

### 2. Creativity

In order to face the challenges of a business, an organization should offer something new and different from its competitors. This concept is about creativity. When organizations fail to be creative and innovative, they risk losing their competitiveness and sustainability (Abdallah and

Phan, 2007; Suifan et al., 2018). It encourages them to encourage creativity, which provides ideas to facilitate organizational change, and allows them to survive and compete in the market (Amabile et al., 1996; Shalley et al., 2004; Spekle et al., 2017).

Creativity refers to the development of new ideas about products, practices, services and procedures that are novel and useful for the organization (Amabile et al., 1996; Zhou & Shalley, 2003; Shalley, 2004). Creativity explains a set of processes that not only demonstrate originality, but also value (Billton and Cummings 2010). This results in innovation. Creativity generates fresh ideas for innovations and facilitates companies to provide value through their competitive advantage in a changing business environment (Simons, 1990; Davila et al., 2009; Adler and Chen, 2011; Anderson et al., 2014). Moreover, creativity gives employees the freedom to create something new, and facilitates the adaptation necessary to survive and compete in changing markets (Spekle et al., 2017; Neto et al., 2019).

Prior research has found that creativity is induced by empowerment, and motivates employees to experiment with new ideas in their work (Sun et al., 2012). Employees have the freedom and autonomy to generate new ideas. They become more creative because they have options how best to perform their job or task (Shin and Zhou, 2003, Alge et al., 2006; Sun et al., 2012). Being creative encourages employees to establish their perceptions of competence to accomplish tasks in new ways. Along with this, intrinsic motivation emerges to assist the employees experience a greater sense of choice. The employees feel competent, which motivates them to perform their tasks in their own way.

### 3. Levers of Control (LOC)

The implementation of an appropriate control system is expected to facilitate the employees' creativity as an important part of innovative behavior (Pieterse et al., 2010). In this study, the LOC was offered as an alternative control system. The LOC's framework, proposed by Simons (1995), is a set of management control systems that combine positive control (beliefs control and interactive control) and negative control (boundary control and diagnostic control). Each dimension of the LOC complements the others and is only able to work as a whole (Widener, 2007).

Tessier and Otley (2012) defined these four types of control within the LOC's framework. Beliefs control is a process for communicating the core values, basic values, objectives and direction of an organization. Interactive control focuses on communication between superiors and subordinates, to formulate strategies in conditions of uncertainty (Simons, 1995). Boundary control explains all the risks that should be avoided by employees, while diagnostic control monitors the organizational results and deviations that occur from the predetermined performance standards (Simons, 1995; Teesier and Otley, 2012). These four dimensions that form the LOC act as an appropriate control mechanism. It can be implemented in various business environments, particularly in startup companies, in order to motivate and influence their employees by balancing positive and negative elements in the framework of the LOC.

Deci and Ryan (1987) explained that the supportive events and contexts that support autonomy also facilitate autonomous activities. The employees experience a sense of emanating from themselves. In this study, the LOC emerges to support the employees' intrinsic motivation to be creative. The LOC facilitates appreciation and communications that support intrinsic motiva-

tion. It increases the perception of competence and autonomy.

#### **4. Leadership**

The existence of a control system which collaborates with the employees' creativity cannot be effective without the organization's support. Both of them require support from competent leaders. The leader accommodates the process of creating the vision, communication, employee empowerment, execution of strategies and decisions for the company (Bolton et al. 2008). Successful leader is identified based on the progress, development and innovations made by their organizations (Bedford, 2015). In other words, a proficient leader supports and ensures their organization's control system synergizes with the employees' creativity.

A leadership figure is a fundamental component of an organization (Bass, 1985). Initiated by Bass (1985), transformational leadership is defined as a style of leadership that transforms followers to rise above their own self-interests by altering their morale, interests, and values while motivating them to perform better than initially expected (Pieterse et al., 2010). Dvir et al. (2002) and Banerje et al. (2017) argued that transformational leadership is a form of leadership style that boards and elevates subordinates' goals and provides them with the confidence to perform. Because of these characteristics, transformational leadership has been the most frequently supported leadership theory over last two decades (Avolio et al., 2009; Sosik and Jung, 2010; Suifan et al., 2018), because of its compelling vision and clear objectives. It provides employees with all the support and stimulation they need.

A transformational leader exists to create relatedness with the employees. The leader conducts meaningful communications by being an inspiring figure. The employees are motivated

to be creative based on analytics and their persuasive leader's attitude. The leader assists the employees to seek different perspectives for their work routines and challenges them to attempt different approaches to complete their assignments (Podsakoff et al., 1990; Henker et al., 2014; Harbi et al 2018). The transformational leadership style is very suitable for affecting the creativity of employees, due its characteristics that encourage empowerment and motivate employees to develop their organization's competencies (Shin and Zhou, 2003; Shafi et al., 2020).

#### **5. Levers of Control (LOC) and Creativity**

A management control system is a supporting part of a company. It creates a favorable workplace and facilitates creative behavior (Spekle et al., 2017). The self-determination theory (Deci and Ryan, 1987; Ryan and Deci, 2000) suggests that empowerment leads to intrinsic motivation and a sense of personal responsibility (Amabile et al., 1996). It also states that the perception of the employees' confidence to carry out their responsibilities, to attempt tasks independently and to make decisions regarding the way they work is due to it (Ryan and Deci, 2000). When the employees feel confident regarding their abilities and the freedom given them over their choice of actions, the circumstance will influence them creativity.

Empowerment based on the determination theory is closely related to the LOC concept. The control system within the LOC's framework assists management to create creative circumstances through the process of information exchanges, which are required to facilitate creativity and people's abilities (Simons, 1990; Bedford, 2015). Previous empirical evidence showed that information exchanges supported the creative production process (Chen et al., 2012) and interactive control within the LOC's

framework facilitated this process. The LOC's framework consists of belief control, interactive control, boundary control and diagnostic control. Belief control assists organizations to communicate their core values to their employees, in order to encourage and inspire not only creative actions, but also solutions (Simons, 1995; Burroughs et al., 2011; Spekle et al., 2017). Interactive control focuses on communications between superiors and subordinates to formulate strategies in conditions of uncertainty (Simons, 1995).

Boundary control explains all the risks that should be avoided by employees, while diagnostic control monitors the organizational results and deviations that occur from predetermined performance standards (Simons, 1995; Teesier and Otley, 2012). Boundary and diagnostic control explain the constraints and risks to help the employees to understand their decisions and achieved actions when formulating creative actions based on the company's goals (Spekle et al., 2017). Previous research showed that the LOC can increase creativity. Mundy (2010) found that all four control levers in the LOC were positively related to creativity. Bedford (2015) stated that the LOC's framework worked simultaneously and fostered creativity, which generated innovation. Research from Spekle et al. (2017) found the same result, that there is a positive effect of the LOC on employees' creativity. Thus, the control system within the framework of the LOC is an important control to spur creativity and provide the information needed by the employees for their creative thinking processes. Therefore, the hypothesis proposed is as follows:

H<sub>1</sub>: The levers of control (LOC) positively effect the employees' creativity.

## **6. Interaction between Leadership Styles with LOC and Creativity**

Abernethy et al. (2010) linked the leadership style and the control system. Leadership is a key to implement a control system, as leaders have a substantive function to understand organizational circumstances. The definition of the leadership function in a control system, according to Bolton et al (2008), is to set the vision, communicate, ensure the employees' empowerment, form strategies and execute decisions for managing integrity. In practice, individuals have different leadership styles that influence their ways of communicating the vision, mission and strategy, efforts for the employees' empowerment, and monitoring and control (Abernethy et al., 2010). Therefore, each type of leadership style has a different effect on the control mechanisms applied by each organization (Shalley, 2004; Spekle et al., 2017).

The leadership style is a vital aspect that influences each organization (Bass, 1985). One of the leadership styles is transformational leadership, which is a leader who has a great ability to communicate organizational values to his/her subordinates, employs analytical thinking, enjoys environmental business changes, and inspires and influences his/her subordinates' behavior (Henker et al., 2014; Suifan et al., 2018). Transformational leadership creates a creative climate for sharing information and ideas, to stimulate critical thinking and to develop individual solutions (Schweitzer, 2014). Abernethy et al. (2010) also provided an explanation about the leadership role in management control systems and employees' empowerment and creativity. The role of a leader has an important part to play in influencing, communicating with and empowering an organization's members. Much research has found that transformational leadership has a positive effect on creativity (Henker et al., 2014; Banerje et al., 2017; Suifan et al., 2018; Shafi et al., 2020). Transformational leaders improve the workplace

by stimulating the employees to take risks; encouraging employees to find new ways to accomplish their assignments; and increasing the employees' trust, which encourages the employees to clarify the set targets when they do not understand them (Luu, 2017; Harbi et al., 2018).

In this study, transformational leadership emerged to strengthen the LOC's influence on creativity. The LOC establishes communications and appreciates the employees' creative ideas. This action is supposed to support intrinsic motivation's increase, which strengthens the perceived competence and autonomy. The LOC allows employees to convey new ideas in any shared activities, such as in subordinate and superior joint forums, meetings, or group discussions. However, it also ensures that any new ideas will be in line with the company's expectations. Along with this process, a transformational leader creates relatedness and belongingness in the community. A transformational leader with a great ability to inspire and influence his/her subordinates communicates organizational values, creates interactive communications, gives attention to the employees' talents and abilities, and inspires and influences his/her subordinates' behavior (Henker et al., 2014; Suifan et al., 2018). This action influences the employee's perceived competence and autonomy. Employees perceive they can accomplish their tasks and roles in accordance with the expected standards through a process of exploration or deep thought, which results in efficacy. The leader also gives inspiring feedback to the employees in accomplishing their tasks and roles. Based on the explanation above, the hypothesis proposed is as follows:

H<sub>2</sub>: Transformational leadership moderates the effect of the levers of control (LOC) on creativity. In conditions of high transformational leadership, the effect of the

levers of control (LOC) increases the employees' creativity.

According to the explanation above, the research model in this study is shown in Figure 1 below. The LOC creates appropriate circumstances for the employees' ideas and rules for their creative activities so they are relevant, based on the company's expectations at that time. This process works better when the managers are described as transformational leaders. The leaders are not only identified as being charismatic, inspiring, and intellectual figures, but also competent, particularly to lead the employees to discover solutions through new perspectives.

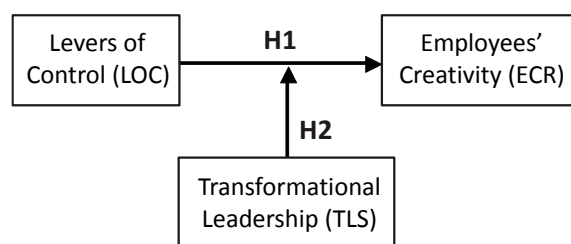


Figure 1. Research model

## METHOD, DATA, AND ANALYSIS

### 1. Method

This research is a quantitative research with survey method. The survey was based on a cross-sectional approach. Information and data on the respondents were collected through an online questionnaire created using Google Forms. This research used startups companies. It refers to the companies that develop continuously and require a high level of creativity to advance their business models (Davila and Foster, 2007). The respondents were the employees who worked in these Indonesian startup companies, particularly those in their creative divisions, for example those employed in: research and development (R&D), human resources development (HRD), marketing, and customer relations. The selected respondents



should have been working there for a minimum of six months, to ensure that they all understood the companies they worked for.

## 2. Data Collection

Online questionnaires, created using Google Forms were sent via electronic media. Before being distributed to the respondents, a pilot test was conducted with 10 master students from Faculty Economics and Business Universitas Gadjah Mada and 22 company employees who worked in creative divisions. A total of 131 respondents who worked at the startup companies gave their responses. Twenty-two questionnaires were excluded as they did not meet the criteria. Ultimately, there were 109 appropriate questionnaires for further investigation.

## 3. Research Model and Definition of Variable Operations

This research used the levers of control (LOC) framework, which consists of four dimensions as the independent variable. Beliefs control (BCF) was measured by four items adapted from Widener (2007) and measured by a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Interactive control (ITC) was measured by six questions adapted from Henri (2006) and Spekle et al. (2017) using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Boundary control (BOC) was measured using four questions adapted from Widener (2007) with a 5-point Likert scale (1 = strongly disagree to 5 strongly agree). Diagnostic control (DIC) was measured using four question items developed from Widener (2007) and Henri (2006) with a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

The dependent variable in this research was employee creativity (ECR). Creativity is an assessment of the respondents' perceptions of developing new ideas and solutions to solve

problems in the workplace (Farmer et al., 2003). Creativity was measured using five items of measurement questions adapted from Farmer et al. (2003), using a 5-point Likert scale.

This research used transformational leadership as the moderating variable. Transformational leadership is associated with the style of leadership that encourages creativity and freedom (Bass, 1985; Seltzer and Bass, 1990). In this research, there were four dimensions to measure transformational leadership: (i) inspirators and motivators; (ii) intellectual stimulation; (iii) individual consideration; and (iv) charismatic figures. Each construct consisted of two indicators adapted from Bass and Avolio (1990) in Banerjee et al. (2017). All the variables used 5-point Likert scales.

## 4. Data Analysis

Analysis of the data in this research used structural equation modeling (SEM) with Warp PLS 6.0. The decision to use SEM was because of its ability to analyze variables that cannot be measured directly and it is also able to test models simultaneously. Before testing the hypotheses, the outer model had to be evaluated for its validity and reliability. The evaluation was carried out on reflective first order constructs. Validity was reviewed through the constructs' validity, consisting of convergent and discriminant validity. Convergent validity was assessed based on the factor loading and AVE value. Indicators with a factor loading below 0.40 were deleted, while those with values between 0.40 and 0.7 were still considered, by looking at their effects on AVE and composite reliability. The indicators with a factor loading greater than 0.70 were maintained (Hair et al, 2014). Average variance extracted values (AVE) should be  $\geq 0.50$  (Sholihin and Ratmoko, 2013). Discriminant validity was reviewed through a comparison between the AVE roots of a

construct, which had to be higher than the correlation value between those latent variables (Sholihin and Ratmoko, 2013). Reliability testing was performed based on Cronbach's alpha and the composite reliability coefficient. Values greater than 0.8 were considered to have good reliability, those between 0.6 and 0.7 were quite good, and values below 0.5 indicated poor reliability (Hair et al., 2013). A model fit test was also performed based on the p value of the indicators, namely ARS (<0.05), AVIF (<5), and APC (<0.05), (Sholihin and Ratmoko, 2013).

Structural model testing (inner model) was carried out to predict the relational relationships in the structural models (Hartono, 2016). The evaluation of the structural models can be identified through five stages (Hair et al., 2014): the assessment of collinearity, structural model path coefficients, coefficients of determination ( $R^2$ ), effect sizes ( $f^2$ ), and predictive relevance ( $Q^2$ ). The significance level (p value) used in this research was 5%.

## **RESULT AND DISCUSSION**

### **1. Response Rate and Respondent**

The survey was conducted using the employees who worked in various departments of startup companies. The data were collected in March 2019, between the 7<sup>th</sup> and the 14<sup>th</sup>. Although 131 responses were received, ultimately only 109 surveys were useable for our analysis. According to the data, 28.4% of the respondent worked in the marketplace; 17.4% in transportation or as travel agents; 17.4% in fintech and communications; 13% in finance; 15% in agriculture, education, and medicine; and 9% in other sectors.

The majority of the respondents (67) were male. The respondents who occupied staff positions numbered 58 people; 29 people worked as supervisors or analysts; five people

were assistant managers, and 17 people held managerial posts. On average, 52 respondents worked in startup companies that had existed for less than 5 years; 48 respondents in firms that existed for between 5 to 10 years; and the remainder in firms operating for more than 10 years.

### **2. Evaluation of Measurement Model**

Evaluation of the outer model was aimed at investigating the instrument's validity and reliability. A validity test showed the conformity of each indicator for measuring the variables used. A convergent validity test was assessed based on the loading factor and AVE value. The statistical results in Table 1 (appendix) explain each indicator of BFC (belief control), ITC (interactive control), BOC (boundary control), and DIC (diagnostic control) which established that the LOC construct had a loading factor of between 0.6 and 0.9. The loading for the indicators of a transformational leadership style, such as MM (inspiring and motivating), MI (intellectually stimulating), PI (individual considerations), and FK (charismatic figures), and creativity were above 0.8. Ultimately, the p value for all the indicators had a significance of less than 0.05. Table 2 (appendix) presents the AVE values. The dimensions of the LOC, transformational leadership, and creativity construct all had an AVE value above 0.5, which confirms the convergent validity. The validity of discrimination was reviewed according to a comparison of the AVE value and the correlation value between the latent variables. In Table 3 (appendix) it can be seen that the evaluated AVE value of each construction was higher than the correlation among the other constructs that confirmed the discriminant validity.

A reliability test was required to measure the internal consistency, based on both the Cronbach's alpha and the composite reliability

coefficient being above 0.7. Table 4 and Table 5 (appendix) display the statistical results of the reliability test. There was only one dimension of the construct (MI) with a Cronbrach's alpha coefficient below 0.7. Nonetheless, Hair et al (2014) argue that it is still acceptable.

### 3. Evaluation of Structural Model

#### 3.1. Evaluation of Model Fit

The model's fit test was assessed according to average block variance inflation factor (AVIF), average full collinearity VIF (AFVIF), average path coefficient (APC), average r-squared (ARS), and tehenhausGoF (GoF). AVIF and AFVIF values were used to identify multicollinearity which occurs when the independent variable is highly correlated with other independent variables (Hair et al., 2014). Multicollinearity occurs when the VIF value is  $< 3.3$  (Kock, 2018). The AVIF and AFVIF values of the entire variable were less than 3.3 (Table 7), which indicated no multicollinearity problem. APC and ARS signified at 0.05. These results explain that the model was appropriate to describe the relationship between the variables used in this study. The value Of GoF was 0.472, which was sufficiently strong to explain the research phenomenon.

#### 3.2. Path Analysis

Path analysis was used to represent the relationship among the constructs. The coefficient standard was valued between -1 and + 1 (Hair et al., 2014). The coefficient approached + 1 and represented a strong positive relationship and vice versa for the negative values. As shown in Table 6, LOC had a positive relationship to ECR ( $\beta = 0.464$ ) and the interaction between TLS and LOC showed negative value at 0.162.

#### 3.3 Coefficient of Determination ( $R^2$ )

The coefficient of determination ( $R^2$ ) ranged between 0 and 1. Chin et al. (2003) explained that the values 0.19, 0.33, and 0.67 are, in order, weak, moderate, and strong. The  $R^2$  value for the endogenous variable was 0.325, thus, the model in this study had moderate strength for explaining the variation of creativity that was influenced by LOC and TLS.

#### 3.4. Effect Size ( $f^2$ )

The evaluation of the effect size ( $f^2$ ) value was aimed at analyzing the influence of the independent variable on the dependent latent variables. According to Chin et al. (2003), an  $f^2$  value of 0.02, 0.15, and 0.35 can be described as small, moderate, and large, respectively. Based on the statistical results, the value of  $f^2$  was 0.257. These results indicated that the independent constructs had a moderate effect on the dependent variables.

#### 3.5. Predictive relevance ( $Q^2$ )

The predictive relevance ( $Q^2$ ) identified the data's indicator point in the endogenous construct reflective measurement model, and the endogenous single-item constructs (Hair et al., 2014). A  $Q^2$  value greater than 0 indicates the model has the relevant predictive capability. The  $Q^2$  value in this research model was greater than 0.

#### 3.6. Hypothesis Testing

The statistical results in Figure 2 delineated that LOC positively influenced employees' creativity (ECR) with p-value  $< 0.01$  and  $\beta = 0.46$ . This result supported the first hypothesis in that the LOC consist of beliefs control, interactive control, boundary control, and diagnostic control all integrated relatively to boost the employees' creativity. The system supported autonomy for the employees to develop and apply their new creative ideas for task completion, but it was

aligned consistently with the companies' regulations. The influence of the interaction between the LOC and transformational leadership (TLS) to employees' creativity was significant at 0.05,  $\beta = -0.16$  (Figure 2). The result indicated the leader's interaction with the control system influenced the employees' creativity. The additional explanation in Figure 3 explained that this occurs under certain conditions of transformational leadership's influence. The comparison showed that the more leaders demonstrated as transformational leader, it relatively increased LOC to influence employees' creativity (Figure 3). Therefore, the second hypothesis was supported.

#### 4. Discussion

The statistical results showed that a control system and the LOC, if applied to startup companies, had a positive effect on creativity. It supported the research by Bedford (2015); Spekle et al. (2017); and Baird et al (2019), who all identified that creativity was improved by the implementation of the LOC in companies. The LOC facilitated the employees' intrinsic motivation to be creative. The LOC facilitated the appreciation and communication which increased the intrinsic motivation. The LOC encouraged employees to exchange information, which that facilitated creativity (Simons, 1990; Bedford, 2015). The LOC, through enabling control (belief and interactive), facilitated the employees to be creative by creating innovation,

but still consider the task, role, standard operation, and assessment system (Spekle et al., 2017; Baird 2019). Interactive control assisted by increasing the innovation practices (Gomez-Conde et al 2018) while belief control facilitated the dissemination of the companies' values (Spekle et al., 2017). In this context, belief and interactive control supported the employees' autonomy to comprehend the corporate values, communicate, establish interactive relationships with their superiors, and to be helped to deliver new creative ideas in forum discussions. As a consequence, the employees perceived that their organizations permitted them to disclose new ideas, as long as they were consistent with their companies' expectations. The LOC, as constraining controls (boundary and diagnostic), consisted of rules governing how to behave and the standards expected of the employees. It monitored and managed the consequences of the various organizations' performances (Gomez-Conde, Lunkes, and Rosa, 2018). The employees were allowed to be creative in completing their tasks, but they were corrected by the constraining system whenever any deviations occurred. This is relevant to the concept of the self-determination theory (Ryan and Deci 2000). The employees were allowed to experience a sense of volition and having played a part in any new ideas. This occurred in certain conditions which constantly complied with the various organizations' aims.

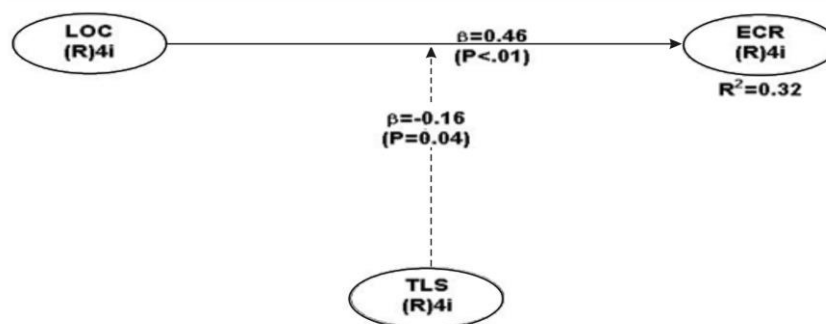
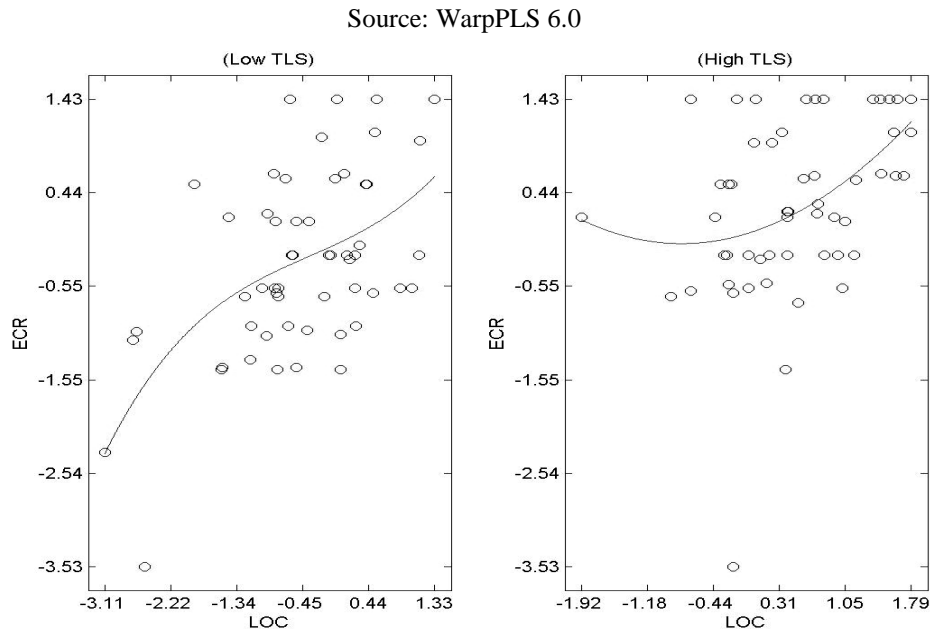


Figure 2. Model evaluation



**Figure 3.** LOC Influence to ECR in Low and High TLS  
Source: WarpPLS 6.0

Further investigation showed that each dimension of the LOC contributed to creativity. Interactive control (ITC = 0.527) had the strongest positive correlation while belief control (BFC = 0.336) was the weakest correlation with employee creativity (Table 3). Both of them came from the same enabling control. It indicates that the implementation of the LOC in startup companies in Indonesia causes the interactive controls to dominate and they are used to compensate for the low belief control. Through open communication, the organizations disseminate and internalize their corporations' values, including to their employees. This encourages the employees to exchange information (Chen et al., 2012). It also creates more ways for them to deliver their creative ideas, relevant to their companies' expectations. This is important to seek appropriate measurable control systems and develop their business models (Spender et al 2017). The others, boundary and diagnostic control almost balance at 0.483 and 0.441 respectively (Table 3). The result describes that organizations use constraining controls almost

equally. Risks concerning creative action should be avoided by the employees and whenever any deviation is found it should be corrected by the affected organization using predetermined performance standards (Simons, 1995; Tessier and Otley, 2012).

Figure 2 show that leadership influences the LOC to produce creativity. A transformational leader exists to create relatedness with the employees. The leader conducts meaningful communications by being an inspiring figure. It occurs because the transformational leader is a charismatic figure for the employees (Bass and Avolio, 1990; Banerjee, Alen, and Gupta, 2017). The leader's power exists to motivate the employees to discover other perspective of their work and challenge them to try new approaches to accomplish their tasks (Podsakoff et al., 1990; Henker et al., 2014). The leader motivates the employees to seek different perspectives of how to accomplish their work. The transformational leader also challenges the employees to think creatively and discover new perspectives (Harbi et al 2018; Shafi et al. 2020). The leader

supports the LOC as a system to communicate and appreciate the employees' creative ideas. This action is supposed to support their intrinsic motivation and strengthen their perceived competence and autonomy.

Particularly, if the term TLS is high, the LOC's influence on ECR initially decreased, but increased afterwards (Figure 3). This phenomenon can be explained because the employees were at the level of adjustment with the characteristics of a transformational leader in the early stage of the LOC's implementation, hence the graph decreases slightly. This situation could also be due to the lack of trust by the subordinates in their leaders and implies there may be a poor response from the employees to their superiors (Huang et al., 2015). Nevertheless, at some point when an employee adapts to his superiors' leadership style, the LOC's influence on creativity increases. This condition explains the leader and member exchange theory/LMX (Graen and Uhl-Bien, 1995). LMX strengthened the relationship between the superiors who encourage creativity with the subordinates involved in the creative processes. When the quality of the relationship between superiors and subordinate improves, the subordinates understand the creative expectations demanded by the leader, and the opposite (Huang et al., 2016). In this condition the leader motivates and encourages the employees' autonomy from a novel perspective to handle business challenges through an integrated LOC.

There is another result in the low TLS condition; initially the LOC's influence on creativity was at a negative point and gradually moved toward a positive one. Based on the research findings, in both low and high transformational leadership conditions, the LOC's influence on creativity increased. Nevertheless, in high TLS, the LOC's influence on creativity was greater than in low TLS conditions. This is

in line with the theory of leadership expressed by Bass and Avolio (1990). Bass and Avolio (1990) suggested that transformational leadership demonstrated an optimistic attitude towards target achievement, behaved enthusiastically concerning what needs to be accomplished, and offered different and open-minded new ideas to solve problems. Transformational leadership's style in enhancing employee creativity is indispensable for startup companies in their development period.

The results of this research are consistent with the previous research, undertaken by Pieterse et al. (2010), Si and Wei (2012), Henker et al. (2014), Harbi et al (2018) and Suifan et al. (2018) who all stated that transformational leadership positively affected the employees' creativity. This study's result also answered the suggestion by Spekle et al. (2017) that leadership influenced control systems enhance the creativity in organizations. Particularly, with a high transformational leadership style, they strengthen the LOC's influence on employees' creativity.

## **CONCLUSION AND SUGGESTION**

### **1. Conclusion**

This research empirically shows the existence of interactional transformational leadership influences the levers of control and creativity. The LOC positively influences employees' creativity. In this study, positive control, particularly interactive control, contributes more than the other LOC dimensions to creativity. It facilitates the employees' autonomy to LOC facilitates employees to deliver creative ideas that should be relevant according to organization's core value. The employees were allowed to create different new approach for completing and make some improvement in their tasks, but the system corrects them whenever any deviations occurred. The process is enhanced by transformational

leadership. The LOC improves the employees' creativity under both high and low transformational leadership styles. However, higher transformational leadership aligns and increases the autonomy of the employees, allowing them to be more creative. Therefore, it is concluded that the integration of an effective LOC with the role of leadership should be considered, to develop the employees' creativity, so it is consistent with the various companies' expectations.

## 2. Implication and Limitation

The research's findings imply startup companies face competition, even though they may still be in the development stage. Startup companies should consider appropriate mechanisms for their management control systems, in accordance with their organizational characteristics, to encourage their employees' creativity. The LOC is offered as one of the management control mechanisms that can be applied by Indonesian startup companies. The success of such control mechanisms is not detached from the leader's role. Therefore, this research suggests the role of transformational leadership is significantly crucial, as an effort to encourage the companies' employees to discover valuable ideas.

This research has limitations. The surveys were only sent to some provinces, such as DKI Jakarta, Central Java, D.I. Yogyakarta, Jambi, and South Sumatera. Future research should conduct a national survey to achieve more general and comparable results. Further research can also identify both the influence of transformational and transactional leadership, and involve incentives as moderators to the LOC's influence on employees' creativity.

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## Appendix

**Table 1.** Combined loadings and cross-loadings

	BFC	ITC	BOC	DIC	IM	IS	IC	CF	ECR	p value
BFC1	0.874	-0.085	-0.020	0.178	-0.106	0.050	-0.038	0.074	-0.080	<0.001
BFC2	0.886	-0.264	-0.055	0.072	0.018	0.033	-0.174	0.093	0.115	<0.001
BFC3	0.911	0.075	0.046	-0.129	-0.078	0.101	-0.017	-0.013	0.007	<0.001
BFC4	0.799	0.300	0.031	-0.127	0.186	-0.206	0.254	-0.169	-0.048	<0.001
ITC1	0.121	0.764	0.003	0.051	0.531	0.030	0.017	-0.460	-0.107	<0.001
ITC2	-0.147	0.678	0.075	-0.101	-0.018	-0.227	0.158	0.183	-0.173	<0.001
ITC3	-0.162	0.798	-0.093	0.079	-0.095	-0.153	0.285	0.005	-0.072	<0.001
ITC4	-0.047	0.701	-0.017	-0.117	-0.055	-0.072	0.121	-0.081	0.116	<0.001
ITC5	0.186	0.748	0.008	-0.044	0.057	0.305	-0.221	0.055	-0.074	<0.001
ITC6	0.038	0.788	0.034	0.103	-0.408	0.094	-0.338	0.304	0.293	<0.001
BOC1	0.065	-0.075	0.868	-0.099	0.134	0.099	-0.082	-0.063	-0.033	<0.001
BOC2	0.044	-0.123	0.872	-0.146	0.100	-0.066	0.115	0.015	0.074	<0.001
BOC3	-0.018	0.013	0.877	0.091	-0.015	-0.073	-0.032	-0.048	0.004	<0.001
BOC4	-0.100	0.202	0.796	0.168	-0.238	0.045	-0.001	0.106	-0.050	<0.001
DIC1	0.150	-0.016	-0.007	0.863	-0.103	0.238	-0.008	0.033	0.023	<0.001
DIC2	-0.033	0.015	0.044	0.946	0.015	-0.107	0.062	-0.077	-0.024	<0.001
DIC3	-0.091	0.062	-0.057	0.915	0.082	-0.115	-0.017	-0.102	0.035	<0.001
DIC4	-0.017	-0.067	0.020	0.863	0.001	0.001	-0.042	0.159	-0.034	<0.001
IM1	-0.061	0.037	0.010	0.014	0.898	0.079	-0.105	0.015	0.014	<0.001
IM2	0.061	-0.037	-0.010	-0.014	0.898	-0.079	0.105	-0.015	-0.014	<0.001
IS1	-0.088	-0.009	0.010	0.127	-0.010	0.873	-0.327	-0.186	-0.010	<0.001
IS2	0.088	0.009	-0.010	-0.127	0.010	0.873	0.327	0.186	0.010	<0.001
IC1	0.026	0.018	0.028	-0.109	0.101	0.292	0.895	-0.223	-0.218	<0.001
IC2	-0.026	-0.018	-0.028	0.109	-0.101	-0.292	0.895	0.223	0.218	<0.001
CF1	-0.047	0.229	0.037	-0.122	-0.119	0.198	-0.150	0.878	-0.034	<0.001
CF2	0.047	-0.229	-0.037	0.122	0.119	-0.198	0.150	0.878	0.034	<0.001
ECR1	0.173	-0.182	0.076	-0.021	0.187	0.247	-0.126	-0.309	0.823	<0.001
ECR2	0.051	0.206	0.058	-0.060	-0.221	-0.023	-0.036	0.297	0.820	<0.001
ECR3	-0.064	-0.049	-0.030	-0.037	0.019	-0.126	0.155	0.030	0.864	<0.001
ECR4	-0.163	0.028	-0.108	0.123	0.014	-0.096	-0.001	-0.019	0.788	<0.001

BFC= belief control; ITC= interactive control; BOC= boundary control; DIC= diagnostic control; IM= inspirators and motivators; IS= intellectual stimulation; IC= individual consideration; CF= charismatic figures; ECR= employee creativity

Source: Data processed with WarpPLS 6.0

**Table 2.** Average Variances Extracted

BFC	ITC	BOC	DIC	IM	IS	IC	CF	ECR
<b>0.754</b>	0.558	0.729	0.805	0.807	0.763	0.801	0.770	0.679

Source: Data processed with WarpPLS 6.0

**Table 3.** Correlations among l.vs. with sq. rts. of AVEs

	BFC	ITC	BOC	DIC	IM	IS	IC	CF	ECR
BFC	<b>0.869</b>								
ITC	0.712	<b>0.747</b>							
BOC	0.506	0.596	<b>0.854</b>						
DIC	0.547	0.582	0.515	<b>0.897</b>					
IM	0.436	0.550	0.451	0.518	<b>0.898</b>				
IS	0.410	0.521	0.405	0.447	0.499	<b>0.873</b>			
IC	0.432	0.502	0.356	0.493	0.550	0.746	<b>0.895</b>		
CF	0.326	0.448	0.374	0.358	0.705	0.592	0.627	<b>0.878</b>	
ECR	0.336	0.527	0.483	0.441	0.481	0.484	0.471	0.394	<b>0.824</b>

Source: Data processed with WarpPLS 6.0

**Table 4.** Cronbach's alpha coefficients

BFC	ITC	BOC	DIC	IM	IS	IC	CF	ECR
<b>0.891</b>	0.841	0.875	0.919	0.760	0.689	0.751	0.702	0.842

Source: Data processed with WarpPLS 6.0

**Table 5.** Composite reliability coefficients

BFC	ITC	BOC	DIC	IM	IS	IC	CF	ECR
<b>0.925</b>	0.883	0.915	0.943	0.893	0.865	0.889	0.870	0.894

Source: Data processed with WarpPLS 6.0

**Table 6.** Summary of Inner Model Evaluation

Model	VIF	Koefisien Jalur ( $\beta$ )		R <sup>2</sup>	f <sup>2</sup>	Q <sup>2</sup>		
1	LOC	1.830	LOC→ECR	0.464	0.325	LOC	0.257	0.330
	TLS	1.864	LOC*TLS→ECR	-0.162		TLS*LOC	0.068	
	TLS*LOC	1.117						

Source: Data processed with WarpPLS 6.0

**Table 7.** Model Conformity Assessment

Model	Pengukuran		
	AVIF	ARS	APC
1	1.438 (ideal≤3)	0.325 (P<0.001)	0.313 (P<0.001)

Source: Data processed with WarpPLS 6.0

## Research Questionnaire

### Q1 Beliefs Control (Widener, 2007)

Show the extent to which the following items describe your organization

(1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

- a) The organization's mission statement has been clearly communicated to employees
- b) Supervisors/bosses communicate the core values of the organization to employees
- c) Employees are aware of the organization's core values
- d) The organization's mission statement inspires the company's employees

**Q2 Interactive Control (Henri, 2006; Spekle, Van Elten and Widener, 2017)**

Based on the conditions that occur in your organization, give your opinion on the following statements (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

- a) There are ongoing active discussions about the challenges faced, based on the latest data, and these determine the further action between superiors, subordinates and peers
- b) There is an attachment between the organization's members and the organization
- c) The organization focuses on dealing with common problems that occur
- d) The organization's members understand the determinants of business success
- e) Higher management pays attention to the employees' daily performance
- f) Higher management communicates key strategies for dealing with changes in the business environment

**Q3 Boundary Control (Widener, 2007)**

Based on the conditions that occur in your organization, give your opinion on the following statements (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

- a) Employees are aware of the organization's code of ethics
- b) The organization's code of ethics has explained the behavior required of the employees
- c) The organization's code of ethics informs the employees of fault tolerances
- d) The organization has a system for communicating risks that employees must avoid

**Q4 Diagnostic Control (Widener, 2007; Henri, 2006)**

Higher management uses performance appraisal indicators for

(1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree):

- a) Following the development of the company in order to achieve the company's goals
- b) Monitoring performance results
- c) Comparing results against expectations (expectations)
- d) Evaluating performance

**Q5 Employee Creativity (Farmer, Tierney and Kung-McIntyre, 2003).**

Based on your reality, give your opinion on the following statement

(1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

- a) You think of other ways to solve the problem
- b) You are able to get new perspectives on old and current problems
- c) Help others develop new ideas
- d) Have lots of new ideas

**Q6 Transformational Leadership Styles (Bass and Avolio, 1990; Banerjee, Alen, and Gupta, 2017)**

Based on your reality that occur in your organization, give your opinion about your boss

(1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

**Q6.1 Inspire and Motivate**

- a). Shows an optimistic attitude toward achieving the set targets
- b). Talks enthusiastically about what needs to be achieved

**Q6.2 Intellectual stimulation**

- a). Has a different view for solving problems
- b). Critically reviews assumptions to ensure their compatibility

**Q6.3 Individual Considerations**

- a). Offers a new way to solve problems
- b). Reviews problems from different points of view

**Q6.4 Charismatic figures**

- a). Has an attitude that makes you appreciate it
- b). Appears as someone who is full of strength and confidence