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COLLEGE OF BUSINESS AND

ECONOMICS

DEPARTMENT OF MANAGEMENT

**The Effect of Leadership Styles on Innovative Behavior: Mediating
effect of Employee Psychological empowerment and Moderating
Influence of organizational learning culture in the Case of Selected
Pharmaceutical Manufacturing Companies in Ethiopia**

**A Thesis Submitted to Addis Ababa University, College of Business and Economics,
Department of Management for the Partial Fulfillment of the Requirement for the
Award of Masters of Science Degree in business administration**

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Addis Ababa, Ethiopia

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APPROVAL

**ADDIA ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF MANAGEMENT**

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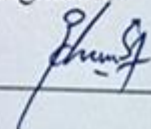
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DECLARATION

I, Yeabsira Alemu, hereby declare that this work is my original creation. All sources of material utilized in this study have been fully acknowledged. This research paper is submitted in partial fulfillment of the requirements for the Master of Business Administration (MBA) degree.

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Date ... *October 15, 2024*

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List of Acronyms and Abbreviation

AL: Authentic Leadership:

SL: Servant Leadership: SL

TL: Transformational Leadership: TL

OLC: Organizational Learning Culture:

PE: Psychological Empowerment:

LMX: leader-member exchange

OLS: Ordinary Least Squares

SEM: Structural Equation Modeling

EFDA: Ethiopian food and drug administration

Abstract

Leaders are expected to enhance the creative behavior of their followers by adopting various leadership styles. This study aimed to investigate the impact of authentic, transformational, and servant leadership on employees' innovative work behavior within Ethiopia's pharmaceutical manufacturing industry. It also explored the mediating role of psychological empowerment and the moderating role of organizational learning culture between these leadership styles and innovative work behavior. A combination of explanatory and descriptive research designs, along with a quantitative approach, was employed. A total of 303 respondents were selected from seven pharmaceutical manufacturing companies in Addis Ababa using quota sampling. Structural equation modeling with bootstrapping techniques and descriptive statistics were employed for analysis. The analysis reveals that both Authentic Leadership authentic leadership and Servant Leadership positively influence psychological empowerment. In contrast, Transformational Leadership negatively affects psychological empowerment. Furthermore, authentic leadership significantly enhances Innovative Work Behavior while servant leadership and transformational leadership do not have significant effects on innovative work behavior. The bootstrapping technique confirms that PE partially and fully mediate the effect authentic and servant leadership respectively, however, transformational leadership do not show significant indirect effects on innovative work behavior. Organizational learning culture positively influences innovative working behavior, but negatively moderates the relationship between authentic leadership and innovative work behavior. Conversely, organizational learning culture positively moderates the relationship between transformational leadership and innovative work behavior. The findings suggest that while authentic leadership effectively fosters innovation through psychological empowerment, the existing organizational learning culture may hinder this relationship. To enhance innovative behavior, pharmaceutical companies should develop supportive organizational learning culture practices that complement authentic leadership, thereby maximizing its positive impact on innovative work behaviour. This study emphasizes the critical role of leadership styles and organizational contexts in promoting employee innovation within the industry.

*Key Words: leadership authentic servant, transformational innovative work behavior;
organizational learning culture, psychological empowerment*

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Creativity and innovation are essential for acquiring a competitive advantage in today's dynamic workplace. Organizations must overcome creative challenges and nurture innovation to thrive amid rapid technological advancements and intense competition (Müceldili et al., 2013). The business landscape is characterized by constant competition and transformation, necessitating innovative behavior from employees to achieve success and sustainability (Kale et al., 2019; Kwon & Kim, 2020; Eid & Agag, 2020).

In the pharmaceutical manufacturing sector, innovation is vital for developing new medications and enhancing existing products. However, fostering innovation requires creativity, risk-taking, and a willingness to experiment (Romasanta et al., 2020). Leadership plays a crucial role in driving innovation within this industry (Romasanta et al., 2020; Domínguez-Escrig, 2022). Leadership style reflects a leader's governance behavior and is influenced by their personality traits and experiences (Iqbal et al., 2023).

To compete globally, organizations must adopt modern leadership approaches that are authentic and diverse, moving away from traditional styles (Imam et al., 2020). Authentic leadership (AL) combines transformational, ethical, and charismatic elements, effectively addressing organizational challenges (Wang & James, 2013; Lynch, 2016). This style emphasizes balanced reasoning and clarity in communication with employees, promoting innovative performance through self-awareness and positive modeling (Gardner et al., 2005; Avolio & Gardner, 2005).

Transformational leadership (TL) similarly fosters trust among followers by prioritizing their needs and enhancing their well-being (Kelloway et al., 2012). By creating an environment that encourages flexibility and employee empowerment, transformational leaders link this factor to organizational success (Pradhan et al., 2017; Spreitzer, 1995; Yukl, 2006). This leaders fulfill their followers' information needs by clearly communicating the organization's vision and goals their by highlighting the value of their

work and recognizing their competencies (Jha, 2014 ;Yukl, 2006). They view individuals as valuable resources and foster group efficacy and empowerment (Men & Stacks, 2013; House & Shamir, 1993).

In contrast, servant leadership (SL) emphasizes power sharing and prioritizes others' needs, promoting personal growth (Greenleaf, 2008; Laub, 1999).key characteristics of SL, including empowerment and setting a positive example (Russell & stone 2002). Van Dierendonck and Nuijten (2011) outlined dimensions of SL such as accountability and humility with empowerment fosters creativity by providing intrinsic motivation (Neubert et al., 2016; Chiniara & Bentein, 2016; Hunter & Nielsen, 2013). According to Blau's social exchange theory, followers of servant leaders feel valued and respond with enhanced performance (Eva et al., 2019). This relationship fosters psychological trust and encourages innovative contributions (Yang et al., 2017).

Organizational learning culture (OLC) also impacts employees' creative behavior by creating an environment conducive to idea generation and knowledge sharing (Jung et al., 2021). OLC involves systematic learning activities that enhance knowledge capacity (Carroll & Edmondson, 2002) and is vital for organizational competitiveness (Garvin, 1993). Research indicates that OLC is crucial for improving organizational outcomes, including performance (Joo, 2012; Marsick & Watkins, 2003).

Psychological empowerment influences innovative work behavior (IWB) by instilling a belief in employees' ability to contribute meaningfully (Liu et al., 2019). Thomas and Velthouse (1990) describe psychological empowerment (PE) as multidimensional, encompassing impact, meaning, competence, and self-determination. Each dimension reflects employees' perceptions of their roles within the organization.

Innovative work behavior significantly influences organizational success. Authentic, transformational, and Servant Leadership styles contribute to this behavior. PE plays a crucial role in mediating these effects (Javed, B et al 2019, Khan, M et al 2021). Companies can promote IWB by fostering PE, psychological capital, and creating supportive work environments that recognize and reward innovation (Grošelj, M 2021)

Therefore, in the context of Ethiopia's pharmaceutical manufacturing industry, this study aimed to investigate the relationship between employees' innovative behavior and leadership styles including authentic, transformational and SL style, as well as the mediating role of employee empowerment and the moderating role of OLC.

1.2 Statement of the problem

Creativity is a valuable resource for obtaining a competitive edge in the fast-paced workplace of today. To survive and thrive in the face of rapidly developing technology, intense pressure from both internal and external competitors, and an unpredictable and turbulent economic climate, organizations must foster creativity (Mubarak & Noor, 2018). Employee innovation behavior is critical to the sustainability and continuous growth of organizations in today's business environment (Erdogan et al., 2006).

Earlier research indicates that an open-ended, creative culture and flexible leadership significantly impact employees' innovation behavior (Javed et al., 2019). Leadership studies have increasingly focused more on an organization's mission, values, and employee integrity in order to foster positive employee behavior and boost organizational performance, which in turn encourages innovative action (George, 2010). In order to positively influence employee relations and behavior at this crucial juncture, organizations require leadership styles that combine authenticity, openness, and flexibility (House and Javidan, 1997).

Positive employee attitudes and behaviors, along with a positive organizational climate, are essential for operationalizing innovation in any kind of organization (Zeb et al., 2020). These factors are closely associated with AL. studies show that managers who act in an AL manner catalyze creative activities by building positive working relationships are based on openness to new information, transparency, trust, and support (Hanaysha, 2020).

Researchers that have looked into the relationship between innovative work practices and leadership have found that the two are positively correlated (Khan, Ismail, Hussain, & Alghazali, 2020). Organizational culture has been shown to considerably moderate the relationship between TL and IWB as well as the relationship between transactional leadership and IWB, according to Khan et al. (2020). Empirical studies demonstrated that

impact of PE on the relationship between innovative work practices and TL increases employee empowerment, which encourages creative behavior (Afsar, Badir, & Saeed, 2014).

Servant leadership is another leadership style that significantly impact employees creative work behavior. research show that SL positively influence IWB through psychological empowerment and job crafting as mediator (Khan et al.,2022) .Additionally ,OLC can moderate the relationship between SL and IWB, enhancing the positive effects of SL on innovation(Jung et al.,2021).

Kusmargono et al. (2023) confirmed that work meaningfulness mediates the relationship between IWB and AL. Similarly Toros et al. (2021) discovered that an inclusive leadership style in creative work has a major and positive impact on behavior, with PE acting as a mediating factor in this relationship. Empowerment and dedication to the supervisor are two ways that AL promotes innovation (Hoch et al., 2018).

According to Hayes (2018), understanding the role of mediators is crucial in order to find out "how" the independent variable affects the dependent variable and moderator highlight “when” in order to comprehend the phenomena that occur on a deeper level. Thus, it is imperative to look into the role of a moderator and mediator between IWB and leadership styles.

According to Muceldili et al. (2013), one significant contextual factor influencing employee creativity and innovation is leadership. According to Fang et al. (2019), leadership is considered to be one of the most important factors influencing creativity and innovation among the various forms of innovative business behaviors. According to Karatepe et al. (2020), a leader is actually essential to organizational innovation and change. Employee motivation and competencies, as well as an organization's leadership style, all directly influence the innovative behavior of its workforce.

The present study aims explore PE as a mediator and OLC as a moderator of the relationship between the three leadership styles on IWB. Studies examine the effect of AL, SL and TL on IWB is limited across the globe and more limited for developing countries like Ethiopia. Studies incorporating PE as a mediator and OLC as a moderator of the

relationship between AL and IWB are scarce and none is available in the Ethiopian context. Moreover, this study is unique in terms of incorporating AL, TL and SL as independent variables. Therefore, the current study sought to fill this gap in the literature through examining the effect of leadership styles on IWB with the mediating and moderating role of PE and OLC in this relationship, respectively.

1.3 Research questions

The study will answer the following four research questions;

- How do leadership styles (authentic, servant, and transformational) significantly affect employees' innovative behavior?
- In what ways do leadership styles (authentic, servant, and transformational) significantly affect employees' psychological empowerment?
- How does employee psychological empowerment mediate the relationship between leadership styles (authentic, servant, and transformational) and employees' innovative behavior?
- In what ways does OLC moderate the relationship between leadership styles (authentic, servant, and transformational) and employees' innovative behavior?

1.4 Objectives of the study

1.4.1. General objective

The general objective of the study is to examine the effect of Authentic, servant and transformational leadership on employees' innovative work behavior with mediating effect of psychological empowerment and moderating influence of organizational learning culture in pharmaceutical manufacturing companies in Addis Ababa.

1.4.2. Specific objectives

- To examine the effect leadership styles (Authentic, servant and transformational) on employees' innovative behavior.
- To determine the effect of leadership styles (Authentic, servant and transformational) on employees' psychological empowerment.
- To investigate the mediating role of employees' psychological empowerment the relationship between leaderships styles (Authentic, servant and transformational) and employees' innovative behavior.

- To investigate the moderating role of OLC the relationship between leaderships styles (Authentic, servant and transformational) and employees' innovative behavior.

1.5 Significance of the study

The relationship between IWB and leadership styles, the relationship between PE and leadership styles, and the moderating and mediating roles of OLC and PE will all be demonstrated empirically by the study's findings. Consequently, the results will be of great significance to academics, human resource managers, and pharmaceutical manufacturing companies;

The results can be used by pharmaceutical manufacturing companies to enhance innovation adoption and innovation work behavior. For example, intervention strategies can be designed to meet business innovation objectives, and a leader's styles and employees can be evaluated as a basis for advancement or other appropriate uses.

The results of the current study are essential for human resource managers to develop and monitor strategic plans that support their employees' innovative work practices. It can also help managers to identify, strengthen and apply appropriate leadership style and employees create tailored development plans to improve their creative behavior. The results of this particular study are useful in comparing the creative work behaviors of employees as a goal to be achieved in accordance with the innovation policies of the organization.

The outcome is crucial for academicians to apply the research findings as a foundational resource for additional investigation and development in other economic sectors.

1.6 Scope of the study

The study's focus is on how employees' creative work behaviors in a few pharmaceutical manufacturing companies in Addis Ababa, Ethiopia, are impacted by different leadership styles, with a presence of moderator and mediator. In terms of methodology, the study used an inferential and descriptive research design along with a quantitative research approach. As a result, the independent variables are AL, TL and SL style, and the dependent variable is the IWB of the workforce. Additionally, the study included OLC and PE, which were thought to be moderating and mediating variables, respectively.

1.7 Organization of the study

The research is arranged into five sections: an overview covering the study's purpose, background, and objectives; a review of relevant literature including theoretical and empirical works; a section on the study's methodology; a section on the analysis and interpretation of the results; a section summarizing the results; a section on recommendations; and a section on conclusions.

CHAPTER TWO

LITERATURE REVIEW

The study's theoretical and empirical reviews of relevant literature are presented in this chapter. Concepts and theories on IWB, OLC, PE, and the three leadership styles are all covered in the theoretical review. On the other hand, the empirical review discusses the empirical results of earlier research on the impact of TL, SL and AL on IWB as well as the mediating and moderating roles of PE and OLC, respectively.

2.1 Theoretical Reviews

2.1.1 Leadership Theories

Organizational theories are frequently created and applied to address real-world issues, and they are frequently prescriptive in nature. Excerpts from the Journal of Resources Development and Management are highlighted in the following section, which provides a relatively clear review of the leadership styles to be investigated in the study. The various leadership theories and their corresponding features are described.

2.1.1.1 Great-man Theory

"Universal history, the history of what man has accomplished in this world, is at the bottom of the history of the great men who have worked here," as Thomas Carlyle said in 1847, speaking for the heroes. Thomas Carlyle thought that the major influences on history could be attributed to powerful, distinctive individuals who possessed extraordinary intelligence, bravery, extraordinary leadership qualities, or divine inspiration. These outstanding people's choices, creations, concepts, and personas all influenced history. In his great man theory, Carlyle asserted that only men with heroic potential could ever be leaders and that

leaders are born (Benmira, S., & Agboola, M. 2021). In his view, great men were not created; they were born.

Sidney Hook, an American philosopher, developed Carlyle's thesis by emphasizing the distinction between the impact that an eventful man and an event-making man can make. Platz and Dobbins (1986). He distinguished between the "eventful man" and the "event-making man," building on Carlyle's viewpoint (Dobbins & Platz, 1986). Hook argues that although the eventful man exists in intricate historical contexts, he does not profoundly influence their development. On the other hand, the man who creates events takes an active role in shaping their course. Exceptional intelligence, determination, and integrity, not just brilliance, are what make him impactful.

Nevertheless, later historical occurrences exposed ethical shortcomings in this notion of leadership. The validity of the Great Man theory was questioned by individuals such as Hitler and Napoleon. These once-honored great men lost their significance, and their influence stunted the expansion of the organization (MacGregor, 2003). The belief that leaders are born into their positions has given way to a focus on particular characteristics that suggest leadership potential in leadership theory.

2.1.1.2 Trait Theory

Early theorists suggest that inherent physical attributes and personality traits leaders were differentiated from non-leaders by inherent physical attributes and personality traits set born leaders apart from non-born leaders. Trait theorists, however, overlooked whether these like charisma, learned through experience or education, and emergent traits ,such as height, intelligence, attractiveness, and self-confidence, determined by heredity (Ekvalland & Arvonen 1991).

According to Max Weber, charisma is a powerful revolutionary force that has the ability to completely transform followers' perspectives and engender unwavering personal loyalty to leaders who are thought to possess almost supernatural, magical abilities. Due to the early emphasis on differentiating characteristics between leaders and non-leaders, research indicates that there aren't many differences between the two groups (Burns 2003). However, the demise

of trait theory was caused by the inability to pinpoint characteristics that all successful leaders shared. Researchers studying the characteristics of military and civilian leaders in the late 1940s discovered the importance of particular characteristics appearing in particular situations.

2.1.1.3 Contingency (situational) Theories

According to the contingency theory, a leader's efficacy is contingent upon the circumstances in which they find themselves, rather than any one style being universally effective. Based on various factors such as follower quality, environmental conditions, and others, leaders need to modify their approach accordingly. This theory stresses adaptability and responsiveness to particular circumstances rather than dictating a leadership style that works for all circumstances (Greenleaf, R. K. 1977).

Contingency theorists acknowledge that internal changes brought about by employees also contribute to the evolution of organizational dynamics. Situational leadership recognizes the significance of group dynamics in forming effective leadership, even though it focuses primarily on the leader (Bass, B. M. 1997).

The 1969 introduction of the situational leadership model states that leaders should modify their approach according to the degree of maturity of their subordinates. Four levels of maturity are identified by Hersey and Blanchard's model: low (M1), moderately low (M2), moderately high (M3), and high (M4). Effectiveness is maximized when leadership philosophies align with these stages of maturity. For example, when followers lack knowledge or skills, a more directive approach (telling) might be required; however, as subordinates gain competence and experience, a delegating style becomes appropriate (Hersey, P., & Blanchard, K. H. 1969).

2.1.1.4 Style and Behavior Theory

The theory of leadership styles acknowledges the significance of particular leadership competencies that facilitate leaders' efficient performance. It implies that every person has a

distinct leadership style that best suits their comfort level. A single leadership style cannot be universally effective, just as one size does not fit all Yukl (1989).

Three types of leaders were proposed by other researchers: authoritarian, democratic, and laissez-faire. Whereas laissez-faire leaders permit subordinates to make decisions on their own, autocratic leaders make decisions without consulting their subordinates. Democratic leaders interact with their subordinates and consider their opinions when making decisions. It's crucial to remember that not all leaders fall neatly into these groups (Manners, A. T. 2008).

Democratic leaders inspire high levels of motivation, creativity, and satisfaction in their workforce. Whether the leader is present or not, they work with vigor and excitement. Improved relationships with the leader are upheld, which boosts output. The primary goal of autocratic leaders is to maximize output quantity. Laissez-faire leadership is applicable when managing incredibly talented and driven teams that have a strong performance history. Two more leadership philosophies were recognized by Feidler and House (1994): Initiating Structure, which describes how a leader organizes, guides, and establishes roles for both themselves and their subordinates, and Consideration, which speaks to the trust and rapport a leader builds in their subordinates. These ideas emphasize how crucial it is to comprehend leadership philosophies and how they affect organizational results.

2.1.1.5 Process Leadership Theory

Leadership theories have changing over time, offering valuable insights into effective leadership. Servant Leadership, introduced by Robert K. Greenleaf in the early 1970s, emphasizes leaders serving their followers with empathy, collaboration, and a commitment to helping others succeed (van Dierendonck, 2011). Lean Organizations, while not exclusively a leadership theory, focus on efficiency, waste reduction, and continuous improvement, fostering a culture of continuous learning and adaptability. Principal-Centered Leadership, popularized by Stephen R. Covey, emphasizes aligning leadership practices with core principles and values, prioritizing ethical decision-making and integrity. Charismatic Leadership involves leaders who inspire and motivate through their personal qualities and

vision, often having a strong influence on their followers and rallying support for a cause or mission (Mhatre, K et al 2014) .

1.1.1.6 Transactional Theory

By the late 1970s and early 1980s, leadership theories had begun to shift away from the unique viewpoints of the leader, the context of the leadership, and the follower, and toward approaches that focused more on the interactions between followers and leaders. According to House and Shamir (1993), transactional leadership is characterized by leader-follower relationships that are based on a number of agreements between followers and leaders. The foundation of the transactional theory was reciprocity, according to which followers are influenced by their leaders as well as being influenced by them. According to certain studies, there is a difference between transactional leadership and other leadership styles in terms of the followers' relationships and the leaders' level of action.

"A type of contingent-reward leadership that had active and positive exchange between leaders and followers whereby followers were rewarded or recognized for accomplishing agreed upon objectives" is how Bass and Avolio (1994) defined transactional leadership. These rewards could include appreciation from the leader for work accomplishments, bonuses, and merit raises. Positive reinforcement for good work, merit pay for promotions, better performance, and collaboration for collegiality could all be given for good work. Alternatively, the leaders could dwell on mistakes, evade reactions, and postpone making choices. This approach, known as "management-by-exception," can be classified as either passive or active. The distinction between these two categories of transactions is based on when the leaders become involved. When a leader adopts an active form, they consistently assess performance and make an effort to take proactive measures. Bass and Avolio (1997).

1.1.1.7 Transformational Theory

Being aligned to a greater good, TL stands apart from other past and present theories. It involves involving followers in processes or activities related to personal factor towards the organization and a course that will yield certain superior social dividends. According to

House and Shamir (1993), transformational leaders elevate the morale and drive of both their followers and themselves. It is said that "interactions with followers based on common values, beliefs and goals" characterize transformational leaders. This affects the performance that leads to goal attainment.

According to Bass, a transformational leader "Tries to induce followers to reorder their needs by transcending self-interests and strive for higher order needs" The Maslow (1954) higher order needs theory is supported by this theory. A course that focuses on beliefs, values, and attitudes that enlighten leaders' practices and their capacity to lead change is called TL.

According to the literature, leaders and followers should put the good of the group ahead of their own interests. The leader is then expected to concentrate on the needs and suggestions of the followers in order to empower and inspire everyone to become a leader (Aditya & House, 1997). The ethical bounds of leadership serve as a further point of differentiation between TL and the previously established leadership theories.

The transformational leaders are considered by their capability to identify the need for change, gain the agreement and commitment of others, create a vision that guides change and embed the change. These types of leaders treat subordinates individually and pursue to develop their consciousness, morals and skills by providing significance to their work and challenge. These leaders produce an appearance of convincing and encouraged vision of the future. They are "visionary leaders who seek to appeal to their followers" better nature and move them toward higher and more universal needs and purposes" (MacGregor, 2003).

2.1.2. Psychological empowerment theories

The idea of empowerment was developed over time. It incorporates concepts from a variety of fields, including theology, feminism, black power movements, and so forth. Then, in the 1980s, Julian Rappaport presented the idea as a psychological concept (Rappaport, J. 1987). He underlined how crucial it is to fostering personal freedom and civic engagement. As time went on, scholars such as Marc Zimmerman added to Rappaport's research, demonstrating the complex nature of empowerment (Zimmerman M.A 2020).

2.1.2.1. Conger and Kanungo's Model (1988)

The motivational aspects of empowerment are highlighted by Conger and Kanungo's Model (1988), which defines empowerment as a process of enhancing self-efficacy among organizational members by identifying and eliminating conditions that foster powerlessness. The idea of self-efficacy, or a person's confidence in their capacity to carry out tasks and accomplish goals, is fundamental to their model. The process of empowerment entails identifying the causes of helplessness, putting strategies into place to boost self-efficacy, and assessing the results. Information accessibility, decision-making involvement, and encouragement and support are a few examples of these tactics (Conger, J. A., & Kanungo, R. N. 1988).

The model emphasizes how important it is for leaders to foster an atmosphere that supports empowerment by offering tools, promoting involvement, and identifying actions that demonstrate empowerment. Changes in behavior and psychology follow empowerment; empowered people are more likely to take the initiative, make choices, and find solutions to issues. Psychologically, they feel more committed to the company, motivated, and satisfied with their jobs. This model, which offers a strong framework for comprehending and implementing empowerment in diverse contexts, has been extensively referenced and employed in organizational research and practice (Conger, J. A., & Kanungo, R. N. 1988, Thomas, K. W., & Velthouse, B. A. (1990).

2.1.2.2. Thomas and Velthouse's Cognitive Model (1990):

This model identifies four crucial factors impact, meaning, competence and self-determination. Impact: Empowerment is strengthened when one is aware of how their actions affect the organization or other people. It entails being aware of how one's efforts affect overall results that affects people's perceptions of their capacity to influence their workplace. Meaning: This dimension has to do with the importance and sense of purpose that a person gives their work. Work that feels purposeful helps people feel more empowered. Competence: Feeling capable and competent in one's position contributes to empowerment. It entails evaluating one's own talents, knowledge, and skills in relation to the current tasks. Self-Determination: Empowerment is closely tied to autonomy and the ability to make choices.

When individuals have a say in decisions related to their work, they experience greater empowerment (K. W. Thomas & B. A. Velthouse, 1990).

2.1.2.3. Marc A. Zimmerman's Empowerment Theory

The Empowerment Theory developed by Marc A. Zimmerman and presented in 2000 views empowerment as a multifaceted concept with aspects related to the individual, the organization, and the community. This theory emphasizes how important it is for people to take charge of their lives, engage in community activities, and understand their surroundings. By focusing on these levels, Zimmerman draws attention to the ways that community involvement, organizational dynamics, and individual agency are all intertwined in the process of promoting empowerment (Zimmerman, M. A. 2002).

Zimmerman's theory has played a crucial role in expanding and comprehension of empowerment as a dynamic and all-encompassing process. It offers a framework for examining the different ways that different interventions and tactics can be used at different levels to foster empowerment. This all-encompassing strategy has been crucial in directing studies and interventions meant to improve community resilience, organizational efficacy, and individual well-being (Zimmerman, M. A. 2002).

2.1.2.4. Sanjeev T. Menon's model

The 2001 model of empowerment developed by Sanjeev T. Menon combines behavioral, emotional, and cognitive elements to offer a thorough understanding of empowerment. According to this model, empowerment involves more than just feeling in control and competent—it also involves having the drive to take action. Menon's method highlights the interaction between these elements, arguing that genuine empowerment happens when people feel capable, in control of their surroundings, and motivated to take action toward their objectives (Menon, S. T. 2001).

Menon's model has influenced thinking about empowerment in ways that go beyond conventional perspectives. The integration of cognitive, emotional, and behavioral components provides a more comprehensive understanding of how empowerment can be

promoted in different contexts. It emphasizes how crucial it is to take care of all three in order to give people the confidence and effectiveness they need to feel more in charge of their personal and professional lives (Menon, S. T. 2001).

2.1.3. Organizational learning culture theories

Organizational learning culture theories explore how organizations create, retain and transfer knowledge to improve and innovate; these theories emphasize the importance of learning oriented culture in fostering continuous improvement and adaptability. Key learning culture theories are listed below.

2.1.3.1. Single-Loop , Double-Loop and Triple-Loop Learning

Using current policies and norms, Single-Loop Learning entails adjusting to correct errors. Reactive in nature, this kind of learning concentrates on finding quick fixes for current issues without challenging presumptions. Although it works well for repetitive tasks, it might not spur much innovation or advancement (Argyris, 1977; Smith, 2001).

Double -Loop By challenging and altering the underlying standards, guidelines, and goals, learning becomes more profound. It entails analyzing the reasons behind an issue's occurrence and thinking about systemic adjustments. An organization can experience major improvements and innovation as a result of this more transformative kind of learning (Argyris, 1977; Smith, 2001).

By considering how learning is carried out within the organization, triple-loop learning goes beyond double-loop learning. It entails challenging the very frameworks and procedures that are employed in education and decision-making. Understanding the environment and context in which learning takes place and implementing significant adjustments to enhance the learning process are key components of this kind of learning (Flood & Romm, 1996; Peschl, 2007).

Organizations are encouraged to consider how they can enhance their learning strategies by using this model. It is an all-encompassing strategy that takes into account the larger picture

and seeks to establish an innovative and continuous improvement culture (Flood & Romm, 1996; Peschl, 2007).

2.1.3.2. Experiential Learning Theory

David Kolb's Experiential Learning theory places a strong emphasis on experiential learning. It entails a cyclical process of acting, thinking, reflecting, and experiencing. Because it enables people to apply new knowledge in real-world contexts and learn from their experiences, this model is frequently used in organizational training and development (Kolb, 1984; Kolb & Kolb, 2005).

Concrete experience, reflective observation, abstract conceptualization, and active experimentation are the four phases that make up Kolb's model. With reflection on past experiences and application of newly acquired knowledge to novel situations, this cycle facilitates individuals' ongoing enhancement of their abilities and expertise. (Kolb & Kolb, 2005; Kolb, 1984).

2.1.3.3. Adaptive and Generative Learning

The goal of adaptive learning is to adapt gradually to changes in the environment. Enhancing efficacy and efficiency within the current framework is the goal. For organizations to stay competitive and adaptable to outside changes, this kind of learning is necessary (Senge, 1990; Fiorella & Mayer, 2015).

Developing original solutions and fresh perspectives on the world are two aspects of generative learning. It encourages organizations to reconsider their strategies and approaches in order to achieve long-term success because it is more transformative and forward-thinking (Senge, 1990; Fiorella & Mayer, 2015).

2.1.3.4. Assimilation Theory

The behavioral school's Assimilation Theory focuses on the process by which new information is incorporated into preexisting cognitive structures. It highlights how crucial it is to match newly acquired information with preexisting frameworks in order to promote learning. This theory is especially applicable in settings where organizations need to integrate new knowledge into long-standing practices and protocols (Ausubel, 1963; Novak, 1998).

According to this theory, learning becomes meaningful when new information is connected to prior knowledge. It emphasizes how important past knowledge is to the learning process and how important it is for organizations to design spaces that facilitate the assimilation of new information (Ausubel, 1963; Novak, 1998).

2.1.4. Innovative working behavior theories

Theories of IWB focus on how employees generate, introduce, and apply new ideas within their roles, groups, organizations to improve performance and achieve competitive advantage.

2.1.4.1. Janssen's Model (2000)

Janssen's (2000) theory defines Innovative Work Behavior (IWB) as the intentional creation, introduction, and application of new ideas within a role, group, or organization to enhance performance. This concept emphasizes proactive behavior and innovation at the individual level, which contributes to overall organizational success. IWB encompasses activities from idea generation to implementation, fostering a culture where new solutions and improvements are continually sought. By engaging in IWB, employees not only improve their own job performance but also drive collective progress and competitiveness within their organizations. This theory underscores the critical role of individual initiative in achieving sustained innovation and performance excellence.

2.1.4.2. Amabile's Componential Theory of Creativity

Amabile's (1998) theory delves into the dynamic interplay between individual creativity and organizational influences. It highlights the pivotal role of intrinsic motivation—where the drive to innovate comes from within the individual—as well as the importance of domain-relevant skills and creativity-relevant processes. Essentially, it posits that creativity flourishes when individuals are not only motivated and skilled but also supported by an environment that encourages innovative thinking. Organizational influences, such as management support, resources, and a culture that values creativity, are crucial in fostering an atmosphere where innovative ideas can thrive and be effectively implemented. This theory underscores the

symbiotic relationship between personal creative potential and the organizational ecosystem that nurtures it, facilitating groundbreaking advancements and continuous improvement

2.1.4.3. West and Farris model 1990

West and Farr's (1990) theory posits that Innovative Work Behavior (IWB) is shaped by a blend of individual characteristics, the work environment, and the broader organizational context. It underscores the pivotal role of supportive leadership and a conducive work environment in fostering innovation. According to this model, individual traits such as creativity and motivation interact with the conditions provided by the workplace—like management support, resource availability, and organizational culture—to drive innovative behaviors. This framework highlights that creating an environment where employees feel supported and empowered is essential for promoting and sustaining innovation within organizations.

2.1.4.4. Organizational climate theory

Scott and Bruce's (1994) Organizational Climate Theory posits that a positive organizational climate—characterized by openness, support, and recognition—fosters Innovative Work Behavior (IWB). This theory emphasizes that when employees feel recognized and supported, they are more likely to take risks and share ideas. Such a climate encourages creativity and innovation by providing a safe environment where employees are not afraid to experiment and propose new solutions. The presence of supportive leadership and a culture of recognition are critical in this model, as they empower employees to actively engage in innovative activities, contributing to the overall success and competitiveness of the organization.

2.1.4.5. Social cognitive theory

Bandura's (1986) theory emphasizes the critical roles of self-efficacy, outcome expectations, and goal setting in promoting Innovative Work Behavior (IWB). According to this framework, employees are more inclined to engage in innovative activities when they have high self-efficacy—belief in their own abilities to perform tasks successfully—and anticipate positive outcomes from their efforts. Goal setting further strengthens this relationship by providing clear objectives and motivation for innovation. When employees believe in their capabilities and expect that their innovative efforts will be rewarded or result in beneficial outcomes, they

are more likely to take initiative and contribute new ideas, driving continuous improvement and innovation within their organizations.

2.2 Empirical Literature Review

Promoting IWB among staff members is crucial in today's business climate for maintaining competitive advantage and advancing organizational success. The organizational climate and employees' inclination to participate in innovative activities are greatly impacted by the employed leadership styles (Javed, B et al 2018, Fang, Y. C et al 2019, Afsar, B 2014). The purpose of this review of the literature is to examine the connections between different leadership philosophies such as TL, SL and AL and creative work practices of particular interest are the functions of PE and OLC.

In order to give readers a thorough understanding of how leadership styles influence innovative working behavior, this review will synthesize findings from recent studies. These findings are moderated by OLC and mediated by PE. Organizations can better adapt their leadership styles and cultural norms to foster a workforce that is more creative and adaptable by clarifying these dynamics.

2.2.1. Authentic leadership and Employees' Innovative Behavior

As was already mentioned, the characteristics of AL include flexibility, openness, and honesty with employees as well as self-awareness, self-regulation, and positive modeling (Gardner et al., 2005). This kind of leadership usually inspires workers to take creative actions and offers new, useful concepts (Shalley & Zhou, 2008). As such, one might expect that true leadership would inspire staff members to act creatively in a variety of ways.

Three characteristics of true leadership—self-awareness, self-regulation, and positive modeling—have been shown to positively impact employee behavior (Avolio & Gardner, 2005). For instance, leaders who are self-aware and self-restraint demonstrate their true selves to their organizations. This kind of positive leadership behavior inspires strong physical and mental efforts to innovate, which in turn impacts organizational performance (Ilies et al., 2005). Furthermore, authentic leaders endeavor to educate their followers on topics like the

company's mission, values, and morals (Luthans & Avolio, 2003). Such sharing may enhance employees' sense of self-worth and creative motivation to act.

Positive modeling also includes leading by example inside the organization. This provides positive psychological capital to workers, encouraging creativity and providing a positive challenge to their daily work routines, which in turn improves task performance. Maintaining high psychological capital through AL encourages creative behavior among employees in the organization (Gardner et al., 2005). Since they are the psychological foundations of creative behavior, true leaders have a supervisory role in which they cultivate in their team members optimism, hope, trust, dedication, and resilience (Gardner & Schermerhorn, 2004). Authentic guidance not only ignites employees' enthusiasm for creative thinking and problem-solving but also boosts their confidence and promotes innovative behavior.

AL improves learning and change-oriented organizational environments (George et al., 2007). In this environment, staff members are encouraged to act creatively. For these reasons, it is expected that true leadership will significantly influence employees' creative behavior.

Khan (2022) examined the mediating and moderating roles of organizational citizenship behavior (OCB) and organizational culture in the relationship between leadership styles and IWB among Head of Departments in higher education institutions. The study employed a survey method to collect data from 160 respondents. After that, the data were analyzed using inferential statistics. The findings demonstrated that leadership styles have a major positive impact on employees' IWB, with organizational culture and OCB mediating and moderating this relationship.

Jung et al. (2021) looked into the relationship between creative employee behavior and real leadership in Korean manufacturing and service companies. The results demonstrated a significant correlation between IWB on the part of employees and AL, with LMX serving as a mediating factor in this relationship. Additionally, the results showed that OLC moderated the effect of AL on IWB. This study tests the effect of authentic leadership style on innovative working behavior, which is supported by theoretical research as well as empirical data from earlier investigations.

2.2.2 Transformational leadership and Innovative work behavior

Researchers have discovered a positive correlation between employee empowerment and organizational leadership (Spreitzer, 1995; Yukl, 2006). Information and rewards were found to be two significant antecedents influencing employees' feelings of empowerment by Spreitzer (1995). Taking into account the information factor, TL empowers their followers by meeting their subordinates' information needs and successfully conveying the organization's vision, mission, and goals to them (Yukl, 2006).

Furthermore, transformational leaders can gain the trust of their followers by being fully committed to attending to their needs; this trust is associated with employee wellbeing (Kelloway et al., 2012). Transformational leaders empower their followers by raising their spirits and sharing win-win visions (Bass & Steidlmeier, 1999). Employees may not experience PE if they are not given autonomy or included in decision-making. (Pradhan et al. 2017) state that TL in this context creates an atmosphere that is adaptable and transparent, which enhances worker empowerment. Jha (2014) asserts that a TL shapes the behavior of those who follow them by assisting them in appreciating the importance of their work and recognizing the skill with which they accomplish it. Transformational leaders view people as the most reliable and valuable resource (Men & Stacks, 2013). House and Shamir (1993) claim that transformational leaders empower their staff members, boost group efficacy, and create a sense of community among their followers.

The relationship between creative performance on the part of employees and TL was examined by Asada et al. (2021). They also looked at the role of knowledge sharing culture in moderating the relationship between creative self-efficacy and TL. The findings showed a strong correlation between creative employee performance and TL, with creative self-efficacy acting as a mediating factor in this relationship. Moreover, a culture of knowledge sharing acts as a moderator between creative self-efficacy and TL. Therefore, based on theoretical studies and empirical evidence conducted by previous researchers, this study checks the effect of TL on IWB.

2.2.3 Servant leadership and Innovative work behavior

Instead of concentrating power under one individual, SL is a leadership concept that aims to share power. It fosters others' development when people prioritize the needs of others over their own (Greenleaf, 2008). On the other hand, Laub (1999) defined SL as a philosophy that values people, fosters their development, and motivates them to behave honorably. Russell and Stone (2002) enumerated several attributes that characterize SL, such as vision articulation, empowerment, credibility, and setting an example for others.

The following characteristics of SL have been identified by Van Dierendonck and Nuijten (2011), despite the fact that many academics have made an effort to do so: accountability, responsibility, humility, courage, forgiveness, empowerment, and standing back.

By providing intrinsic motivation, employee empowerment and encouragement can stimulate creativity (Neubert et al., 2016). Furthermore, research on the relationship between performance and SL has demonstrated favorable associations with organizational citizenship practices (Chiniara & Bentein, 2016; Hunter & Nielsen, 2013).

Followers of a human-centered servant leader also experience a sense of care (Eva et al., 2019), which prompts them to produce their best work. In response to their leaders, followers can innovate and streamline corporate processes. The concern that servant leaders have for supporting, empowering, and attending to the needs of their followers also contributes to the development of psychological trust among followers (Yang et al., 2017). This study therefore puts forth the idea of servant leadership significantly affect innovative working behavior, which is supported by theoretical research as well as empirical data from earlier investigations.

2.2.4 Psychological empowerment and Employee's' Innovative work Behavior

It makes sense to assume that empowerment will encourage innovation and creativity within the organization. Employee perceptions of decision-making authority and project risk awareness are related to their motivation to come up with ideas that can enhance the organization's overall effectiveness (Messmer, 2001). Empowered employees can use their skills and creativity to help the business grow and succeed no matter where they are in the organization (Karakoc & Yilmaz, 2009).

Empowerment is one of the most important factors in encouraging innovation and creativity within an organization, according to Conger and Kanungo (1988). Workers who are more intrinsically motivated to finish tasks are more likely to innovate within the company, according to Redmond et al. (1993). When workers find purpose in their work, they become intrinsically motivated, which fosters innovation. Amabile (1988) suggested that having the competence dimension, or self-efficacy, is necessary if one wants to question the status quo inside the organization. Because of the great chance of success, it is expected that the organization will become more inventive and creative. Amabile (1988) also concluded that workers would be more creative in terms of the self-determination dimension if they had autonomy over how they fulfilled their duties and responsibilities. Considering the impact dimension as well, those employees are perceived as being more imaginative and believing they have the ability to influence the operational or administrative work outcomes (Bass, 1985).

Employees who feel that their work has purpose and significance are more likely to put in more effort when they approach a problem in a multifaceted manner, according to Gilbert and Shalley (2004). PE, according to Marane (2012), increases staff trust in the organization, which encourages innovative behavior. This study therefore tests the effect of PE on IWB, which is supported by theoretical research as well as empirical data from earlier investigations.

2.2.5 The Mediating Role of psychological empowerment

It is proposed that PE, which includes workers' feelings of impact, competence, meaning, and self-determination, will attenuate the association between IWB and leadership styles. Regardless of the leadership style in use, research indicates that employees are more likely to display innovative behaviors when they feel psychologically empowered (Amundsen, S., & Martinsen, L. (2015), Spreitzer, G. M. 1995 Pieterse, A. N et al 2010).

2.2.5.1. The mediating role of psychological empowerment between Autentic Leadership and innovative work behavior

The latest studies have discovered a connection between AL and PE. AL gives workers a greater sense of PE since they felt encouraged by their leaders (Munyaka, et al., 2017). Additionally, it has been found that the confidence of true leaders affects the psychological climate in the workplace by fostering hope and optimism (Munyaka, et al., 2017). A New Zealand study involving over 800 samples found that AL significantly increases PE (Woolley, Caza, & Levy, 2011). Another study claim that AL increases PE by promoting the LMX process, which enhances worker performance (Wang et al. 2014)

Employees who receive PE from a genuine leader will eventually become more driven, certain, and self-assured. Workers will be encouraged to use the psychologically empowered abilities they have learned, such as innovation, creativity, and experimentation, in their work, which will ultimately encourage them to produce their best work (Perwitasari, 2022). PE and AL are positively correlated, claim Wong & Cummings (2009). It is also suggested that employees who have leaders foster a more participatory work environment and share information that demonstrates a high psychological level.

2.2.5.2. The mediating role of psychological empowerment between transformational leadership and innovative work behavior

The ability to empower others is a transformative leader's most important characteristic, according to Bass (1999). He pointed out that by granting their subordinates more authority, transformational leaders have an impact on how they see themselves and their work. Dust et al. (2014) claim that PE acts as a mediating element between supervisors' TL style and work-related actions that provide workers with a comprehensive framework for motivation. Transformational leaders cultivate a sense of empowerment through imparting self-efficacy and mastery (Afsar et al., 2014).

Masood and Afsar (2017) claim that TL promotes PE, which in turn encourages nurses to share their knowledge and be intrinsically motivated, leading to their IWB. Employees that experience TL are more creative and have higher creative self-efficacy (Mittal & Dhar, 2015). Self-efficacy or competence is one of the most crucial components of PE, according to Thomas and Velthouse (1990). Because of their altered behavior, associates of TL show greater responsibility (Bass & Riggio, 2006).

A transformational leader's intellectually stimulating actions also inspire followers to seek out new ideas, which instills a sense of independence and self-determination in their workforce (Bass & Avolio, 1994). Ashfaq et al (2021) examined the impact of TL on innovative behavior of employees within the organization. The findings confirmed that TL has positive impact on innovative behavior of employees. Moreover, it revealed that PE and proactivity mediates between TL and innovative behavior relationship.

Garg et al. (2023) investigated the relationship between managers' TL style and employees' IWB through PE. Giving 203 employees in public and private sector bank branches in the Delhi-NCR region of India a standardized instrument in order to collect data using survey methodology. The study found that managers who adopt a TL can help their staff members with their IWB through a portion of PE acted as a mediating factor in the relationship between the employees' IWB and TL.

2.2.5.3. The mediating role of psychological empowerment between servant leadership and innovative work behavior

Workers who experience a sense of empowerment start to value their own abilities, skills, and capabilities. They also show assurance in their capacity to contribute value and significantly influence work results. They can perform extra-role activities, come up with new ideas and reasons to implement them, and take on creative and innovative projects because of their positive belief (Burlison, 2005). If workers believe their work is autonomous, meaningful, and personally valuable, they will start to take on challenging problems and look for novel ways to improve (Gilson & Shalley, 2004).

Furthermore, servant leaders are more approachable; they share more information and are consistently ready to hear what their subordinates have to say. Previous research has emphasized the role that PE plays as a mediator between different leadership philosophies and important results for both individuals and the group (Afsar et al., 2014). Milton and van Dierendonck, along with Jorge Correia de Sousa, identified PE as a mediator in the relationship between SL and employee engagement in their 2014 study. Krog and Krishna Govender (2015) specifically looked at employee PE as a mediator in the relationship

between SL and EIWB. Their results indicate that employees' PE mediates the aforementioned relationship.

Faraz et al. (2019) examined the influence of SL on employees' IWB at three different levels using partial least squares structural equation modeling (PLS-SEM). They also looked at the role of employees' PE as a mediator between SL and EIWB. The study's findings show that SL improves both the overall quality of EIWB and each of its phases. Employee PE serves as a partial mediating factor for the positive impact of SL on EIWB.

Mahendri et al.'s (2022) study examined the relationship between IWB and SL, as well as the mediating roles of PE and work craft. The results showed that IWB by employees is positively impacted by SL, and PE acts as a mediator in this relationship. This study therefore puts forth the hypothesis regarding the mediating effect of PE between the SL and IWB, which is supported by theoretical research as well as empirical data from earlier investigations.

2.2.6 The Moderating Role of organizational learning culture

According to Marsick and Watkins (2003), OLC is an atmosphere that fosters the generation, acquisition, and sharing of new knowledge in order to increase the competitiveness of the organization. OLC has been linked in the past to better organizational outcomes, such as overall organizational performance (Joo, 2012; Naqshbandi & Tabche, 2018).

OLC establishes a learning-process-oriented organizational environment by collaborating with other businesses to exchange knowledge and generate distinctive business value (Joo, 2012). Thus, the degree to which an organization cultivates a culture of learning can influence the trusting relationships between leaders and followers that result in innovative behavior.

OLC has the authority to mediate and moderate the relationship between worker performance and leadership in addition to directly affecting worker performance. An organization's learning culture influences how its employees acquire knowledge and learn new things on a daily basis, which in turn increases their drive to reach performance goals. Because it acknowledges that employees are capable of coming up with original solutions to issues and staying current with new knowledge and skills in the workplace, an OLC is essential to achieving exceptional performance (Choi, 2020).

In recent researches the role of OLC in improving the impact of various leadership styles on IWB has gained significant attention. It serves as a crucial moderating factor that amplifies the positive effect of leadership styles. Several studies state that the three leadership styles (SL, TL and AL) are also influenced by the OLC in the organization (Gelaidan et al. 2023, Jung, Ullah, and Choi 2021, Vakilbashi 2017).

2.2.6.1. Moderating effect of organizational learning culture between Authentic leadership and innovative working behavior

Multiple studies underscore the importance of OLC in enhancing the impact of authentic leadership on IWB. Dominguez-Escrig et al. (2022) demonstrate that authentic leadership significantly boosts organizational learning capabilities, which in turn drives innovation success. Similarly, Jung, Ullah, and Choi (2021) provide empirical evidence showing that OLC mediates and moderates the relationship between authentic leadership and IWB, reinforcing the notion that a strong learning culture amplifies the positive effect of leadership on innovation.

Additionally, Milic et al. (2020) highlight the role of employees' affective commitment, nurtured by OLC, in strengthening the impact of authentic leadership on organizational learning and innovation. Their findings suggest that a robust learning culture within an organization fosters an environment conducive to continuous improvement and innovative behavior. These studies collectively support the argument that integrating a strong OLC is crucial for leveraging the benefits of authentic leadership in driving innovation. The researches which are mentioned above collectively provide a strong foundation supporting the idea that OLC enhances the positive effects of authentic leadership on IWB.

2.2.6.2. Moderating effect of organizational learning culture between transformational leadership and innovative working behavior

Mahmood and Iqbal (2021) investigated how OLC acted as a moderator between TL and ORG innovation in their study of the effects of TL on ORG innovation. The empirical data

verified the statistically significant positive impact of TL on organizational innovation. The results also showed that the impact of TL on organizational innovation is mitigated by OLC.

The moderating role of OLC in the relationship between TL and IWB was examined by Khan, M. A., et al. (2020). The relationship between TL and creative work practices is examined in this study as it is mediated by OLC. Data from workers in a variety of industries was gathered through a cross-sectional survey. Regression analysis was used in the analysis to assess how OLC moderates the relationship between IWB and TL. The results showed that the relationship between TL and creative work practices is significantly moderated by OLC. In particular, it has been discovered that transformational leaders are more successful at encouraging innovation in settings that value ongoing education and information exchange. This study therefore puts forth the following hypothesis, which is supported by theoretical research as well as empirical data from earlier investigations.

Udin (2023) investigated the role of OLC as a moderator and mediator of the relationship between TL and employee performance in her research. The model and the correlation between these variables have been tested by the community health center in Indonesia. The findings demonstrated a robust relationship between worker performance, OLC, and TL. Additionally, there is a strong correlation between OLC and worker performance. Furthermore, a moderating and mediating role between employee performance and TL is demonstrated by OLC.

2.2.6.3. Moderating effect of organizational learning culture between servant leadership and innovative working behavior

The moderating role of OLC on the association between IWB and SL was investigated by Udin, U. (2023). The purpose of the study is to investigate how OLC influences the relationship between innovative work practices and SL. The study utilized a quantitative research design and employed a distribution of surveys among employees across different organizations. Regression analysis was used to evaluate the relationship between OLC and SL in terms of creative work behavior. According to the study, there is a significant positive correlation between IWB and SL that is strengthened by OLC. When led by SL, employees in

companies with a strong learning culture reported higher levels of innovation, indicating that the promotion of innovation by SL is enhanced in the presence of a supportive learning environment.

Škudienė et al. (2018) explored the relationship between leadership styles and IWB, with a particular focus on the moderating effect of OLC. Their research supports the notion that a robust learning culture enhances the influence of servant leadership on IWB, creating an environment conducive to innovation. These findings reinforce the argument that integrating a strong OLC is crucial for maximizing the benefits of servant leadership in driving innovative behavior.

2.3 Research Hypothesis

This study explores the impact of the three leadership styles on IWB considering PE as mediator and taking OLC as a moderator. It aims to clarify how AL, TL and SL influence innovation within pharmaceutical manufacturing organizations. The following hypotheses are based on existing theories and empirical evidences to provide a comprehensive understanding of these relationships:

H1: Authentic leadership style has statistically significant effect on psychological empowerment.

H2: Servant leadership style has statistically significant effect on psychological empowerment.

H3: Transformational leadership style has statistically significant effect on psychological empowerment.

H4: Authentic leadership style has statistically significant positive effect on innovative work behavior.

H5: Transformational leadership has statistically significant positive effect on innovative working behavior.

H6: Servant leadership has statistically significant positive effect on Innovative work behavior.

H7: Psychological empowerment has statistically significant positive effect on innovative work behavior.

H8: Organizational learning culture has statistically significant effect on innovative work behavior.

H9: psychological empowerment mediates the relationship between styles Authentic leadership style and innovative work behavior.

H10: psychological empowerment mediates the relationship between servant leadership styles and Innovative work behavior.

H11: psychological empowerment mediates the relationship between transformational styles and innovative work behavior.

H12: Organizational learning culture moderates the relationship between authentic leadership style and innovative work behavior.

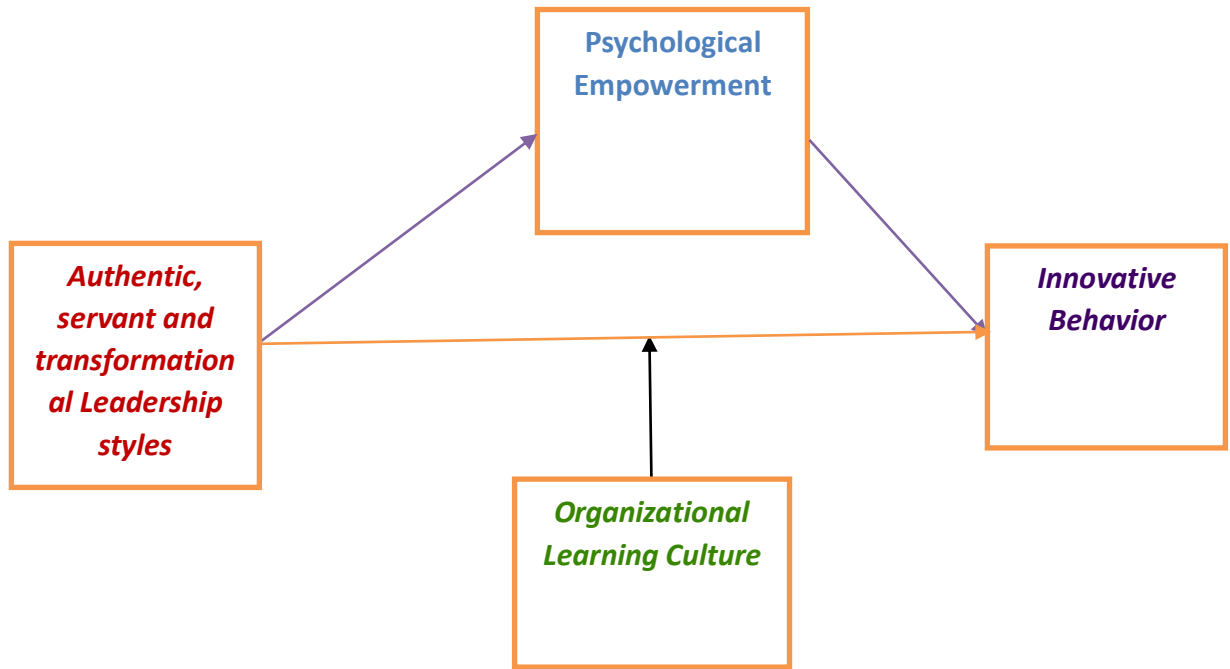
H13: Organizational learning culture moderates the relationship between servant leadership style and innovative work behavior.

H14: Organizational learning culture moderates the relationship between transformational leadership style and innovative work behavior.

2.4 Conceptual Framework of the study

Previous related empirical studies examined the effect of various leadership styles on innovative behavior as well as the mediating and moderating effect of PE and OLC. However, as per the knowledge of the researcher, empirical evidences that examined the effect of transformational, SL and AL styles on innovative behavior with mediating and moderating role of PE and OLC, respectively, in a single model is didn't exist or very few if exists. Therefore, the current study we empirically analyze these relationships simultaneously in a single model for pharmaceutical manufacturing industries in Ethiopia. Based on the reviewed theoretical and empirical related articles, the conceptual framework of this study is designed as depicted in the figure 1, below;

Figure 1: Conceptual Framework



Source: Prepared by the researcher based on reviewed literature

CHAPTER THREE

RESEARCH METHODOLOGY

The research design, methodology, target population and sample techniques, data collection tool, data analysis technique, validity and reliability of the instrument, and ethical considerations are covered in this chapter.

3.1 Research Approach

The research methodology chosen for a study depends on the type of data used in it (Hunziker et al.,2024) This study's primary goal is to investigate the impact of three different leadership styles namely; Transformational, Servant, and Authentic on IWB, with PE acting as a mediating factor and OLC playing a moderating role. The study's numerous variables were grouped into distinct constructs, and each construct is to be quantitatively measured using the Likert five-point rating system. Consequently, the study utilized quantitative research approach to accomplish its research goal.

3.2 Research designing

The research design that will be employed in a study is determined by the study's objective, the, research strategy, time dimension and mode of inquiry (Pozzebon et al., 2019). In this regard, the current study intends to examine the effect of three different leadership styles namely; Transformational, Servant, and Authentic on IWB, with PE acting as a mediating factor and OLC playing a moderating role. The study deployed cross-sectional quantitative collected using survey questionnaire. Therefore, as the study sought to determine the cause-effect relationship between variables, explanatory and descriptive research designs was employed in the study.

3.3 Population of the Study

The population of this study is all pharmaceutical manufacturing companies existing in Ethiopia that is engaged in manufacturing of medicines. However, as the study is limited to pharmaceutical manufacturing companies in Addis Ababa City, the target population of the current study is seven pharmaceutical manufacturing companies located in Addis Ababa

City. According to the information obtained from the Ethiopian food and drug administration (EFDA), there are currently about 11 pharmaceutical companies which are actively engaged in the production of pharmaceutical products (medicines) of which 7 are located in Addis Ababa City. Accordingly, middle level managers and experts from engineering, quality control and assurance, production, research and development and support units of each pharmaceutical manufacturing company located in Addis Ababa city was selected as a sample respondent from the total of 1258 employees who are currently working in the case seven pharmaceutical manufacturing companies.

Table 3.1 Population of the study

sr.no	List of pharmaceutical manufacturing companies in Addis Ababa	Number of Employees
1	East Africa pharmaceutical manufacturing	194
2	Ethiopian Pharmaceuticals Manufacturing Sh. Co.	322
3	Julphar pharmaceutical manufacturing	141
4	Glucare pharmaceutical manufacturing	136
5	Addis pharmaceutical factory	145
6	Medisol pharmaceutical Manufacturing	166
7	Pharmacur	154
Total		1258

3.4 Sampling Technique and Sample Size Determination

The right sampling technique and sample size determination formula must be used to choose an appropriate sample of respondents when the entire targeted population is large and presents challenges for data management. Nonetheless, using a procedure known as a census is more appropriate to produce merely accurate and dependable results if the entire targeted population is manageable and small in number. Because of this, a type of none-probability sampling technique known as the purposive technique was used to choose well representative and pertinent sample respondents from the various units in each company (engineering, quality control and assurance, production, research and development and support units). This is because the total targeted population of this study is relatively large.

Employees who have worked for their current employer for at least two years meet the participation criteria. The researcher can choose a combination of middle level managers, senior experts, and junior experts from each unit in the case companies, which is why the purposive sampling technique is preferred. For this study, the Taro Yamane sampling formula was used to calculate the sample size.

$$n = \frac{N}{(1+N(e)^2)}$$

Where:

The symbol n: represents sample size

N: is the population size

e - is the level of precision or sampling error = (0.05) at 95% confidence interval.

$$n=1258/1+1258(0.05)^2$$

$$n=1258/ (1+3.145)$$

$$n=1258/4.145$$

$$n=303$$

Therefore, the total sample size of the study is 303 and the sample size was distributed among the seven pharmaceutical manufacturing companies located in Addis Ababa City proportionally to their size in terms of employees they have.

Table 3.2 Distribution of sample size by company

sr.no	List of pharmaceutical manufacturing companies in Addis Ababa	Number of Employees
1	East Africa pharmaceutical manufacturing	46
2	Ethiopian Pharmaceuticals Manufacturing Sh. Co.	78
3	Julphar pharmaceutical manufacturing	34
4	Glucare pharmaceutical manufacturing	33
5	Addis pharmaceutical factory	35
6	Medisol pharmaceutical Manufacturing	40
7	Pharmacur	37
Total		303

3.5 Data Type and Source

Data can be categorized based on its source, type, and temporal dimension. The cross-sectional and quantitative data was used in this study to be taken from original sources. Put differently, the present investigation utilized primary data that is quantitative in nature, which gathered on various variables simultaneously.

3.6. Instrument of Data Collection

In order to come up with a valid study finding it is necessary to have adequate and appropriate data obtained from the right source. This in turn requires using appropriate instrument of data collection. Data can be collected using different approaches of data collection. In this regard, survey questionnaire, interview and observation are the three major instruments of data collection as classified in broad. However, the selection of an appropriate of data collection instrument for a given study is determined based on the nature of the study and the objective of the study. In this sense, the necessary data for this study was collected using a well-structured close ended survey questionnaire. The questionnaire is consisting of six constructs with 68 questions in total.

3.7. Measurement of variables

The items were modified from relevant surveys, and multiple papers provided validation. In this study, 5-point Likert scales with 1: Strongly Disagree, 2: Disagree, 3: Neither agree nor disagree, 4: Agree, and 5: Strongly Agree are preferred for all constructs of leadership styles, innovative behavior, empowerment, and organizational learning in the questionnaires.

The significance of the research's component parts is what validity is concerned with. Whether the measurement being done is what is truly intended or the extent to which results gained from the analysis of the data actually represent the phenomenon under study must be taken into account while conducting research on behavior.

The questionnaire is created by looking at related studies done by other researchers in related fields. In addition, relevant professionals and the research advisor was made assess and provide input on the questionnaires. To make sure that the respondents can be able

comprehend each item with ease, simple English was employed, and considerable care was taken to make the contents crystal plain and eliminate ambiguity.

The validity and reliability of the data deployed was tested using factor loading and Cronbach's alpha coefficient, the criteria for this test demands the loading of each item of a factor to be greater than 0.5 and Cronbach's alpha coefficient should be 0.7 or higher in order for it to be scale-acceptable (Hair et al. 1998).

Authentic leadership : AL was measured with 16 items developed by (Walumbwa et al., 2008) in four dimensions: internalized moral perspective, self-awareness, relational transparency and balanced processing. The author tested the internal consistency of the questioner using Cronbach's alpha with pilot data from the US and china, showing acceptable value of 0.84. A sample item is "My leader solicits feedback for improving his/her dealing with others."

Servant leadership: was measured by 30 items originally developed by Van Dierendonck and Nuijten (2011). The items are organized by 8 constructs: Empowerment, humility standing back, accountability, forgiveness, courage, authenticity, stewardship. Aiming to check the internal consistency of the SL questionnaire the author conducted the Cronbach's alpha coefficient test based on data obtained from a sample of 236 respondents from the Netherlands. The reliability test result revealed that the internal consistency of the SL questionnaire was good with Cronbach's alpha coefficient value of .79. A sample item is "My manager gives me the information I need to do my work well."

Transformational leadership was measured using 7 question items developed by Astuty and Udin (2021). Using data collected from 130 employees who worked in stone milling companies in Central Java, Indonesia, the authors conducted Cronbach's alpha coefficient value of .79 which shows confirms the internal constancy of the questioners. A sample item is "My leader describes the organization's vision clearly."

Psychological empowerment: was measured using a questioner developed by Spreitzer (1995) in which 12 items are integrated. In order to check whether the questionnaire is internally consistent these authors done reliability test with Cronbach's alpha coefficient technique based on sample data gathered from 128 employees from 50 industrial

organizations. Accordingly, the result is found to be .72 indicating the PE questionnaire is internally consistent at acceptable level. A sample item is “The work I do is very important to me”.

Innovative work behaviour: Employee IWB was measured using the items of De Jong and Den Hartog (2010). According to the internal consistency test with Cronbach’s alpha reliability coefficient conducted based on data obtained from 703 knowledge workers and their managers from 94 small knowledge intensive service firms in the Netherlands. The result confirmed that the Employee IWB questionnaire has good level of internal consistency with Cronbach’s alpha reliability coefficient value of .88. The questionnaire has 10 items. A sample item is “I pay attentions to the issues that are not part my daily job”.

OLC: OLC is to be measured using a questioner developed by (Nurjufri et al., 2014) in which 12 items are integrated. A sample item is” My organization encourages sharing of knowledge with each other”. The OLC questionnaire done by the original developers based on data gathered from the sample of 63 respondents in the Selangor State Public Library (PPAS) indicated that the questionnaire is with good internal consistency with Cronbach’s alpha reliability coefficient value of .98.

Each instrument's variable underwent a reliability examination as well, by calculating the Cronbach's alpha coefficient. The test for the current study, conducted on 20 respondents from Julphar and East Africa pharmaceuticals in Addis Ababa, showed strong internal consistency. Similarly, the data deployed was confirmed to be valid as the loading of each item of the various factors is found to be greater than 0.5. The reliability test and validity test result are presented in the table 4.1 below. As the number of items of the questionnaire is large in number, only the mean factor loading of all items of each factor is presented here in the table mentioned and the full result of validity test is presented in the appendices part.

Table 4.1 Reliability and Validity Test Result

Variables	Number of items	Cronbach's alpha coefficient	Factor Loading
AL (AL)	16	.973	.840
SRL (SL)	30	.722	.861
TRL (TL)	7	.984	.857
OLC (OLC)	12	.943	.867
PSEP (PE)	12	.914	.856

Source: Owen computation

3.8. Data Analysis technique

Data analysis technique refers to a systematic approach towards putting facts and figures aimed to solve the research problem and meet the research objectives. This study employed descriptive statistics and inferential statistics as technique of data analysis. Descriptive statistics such as frequencies and percentages, as well as standard deviations and mean scores was computed for the variables. Such technique of analysis is appropriate to present the existing phenomenon based on sample data. Inferential analysis was used to analyze the degree and direction of association between the various variable deployed in the econometric model as well as to determine the mediating and moderating role of some variables. Accordingly, correlation analysis was done so as to know the degree and direction of correlation among the dependent variables and the independent variables, while structural equation model estimate of bootstrapping technique was be deployed to examine the degree and sign of the effect of each independent variable on the dependent variable. Statistical Package for Social Science (SPSS-Version 24) was utilized to analyze the data deployed in this study.

3.9 Ethical Consideration

Permission from the organizations was sought prior to data collection. Respondents were told about the goal and benefit of the study, as well as their full ability to refuse or accept participation, during the distribution of the questionnaire. Respondents were informed that their responses will be kept confidential and that their identities will not be revealed. Every person included in the study has the right to privacy and dignity of treatment, and no personal harm will be caused to research subjects. The researcher would maintain absolute confidentiality over the information gathered.

CHAPTER FOUR

Result and Discussion

4.1. Introduction

The study's findings, their interpretation, and the discussions that followed are all included in this chapter. The survey results regarding the respondents' demographics are shown in the first section of the chapter. The findings and discussion of the descriptive statistics analysis are presented in the second section of the chapter, and the results and discussion of the inferential statistics analysis are presented in the third section.

4.2. Questionnaire Response Rate

303 questionnaires that were distributed to participants in this study out of which 288 questionnaires were collected back properly filled. As a result, the study's response rate of 95 percent is obtained.

4.3 Demographic Characteristics of Respondents

Researchers can better understand the variation among respondents with regard to the major demographic variables by analyzing the demographic data provided by the respondents. As a result, the goal of this section was to outline the study participants' demographics in terms of their sex, age, level of education, employment status, and years of experience.

4.3.1 Distribution of Respondents by Gender

The finding on the gender distribution of the respondents indicated that out of the total 89 respondents of the study male respondents take the 76.4 percent share, while female respondents represent 23.6 percent of the total sample respondents. This confirms that male respondents were dominant over those female respondents. This is due to the fact that females are with low participation in the labor of developing country like Ethiopia.

Table 4.1 Sex of the respondents

	Frequency	Percent
Male	220	76.4
Female	68	23.6
Total	288	100.0

Source: own survey, 2024

4.3.2 Distribution of Respondents by Age

According to the report in the table below, which shows the age distribution of the respondents, majority (61.8%) of them are between the ages of 18 and 30 years, while 18.4% of all respondents are between the ages of 31 and 40. 8% of all respondents fall in the age range of 41 to 50 years. The sample respondents who are older than 50 years comprise the remaining 11.8 percent. Therefore, it can be concluded that the vast majority of responders in the pharmaceutical manufacturing industry are of working age.

Table 4.2 Age of the Respondents

Age Group	Frequency	Percent
18-30	178	61.8
31-40	53	18.4
41-50	23	8.0
>50	34	11.8
Total	288	100.0

Source: own survey, 2024

4.3.3 Distribution of Respondents by Educational Background

In terms of respondents' educational backgrounds, only 3.1% of respondents were at secondary school completed level, while those who are diploma holders roughly constitute 26.7% of respondents. Relative majority (48.8%) of the total sample respondents are holders of a first degree, whereas those respondents with a second degree represented about 21.9% of the total sampled, hold a second degree. This indicates that the bulk of staff members involved in the pharmaceutical manufacturing industry have formal education backgrounds, are thought to have a solid grasp of the questionnaire, and are able to appropriately respond to it.

Table 4.3 Educational Background of the respondents

	Frequency	Percent
Secondary	9	3.1
Diploma	77	26.7
First Degree	139	48.3
Second degree	63	21.9
Total	288	100.0

Source: own survey, 2024

4.3.4 Distribution of Respondents by work experience

In terms of the service year dimension of the demographic profile of the respondents, the finding revealed that the majority (41%) of the sampled respondents were with 2-5 years of work experience, followed by those with below 2 years and above 10 years of work experience having 28.5 and 16.3 percentage shares, respectively. The rest 14.2% are with 6-10 years of service years. This shows that the majority of the respondents are well experienced and valid to respond the questionnaire properly.

Table 4.4 Work experience of the respondents

	Frequency	Percent
<2 years	82	28.5
2-5	118	41.0
6-10	41	14.2
> 10	47	16.3
Total	288	100.0

Source: own survey, 2024

4.3.5 Distribution of Respondents by job position

Table 4.5 below, depicted that most of the respondents (51.7 percent) are at junior expert position, followed by those at senior level experts (31.6 percent) and middle level managers (16.7 percent). Such distribution is common for all organizations, because the working forces consists the lager share as those at managerial level are small in number.

Table 4.5 Job position of the respondents

	Frequency	Percent
Middel level manager	48	16.7
Senior Expert	91	31.6
Junior Expert	149	51.7
Total	288	100.0

Source: own survey, 2024

4.3. Descriptive Statistics Analysis

To get the respondents' opinions on the variables incorporated in this study and to evaluate each statement that fell under a different construct, Likert's five-point rating system was used. Based on this metric, each statement under the various constructs is assigned a score ranging from 1 to 5. In this regard, the scales 1, 2, 3, 4, and 5 represent the respondent's perception of a statement as strongly disagree, disagree, neutral, agree, and strongly agree, respectively. Therefore, the mean score value for each statement under the various constructs will be used to calculate the respondents' overall perception.

4.3.1 Leadership Styles

This study sought to examine the effect of authentic, servant and TL style on IWB among pharmaceutical manufacturing industries in Ethiopia with the mediating effect of PE and the moderating role of OLC. In order to capture the respondents' perceptions regarding the three leadership styles level of practice across the pharmaceutical manufacturing industries, respondents were asked to rate the level the practice of these leadership styles based on Likert's 5 scale of measurements.

Accordingly, as perceived the by the sample respondents, the practice of AL style was rated as good with pharmaceutical manufacturing industries the mean score value of 3.88(SD= 0.91). This finding revealed that AL is well practiced across pharmaceutical manufacturing industries in Ethiopia with low variation among respondents on the 16 statements under the constructs of AL. Similarly, with the mean score value of 3.81(SD= 1.05), the level of the practice of SL style was judged as good by the sampled respondents. This result confirmed that with slight variation among the perception respondents for the 30 statements under this

construct, SL is practiced in well manure across pharmaceutical manufacturing industries in Ethiopia. On the other hand, the overall aggregated mean value of all the seven statements is registered as 3.97(S. D=1.00), the practice of TL among pharmaceutical manufacturing industries in Ethiopia is rated as good by the respondents with little variation among their perception on all the 7 statements under the construct.

In overall, from these findings, one can learn that AL, SLs and TL are practiced well by pharmaceutical manufacturing industries in Ethiopia.

Table 4.6 Respondents Perception on the Practice of Leadership styles

Statements	N	Mean	Std. Dev
AL Style	285	3.88	0.91
SL Style	282	3.81	1.05
TL Style	288	3.97	1.00

Source: own survey, 2024

4.3.2 OLC

Firms with good OLC are believed to have good practice of IWB. OLC is incorporated as moderating variable between the relationship of leadership styles and IWB. The OLC questionnaire is organized with 12 statements. Accordingly, with the overall aggregated average score value of all the 12 statements in this construct of 3.46(SD=1.03), the sampled respondents perceived the level of OLC as very good with small variation among their perception over all the statements. Moreover, the mean score value for each statement under the construct ranging from 3.42 to 3.88(S. D= 0.86 to 1.16), confirmed that the various individual statements of OLC in pharmaceutical manufacturing industries in Ethiopia also judged as very good by the respondents.

The result of the overall aggregate mean score value as well as the scored mean value about the individual statements under the construct OLC affirmed that pharmaceutical manufacturing industries in Ethiopia are very good in terms of OLC.

Table 4.7 The Respondents Perception on the status of organizational learning Culture

Statements	N	Mean	Std. Dev
My organization encourages sharing of knowledge with each other.	288	3.88	0.94
My organization motivates or encourages staff in formal learning.	288	3.72	1.13
Top management supports learning in my organization.	288	3.68	0.96
My organization motivates or encourages staff in informal learning.	288	3.62	1.05
My organization allows me to further my study in learning institution.	288	3.62	1.12
My organization provides sufficient facilities to support learning.	288	3.61	1.16
In my organization, staff help each other to learn.	288	3.66	0.89
In my organization, staff view problems in their work as an opportunity to learn.	288	3.58	1.06
my organization supports me in terms of financial or motivation to further my study	285	3.42	1.14
My leader encourages me to learn as a team (meeting, discussion, brainstorming, seminar).	288	3.81	0.86
My organization rewards staff for taking initiative in learning.	288	3.53	1.07
in my organization staff identify skills they need for future work task	276	3.61	0.96
Average	273	3.64	1.03

Source: own survey, 2024

4.3.3 PE

Employees with good PE are likely to have a good practice of IWB. Being considered as a mediating variable PE questioner with 12 statements were also rated by respondents based on their individual perception. Accordingly, with the overall aggregated average score value of all the 12 statements in this construct of 4.31(SD=0.79), the sampled respondents perceived their level of PE good, with little variation among their perception. Besides, the mean score value for each individual statement under the construct ranging from 3.99 to 4.47(S. D=0.63 to 0.99), confirmed that the various individual statements of PE also judged as good by the respondents.

The result of the overall aggregate mean score value as well as the scored mean value about the individual statements under the construct of PE attested as good, implying employees in the pharmaceutical manufacturing industries in Ethiopia are with good level of PE.

Table 4.8 The Respondents Perception on PE

Statements	N	Mean	Std. D
The work I do is very important to me.	288	4.39	0.75
My job activities are personally meaningful to me.	288	4.33	0.83
The work I do is meaningful to me.	288	4.34	0.85
I am confident autonomy my ability to do my job.	288	4.45	0.63
I am self-assured about my capability to perform my work activity.	288	4.47	0.65
I have the skills necessary for my job.	288	4.46	0.79
I have significant autonomy in determining how do my job.	288	4.39	0.64
I can decide on my own how to go about doing my work.	288	4.29	0.74
I have considerable for independence and freedom in how I do my job.	288	4.24	0.78
My impact on what happen in my department is large.	288	3.99	0.99
I have a deal of control over what happens in my department.	288	4.17	0.89
I have significant influence over what happens in my department.	288	4.20	0.93
Average	288	4.31	0.79

Source: own survey, 2024

4.3.4 IWB

The swift evolution of technology results in a shift in the requirements for IWB from employees. Organizations with employees having good IWB can foster new innovation and enhance productivity. IWB is considered as a dependent variable in this study. Respondents were asked to rate the level of IWB among pharmaceutical manufacturing industries in Ethiopia based on the 10 statements under this construct. According to the finding, with the overall aggregated mean score value of the 10 statements of 4.06(SD=0.81), the sampled respondents perceived their level of IWB among pharmaceutical manufacturing industries as good, with little variation among their perception. Furthermore, the mean score value for each individual statement under the construct ranging from 3.75 to 4.33(S. D=0.65 to 1.00),

revealed that the various individual statements of IWB is also perceived as good by the respondents.

The result of the overall aggregate mean score value as well as the scored mean value about the individual statements under the construct of IWB confirmed to be good, suggesting employees in the pharmaceutical manufacturing industries in Ethiopia have good level of IWB.

Table 4.9 The Respondents Perception on IWB

Statements	N	Mean	Std. De
I pay attention to the issues that are not part my daily job.	288	3.75	1.00
I wonder how I can improve things.	288	4.06	.75
I actively seek out new working method, techniques or instruments to improve my job.	288	3.98	.91
I came up with original solution for problems encounter.	288	4.14	.75
I came up with new approach for executing tasks.	282	4.13	.81
I make important organizational members enthesitis about my innovative ideas.	288	3.90	.72
I attempt to convince others to support my innovative idea.	288	4.13	.89
I systematically introduce innovative ideas to work practice.	288	4.03	.91
I contributed to the implementation of new ideas.	288	4.14	.75
I put effort to the development of new ideas.	288	4.33	.65
Average		4.06	0.81

Source: own survey, 2024

Fit Measures

Several indices were used to further evaluate model fit:

- **CFI (Comparative Fit Index):** The CFI value is 0.9700, which exceeds the stringent cutoff of 0.95, indicating a very good model fit.
- **TLI (Tucker-Lewis Index):** With a TLI value of 0.9610, it also surpasses both stringent and relaxed criteria thresholds, supporting an excellent model fit.
- **SRMR (Standardized Root Mean Square Residual):** At 0.054, this is below both common cutoffs ($\leq .06$ or $\leq .08$), indicating good alignment between observed and predicted correlations.

- **RMSEA (Root Mean Square Error of Approximation):** The estimated RMSEA is approximately 0.052 with bounds not explicitly detailed but typically considered within acceptable ranges if near or below .06 for strict criteria (.08 for more relaxed). This suggests that while there might be minor discrepancies in approximation error across different parts of the data set, overall, it supports good model performance.
- **AIC/BIC:** These information criteria values are provided as AIC = 54685 and BIC = 55696; they are used primarily for comparing models rather than assessing absolute fit directly.

Overall, these results suggest that our proposed factor structure aligns well with observed patterns in the data according to most common standards used in CFA analyses today.

4.5 Inferential Statistics Analysis

Based on sample data, inferential statistics analysis enables researchers to make inferences about the entire population. Regression analysis and correlation analysis were both included in this section. The former was done to ascertain the degree and direction of the relationship between the variables included in the study, while the latter was done to measure the strength and direction of the relationship between the variables.

4.5.1 Correlation Analysis

The Pearson correlation coefficient (r) was used to calculate the relationship between the research variables. Consequently, the correlation analysis demonstrated a significant positive relationship between the explanatory variables, the mediating, moderating and the dependent variable. According to the correlation analysis result, at 1% significant level, it was discovered that IWB has statistically significant positive association with AL, SL and TL, with correlation coefficients value of $r=.700$, $r=.451$ and $r=.451$, respectively. Besides, innovative working behavior is also found to have statistically significant positive correlation with the moderating variable OLC and the mediating variable PE at 1% level of significance and with correlation coefficients value of $r=.552$ and $r=.536$, respectively.

Moreover, AL style is confirmed to have statistically significant association with OLC and PE at 1% level of significance and with correlation coefficients value of $r=.488$ and $r=.407$, respectively.

Table 4.11 Correlation Analysis Result

		IWB	AUTHLSH	SRLDSHP	TRANLS	OLC	PSE
IWB	Pearson Correlation	1	.700**	.451**	.451**	.552**	.536**
AUTHLSH	Pearson Correlation		1	.554**	.613**	.488**	.407**
SRLDSHP	Pearson Correlation			1	.734**	.757**	.397**
TRANLS	Pearson Correlation				1	.638**	.243**
OLC	Pearson Correlation					1	.356**
PSE	Pearson Correlation						1

** . Correlation is significant at the 0.01 level (2-tailed).

Source: own survey, 2024

4.5.2 Regression Analysis

Researchers can utilize regression analysis to look into the strength and direction of an independent factor's influence on a dependent variable. The regression analysis method used in this study was multiple linear regression with ordinary least squares (OLS). However, in order to apply the OLC technique in regression analysis, the data used in the econometric model must match the five OLS assumptions.

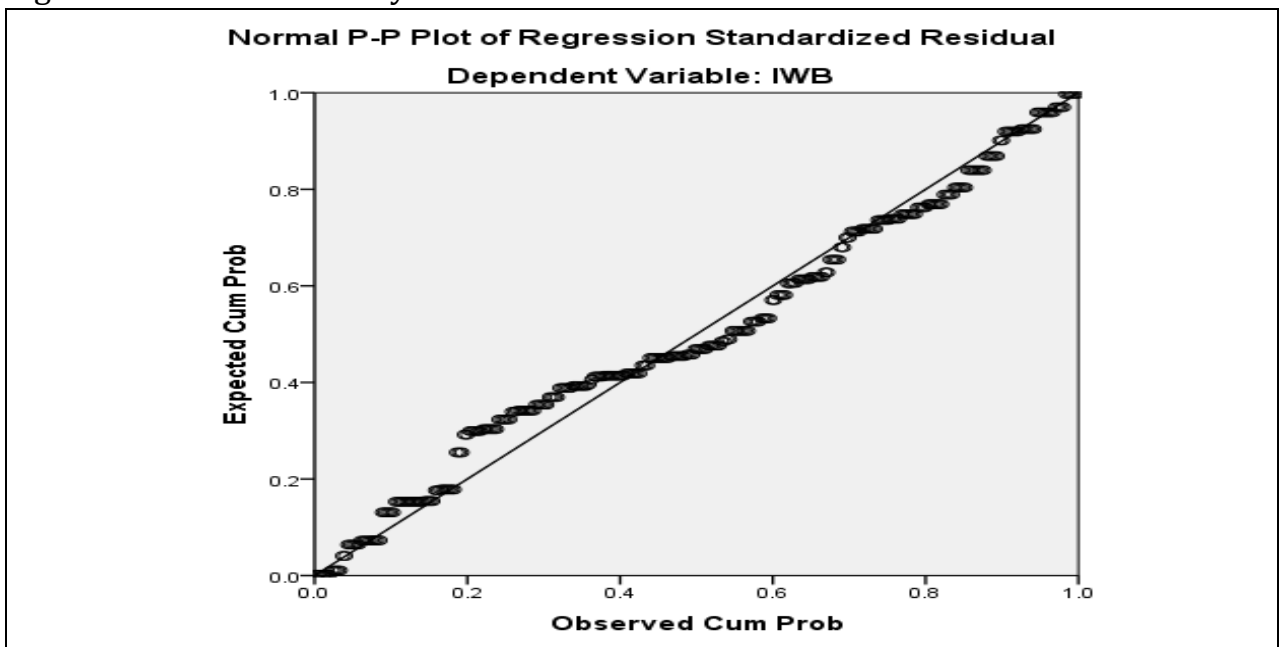
If any of these presumptions are breached, the regression result could be off. Consequently, the diagnostic tests were run in order to prevent inaccurate regression outcomes. The model passed every diagnostic test, including those for linearity, heteroscedasticity, multicollinearity, normality and serial correlation. The serial correlation test was not required for this investigation because it is only a risk for time series data, not cross-sectional data.

4.5.2.1 Diagnosis Test Result

i. Linearity

For multiple regressions using OLS, the dependent and independent variables must have a linear relationship. A scatter plot diagram with a line of fit was one of the many techniques used in this study to assess linearity and determine whether the relationship is linear. A linear relationship between the dependent variable and those independent factors was verified by the scatter plot image and the line of fit result.

Figure 4.1: Test of Linearity



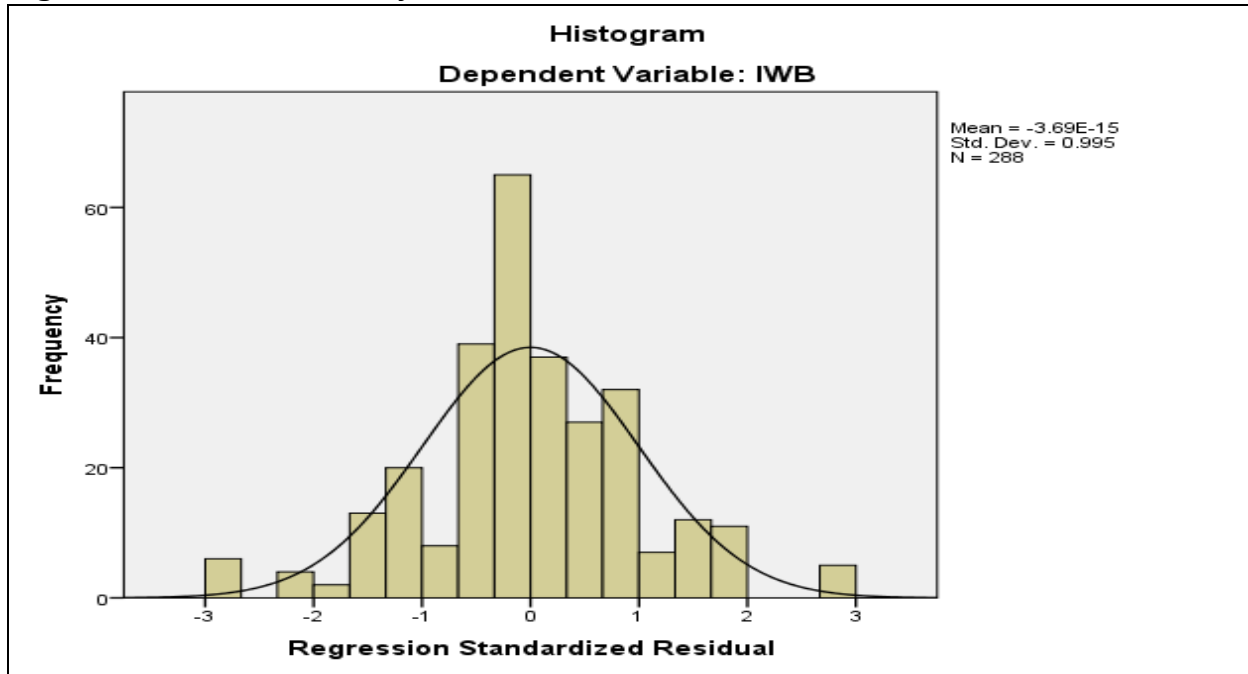
Source: own survey, 2024

ii. Normality

Using OLS method for multiple regression analysis, one of the assumptions is that the sample data is from a regularly distributed population. A plot of residual values will resemble a normal curve because errors are normally distributed (Keith, 2006). To verify that the data in this study were normal, the histogram of standardized residuals was utilized. The histogram

below shows that the data used for this investigation came from a population that was regularly distributed, proving that the assumption of normalcy was satisfied.

Figure 4.2 Test of Normality



Source: own survey, 2024

iii. Multicollinearity

When two or more predictor variables in the regression model produce the same piece of information about the variance in the dependent variable, the issue of multicollinearity arises.. To find multicollinearity, the variance inflation factor (VIF) is frequently employed. A multicollinearity issue is typically indicated by a VIF larger than 10. Such high multicollinearity can lead to unreliable estimates of the regression coefficient ,making it challenging to assess the effect of each predictor . Multicollinearity was not a problem for the variables in this model, according to a VIF analysis.

Table 4.12 Test of Multicollinearity

Model	Collinearity Statistics	
	Tolerance	VIF
AUTHLSH	.548	1.824
SRLDSHP	.303	3.305
TRANLS	.375	2.664

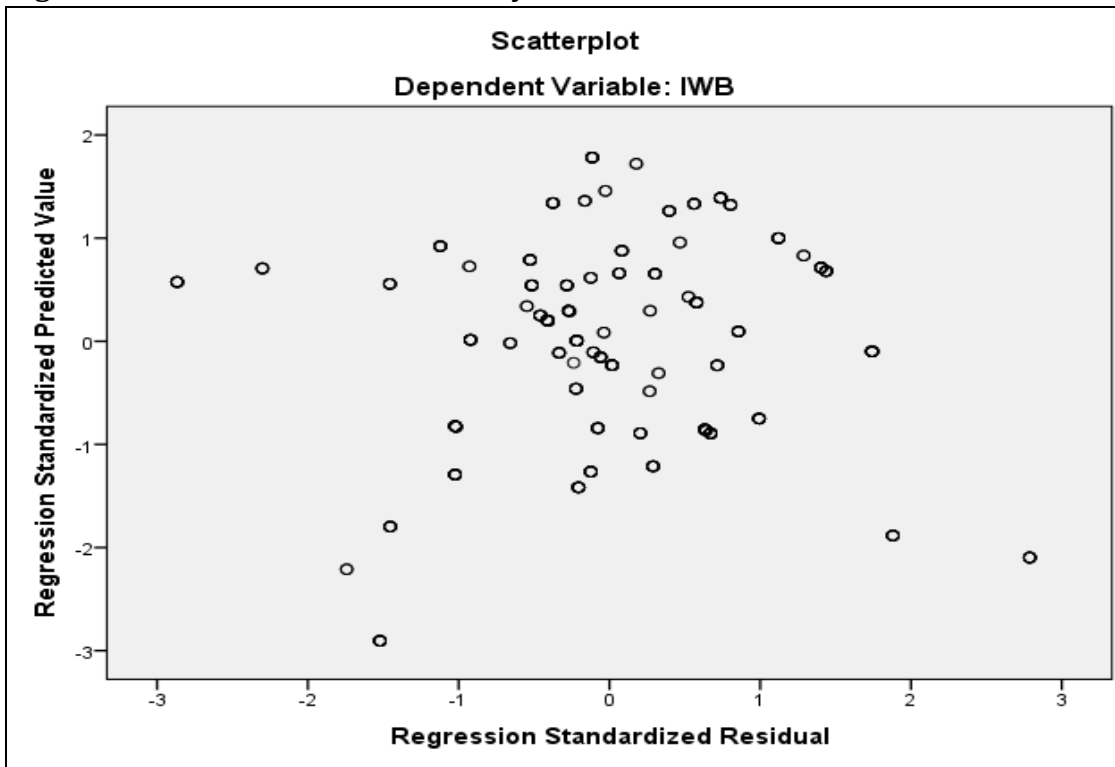
OLC	.407	2.459
PSE	.758	1.320

Source: own survey, 2024

iv. Homoscedasticity

This assumption asserts that every disturbance has the same variance, the amount of which is unknown, meaning that the error term's (disturbance's) dispersion is the same regardless of size. When this assumption is violated, we have heteroscedasticity. In cross-sectional data, heteroscedasticity is widespread. The standardized residuals are evenly distributed, as shown in Figure 4.3, showing that the data does not have a heteroscedasticity problem.

Figure 4.3 Test of heteroscedasticity



Source: own survey, 2024

4.5.2.2 Regression Analysis Result

Examining the effect of authentic, servant and TL styles on IWB with mediating effect of PE and the moderating role of OLC in the case of pharmaceutical manufacturing industries in Ethiopia was the study's main goal. When investigating the effect of two or more explanatory

variables on the dependent variable, such a technique is appropriate. One dependent variable three independent variable, one mediating variable and one moderating variable, six variables were used in the regression model.

4.6. Assessment of Structural Model

Bootstrap analysis was used to examine the magnitude and significance of the direct effect as well as the mediating effect in Structural Equation Model. The path coefficient of the model is presented in Table 4.13 and figure 4.4 below.

4.6.1 SEM direct effect

Here the direct effect analysis of the structural equation answers hypotheses 1, 2, 3, 4, 5, 6 and 7. Accordingly, the Bootstrap analysis for the direct effect revealed that AL has statistically positive effect on psychological empowerment with beta of ($\beta = 0.346$, $p < 0.000$). This finding supports **H1** and it is in agreement with the finding of (Perwitasari, 2022). Similarly, with ($\beta = 0.310$, $p < 0.000$), AL confirmed to has a positive influence on PE. This finding supports **H2** and consistent with the finding of (Faraz et al. 2019). On the other hand, TR has found to has statistically significant negative effect on PE with beta of ($\beta = -0.175$, $p = 0.001$). This finding supported **H3** and in contrast with the finding of (Masood and Afsar, 2017).

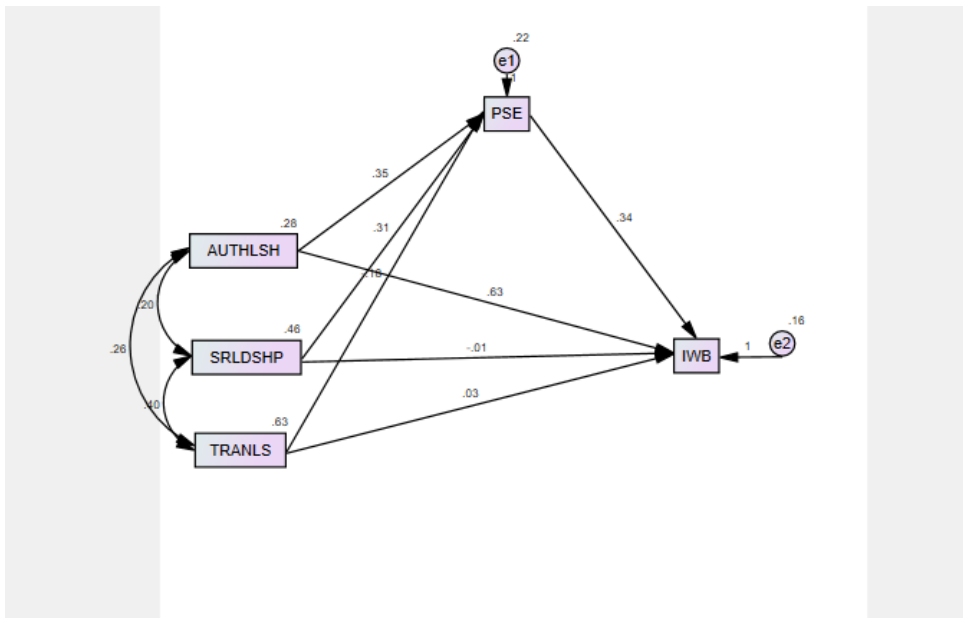
The Bootstrap analysis findings also confirmed that AL has statistically significant positive effect on innovative work behavior with beta of ($\beta = 0.628$, $p < 0.000$). This finding supports **H4** and in agreement with the finding of (Jung et al. 2021). Similarly, psychological empowerment showed statistically significant positive effect on innovative work behavior with beta coefficient value of ($\beta = 0.343$, $p < 0.000$). This finding supports **H7** and in agreement with the finding of (Marane, 2012). However, according to the bootstrap analysis findings, SL and TL found not to have any significant effect on innovative work behavior confirming the rejection of **H5** and **H6**. These findings are in disagreement with the findings of (Yang et al., 2017 and Asada et al, 2021), respectively.

Table 4.13 Summary of the direct effect

Source: own survey 2024

Figure 4.4 Result of the Path Diagram

Hypothesized path	Hypothesis	Estimate	S.E.	C.R.	P	Status
PSE<---AUTHLSH	H1	.346	.067	5.208	***	Accepted
PSE<---SRLDSHP	H2	.310	.061	5.124	***	Accepted
PSE<---TRANLS	H3	-.175	.055	-3.200	.001	Accepted
IWB<---AUTHLSH	H4	.628	.059	10.584	***	Accepted
IWB<---SRLDSHP	H5	-.009	.054	-.165	.869	Rejected
IWB<---TRANLS	H6	.033	.047	.704	.481	Rejected
IWB<---PSE	H7	.343	.050	6.827	***	Accepted



Source: own survey, 2024

4.6.2 SEM Mediation Analysis

As the interest of this study is to examine the mediating effect of PE between AL, SL, TL style and IWB, the direct effect result allows the researcher to proceed towards examining the mediation effect of psychological empowerment between leadership styles and IWB.

As the interest of this study is to examine the mediating effect of PE between AL, SL, TL style and IWB, the direct effect result allows the researcher to proceed towards examining the mediation effect of PE between leadership styles and IWB. One should note that TL and SL style have no statistically significant effect on IWB.

Accordingly, Bias-corrected bootstrapping test, including 95 percent bootstrap confidence intervals were used in this study to examine the mediation effect of PE between ALs style and innovative working behavior as showed in table 4.14 below. Thus, in order to examine the mediating effect of PE, using bootstrapping technique the indirect effect and the total effect of PE between AL style and innovative working behavior and their level of significance were calculated.

The result of bootstrapping test revealed that ALs style has statistically significant positive indirect effect through PE on innovative working behavior with beta coefficient value of ($\beta = 0.119$, $p < 0.008$). Similarly, the result of bootstrapping analysis finding confirmed the existence of positive and statistically significant total effect of AL style on innovative working behavior with beta coefficient value of ($\beta = 0.747$, $p < 0.004$), indicating that PE has mediation effect between ALs style and innovative working behavior. Therefore, the bootstrapping analysis finding revealed that PE partially mediates the effect of AL style on innovative working behavior, verifying H9. This attested that enhancing employees' PE could increase the effect of AL on their IWB. This finding is in agreement with the finding of (Perwitasari, 2022). considering SL statistically significant positive indirect effect through PE on innovative working behavior with beta coefficient value of ($\beta = 0.106$, $p < 0.014$) Therefore, the bootstrapping analysis finding revealed that PE fully mediates the effect of SL style on innovative working behavior .This result is in consistence with (Faraz et al, 2019) verifying H10, however TL have no statistically significant effect on IWB and insignificant for this reason H11 is not supported.

Table 4.14 The mediating effect of PE

Structural Link	Hypothesis	Estimated Effect	P-value	Status
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AUL-->PSE-->IWB	H9	Direct effect	.628	0.006	Accepted
		Indirect effect	.119	0.008	
		Total effect	.747	0.004	

Source: own survey 2024

4.6.3 SEM Moderation Analysis

The bootstrapping technique has been used to examine the direct effect of the interest independent variable (AL, SL and TL styles) on IWB as well as to examine the moderating role of OLC between three leadership styles and IWB.

Accordingly, the direct effect results of the analysis using bootstrapping technique revealed that AL style has statistically significant positive direct effect on IWB with beta coefficient value of ($\beta = 1.455$, $p < 0.000$). On the other hand, it is confirmed that TL style has statistically significant, but negative direct effect on IWB with beta coefficient value of ($\beta = -.670$, $p < 0.019$), while SL style found not to have any significant effect on IWB. These supports **H4** and **H6**, while not supported **H5**.

Regarding the direct effect of the moderating variable analysis, the result show that OLC has statistically significant positive direct effect on IWB with beta coefficient value of ($\beta = .766$, $p < 0.000$). This supports **H8** and in agreement with the finding of (Joo, 2012).

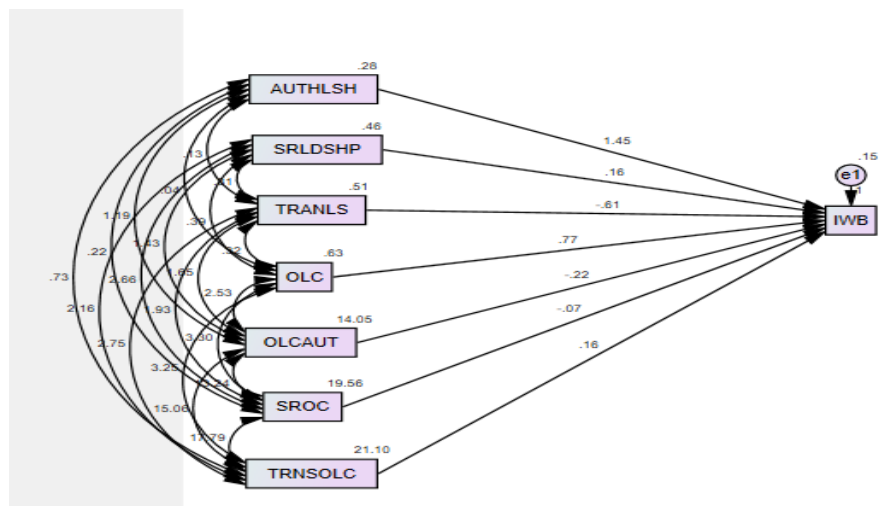
Consistently, the statistical finding reveals that the moderation effect of OLC on the relationship between AL and IWB is statistically significant, but negative, as the interaction term of OLC and ALS(OLC*ALS) ($\beta = -0.221$, $p = 0.000$). Thus, **H12** is also supported. Which implies that OLC negatively moderate the relationship between AL and IWB with total effect of -0.221 This finding is in line with the finding of (Choi, 2020). In addition, the statistical finding reveals that the moderation effect of OLC on the relationship between TL style and IWB is statistically significant and but positive, as the interaction term of OLC and TRNS(OLC*TRNS) ($\beta = 0.158$, $p = 0.026$). Thus, **H14** is also supported. This finding is consistent with the finding of (Udin, U. 2023). The result of direct effect and moderating effect is presented in table 4.15 and figure 4.5 below. However, as SL style shows no statistically significant effect on IWB, **H13** is not supported.

This study found that AL is significantly related to IWB and OLC. AL encourages employees' self-confidence, optimism and commitment to continue learning well in order to achieve superior performance. AL inspires employees to develop their knowledge and engage in totality in continuous learning to sow the common good and the organization as a whole, which in turn, encourages creativity and innovation of employees to produce the best performance.

On the other hand, as OLC found to have a moderating role between AL and IWB, pharmaceutical manufacturing companies could enhance innovative behavior of employees through improving the level of the practice of this leadership style, thereby increase their level of productivity by maximizing the positive effect of AL style on IWB.

Similarly, the negative moderating effect of OLC could be an indication for the existing OLC which is not favorable in encouraging employees innovative behavior. Therefore, in order to enhance the positive effect of AL style on IWB, pharmaceutical manufacturing companies should have to put in place appropriate OLC that foster the positive effect of AL style on IWB.

Figure 4.5 Moderating Effect Result



Source: own survey, 2024

Table 4.15 Moderating Effect Result

	Estimate	S.E.	C.R.	P	Label
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	Estimate	S.E.	C.R.	P	Label
IWB <--- AUTHLSH	1.455	.188	7.749	***	
IWB <--- SRLDSHP	.160	.270	.595	.552	
IWB <--- TRANLS	-.607	.258	-2.354	.019	
IWB <--- OLC	.766	.196	3.906	***	
IWB <--- OLCAUT	-.221	.053	-4.157	***	
IWB <--- SROC	-.067	.069	-.969	.333	
IWB <--- TRNSOLC	.158	.071	2.219	.026	

Source: own survey, 2024

4.6.4. Discussion

The analysis of direct effects using SEM provides profound insights into the intricate relationships among various leadership styles and their subsequent impact on PE and IWB. This section delves into the findings related to hypotheses 1 through 14, emphasizing both the statistical significance and broader implications of the identified relationships.

Leadership styles and Psychological Empowerment (PE)

The analysis revealed a statistically significant positive effect of AL on PE, affirming H1. This finding indicates that leaders who embody authenticity and transparency significantly enhance their employees' sense of empowerment. Such leaders create an environment where employees feel valued and capable, which is crucial for fostering engagement and motivation. Similarly, SL also demonstrated a positive effect on PE, supporting H2. This suggests that SL contributes positively to empowering employees, aligning with the notion that leaders who prioritize the needs of their team members can enhance their sense of agency.

In contrast, TL was found to exert a statistically significant negative effect on PE, supporting H3. This unexpected result raises critical questions about TL's effectiveness in certain contexts. While TL is often associated with inspiring change and motivating teams, it may inadvertently undermine employees' feelings of autonomy or competence in specific

situations. This paradox warrants further investigation into the contextual factors that may influence these dynamics.

Impact on Innovative Work Behavior (IWB)

AL not only positively influenced PE but also exhibited a strong positive effect on IWB; supporting H4. This finding underscores the role of authentic leaders in fostering an innovative climate by encouraging creativity and risk-taking among employees. Furthermore, the analysis confirmed that PE positively influences IWB, thereby supporting H7. This relationship highlights the psychological mechanisms through which leadership styles can drive innovation: when employees feel empowered, they are more likely to engage in innovative behaviors.

However, neither SL nor TL showed significant effects on IWB, leading to the rejection of H5 and H6. These results emphasize the need for organizations to carefully consider which leadership styles are most conducive to promoting innovation. The contrasting outcomes between AL and TL suggest that organizations may benefit from cultivating authentic leadership qualities while being cautious about relying solely on transformational approaches.

Mediation Analysis: The Role of Psychological Empowerment

The SEM mediation analysis further elucidated the role of PE as a mediator between AL and IWB. The initial assessment confirmed that AL has a statistically significant positive direct effect on IWB. Following this, the study examined the mediating role of PE using bias-corrected bootstrapping a robust statistical method for mediation analysis. The results indicated that AL exerts a statistically significant positive indirect effect on IWB through PE. This finding reinforces the idea that when employees feel psychologically empowered, they are more likely to exhibit innovative behaviors in response to AL.

Moreover, the total effect of AL on IWB was found to be significant, confirming that AL positively influences innovation both directly and indirectly. This suggests that enhancing employees' PE can amplify the beneficial effects of AL on their innovative behaviors, thus supporting Hypothesis 9. considering the indirect positive effect of SL on IWB can amplify the full mediation of PE which leads to the acceptance of Hypothesis 10.

considering SL statistically significant positive indirect effect through PE on innovative working behavior with beta coefficient value of ($\beta = 0.106, p < 0.014$) Therefore, the bootstrapping analysis finding revealed that PE fully mediates the effect of SL style on innovative working behavior, verifying H10, however TL have no statistically significant effect on IWB for this reason H11 is not supported

Moderating Role of Organizational Learning Culture (OLC)

The analysis also explored the moderating role of OLC in the relationship between leadership styles and IWB. The results indicated that OLC has a statistically significant positive direct effect on IWB, supporting H8. This underscores the importance of fostering a strong learning culture within organizations to promote innovation.

Interestingly, the interaction term between OLC and AL revealed a statistically significant negative moderation effect, supporting H12. This suggests that while AL generally promotes IWB, an existing OLC may dampen this effect. Conversely, the interaction between OLC and TL showed a statistically significant positive moderation effect, supporting H14. This indicates that an OLC can enhance TL's positive impact on IWB.

Implications for Organizations

These findings carry several critical implications for organizations, particularly within sectors like pharmaceutical manufacturing where innovation is paramount. Organizations should prioritize developing authentic leadership qualities among their leaders to cultivate an environment conducive to innovative behaviors. Authentic leaders build trust and inspire continuous learning and creativity among employees.

Given the negative impact of SL on innovation observed in this study, organizations may need to reevaluate how this leadership style is implemented or consider integrating elements from other leadership approaches that better support innovation.

The mixed results regarding OLC suggest that while it is beneficial for overall innovation, its current form may not effectively maximize the impacts of AL. Organizations should strive to

create an OLC that actively encourages experimentation and risk-taking rather than one that inadvertently stifles creativity.

In conclusion, this study highlights the complex interplay between leadership styles and organizational learning culture in influencing IWB. While AL significantly promotes innovation, its effectiveness can be moderated negatively by existing OLCs. Conversely, TL benefits from such cultures but may not inherently drive innovation as effectively as AL does. These insights provide valuable guidance for organizations aiming to enhance their innovative capabilities through strategic leadership development and cultural alignment.

CHAPTER FIVE

Summary of Findings, Conclusion and Recommendations

This chapter of the study included an overview of the key findings, a conclusion drawn from the study findings that are in line with the objective of the study and recommendations forwarded by the researcher based on the study findings and conclusions drawn.

5.1 Summary of major Findings

The study aimed to investigate the impact of authentic, servant and transformational leadership styles on innovative working behavior in the pharmaceutical manufacturing industries in Ethiopia. It also explored the mediating effect of PE and moderating roll of OLC. To achieve this, the researcher employed a combination of explanatory and descriptive research design, utilizing a quantitative research approach.

A total of 303 respondents were selected from seven pharmaceutical manufacturing companies in Addis Ababa using quota sampling technique. Primary cross-sectional data were collected through a structures survey questioner. The collected data were then analyzed using regression analysis with OLS technique and descriptive statistics.

This study employed the most popular reliability test technique, Cronbach's Alpha coefficient, to guarantee the dependability of the deployed data. The Cronbach's Alpha coefficient test result thus verified the reliability of the data used in this investigation. 303 questionnaires that were distributed to participants in this study, 288 questionnaires were found to be eligible making the questionnaire response rate of 95 percent to produce reliable study results.

This study sought to examine the effect of AL, SL and TL style on IWB among pharmaceutical manufacturing industries in Ethiopia with the mediating effect of PE and the moderating role of OLC. In order to capture the respondents' perceptions regarding the three leadership styles level of practice across the pharmaceutical manufacturing industries, respondents were asked to rate the level the practice of these leadership styles based on Likert's 5 scale of measurements.

Accordingly, as perceived by the sample respondents, being one of the interest independent variable of the study, the practice of AL style was rated as good with pharmaceutical manufacturing industries with the aggregated mean score value of 3.88(SD= 0.91) for all the 16 statements under the construct. This finding revealed that AL style is well practiced across pharmaceutical manufacturing industries in Ethiopia.

Similarly, according to the descriptive statistics analysis result, with the mean score value of 3.81(SD= 1.05), of the whole 30 statements in the construct, the level of the practice of SL style was judged as good by the sampled respondents. This result confirmed that SLs style is practiced in a well manure across pharmaceutical manufacturing industries in Ethiopia.

On the other hand, the overall aggregated mean value of all the 7 statements is registered as 3.97(S. D=1.00), implying the practice of TL among pharmaceutical manufacturing industries in Ethiopia is good as rated by the sample respondents.

In overall, from descriptive statistics analysis findings on the leaderships styles incorporated in this study, one can learn that AL, SL and TL are practiced well by pharmaceutical manufacturing industries in Ethiopia.

Firms with good OLC are believed to have good practice of IWB. OLC is incorporated as moderating variable between the relationship of AL style and IWB. Accordingly, with the overall aggregated average score value of all the 12 statements in this construct of 3.46(SD=1.03) and with the mean score value of individual statements ranging from 3.42 to 3.88(S. D= 0.86 to 1.16), the sampled respondents perceived the level of OLC as very good with small variation among their perception over all the statements. This finding affirmed that pharmaceutical manufacturing industries in Ethiopia are very good in terms of OLC.

Employees with good PE are likely to have a good practice of IWB. Being considered as a mediating variable, PE questioner with 12 statements were also rated by respondents based on their individual perception. Accordingly, with the overall aggregated average score value of all the 12 statements in this construct of 4.31(SD=.79) and with the mean score value for each individual statement under the construct ranging from 3.99 to 4.47(S. D=0.63 to .99), the sampled respondents perceived their level of PE as good, implying employees in the pharmaceutical manufacturing industries in Ethiopia are with good level of PE.

The prompt evolution of technology results in a shift in the requirements for IWB from employees. Organizations with employees having good IWB can foster new innovation and enhance productivity. IWB is considered as a dependent variable in this study. According to the finding of the descriptive statistics analysis, with the overall aggregated mean score value of the 10 statements of 3.64(SD=1.03) and with the mean score value for each individual statement under the construct ranging from 3.75 to 4.33, the sampled respondents perceived the level of their level of IWB among pharmaceutical manufacturing industries as good, suggesting employees in the pharmaceutical manufacturing industries in Ethiopia have good level of IWB.

The Pearson correlation coefficient (r) was used to calculate the relationship between the research variables. Consequently, the correlation analysis demonstrated a significant positive relationship between the explanatory variables, the mediating, moderating and the dependent variable at 1% significant level.

A diagnosis test was performed on the five assumptions before the regression analysis. Consequently, the outcome demonstrated that the model passed every diagnostic test, including those for heteroscedasticity, multicollinearity, linearity, and normality except serial correlation such a test was not required for this investigation because serial correlation is only a risk for time series data, not cross-sectional data.

Examining the effect of leadership styles on IWB with mediating effect of PE and the moderating role of OLC in the case of pharmaceutical manufacturing industries in Ethiopia was the study's main goal. Accordingly, the study deployed structural equation model analysis in meeting the research goal.

Here the direct effect analysis of the structural equation answers hypotheses 1, 2, 3, 4, 5, 6 and 7. Accordingly, the Bootstrap analysis for the direct effect revealed that AL style and SL style have statistically positive effect on PE with beta of ($\beta = 0.346$, $p < 0.000$ and $\beta = 0.310$, $p < 0.000$), respectively. On the other hand, TL has found to have statistically significant negative effect on PE with beta of ($\beta = -0.175$, $p = 0.001$). Therefore, these findings supported **H1**, **H2** and **H3**.

The Bootstrap analysis findings also confirmed that AL style has statistically significant positive effect on IWB with beta of ($\beta = 0.628$, $p < 0.000$). Similarly, PE showed statistically significant positive on IWB with beta coefficient value of ($\beta = 0.343$, $p = 0.000$). Accordingly, based on these findings, **H4** and **H7** are supported.

These findings allowed the researcher to proceed to the examination of the mediating role of PE in the relationship between AL style and IWB to test H 9.

The result of bootstrapping test revealed that AL has statistically significant positive indirect effect through PE on IWB with beta coefficient value of ($\beta = 0.119$, $p < 0.008$). Similarly, the result of bootstrapping analysis finding confirmed the existence of positive and statistically significant total effect of AL style on innovative working behavior with beta coefficient value of ($\beta = 0.747$, $p = 0.004$), indicating that PE has mediation effect between ALs style and IWB, verifying **H9**. This attested that enhancing employees' PE could increase the effect of AL on their IWB. Servant leadership shows statistically significant positive indirect effect through PE on innovative working behavior with beta coefficient value of ($\beta = 0.106$, $p < 0.014$) Therefore, the bootstrapping analysis finding revealed that PE fully mediates the effect of SL style on innovative working behavior, verifying H10, however TL have no statistically significant effect on IWB for this reason H11 is not supported

Accordingly, the direct effect results of the analysis using bootstrapping technique revealed that AL has statistically significant positive direct effect on IWB with beta coefficient value of ($\beta = 1.455$, $p < 0.000$). On the other hand, it is confirmed that TL style has statistically significant, but negative direct effect on IWB with beta coefficient value of ($\beta = -.670$, $p < 0.019$), while SL found not to have any significant effect on IWB. These supports **H4** and **H6**, while not supported **H5**.

Regarding the direct effect of the moderating variable analysis, the result show that OLC has statistically significant positive direct effect on IWB with beta coefficient value of ($\beta = .766$, $p < 0.000$), supporting **H8**.

Consistently, the statistical finding reveals that the moderation effect of OLC on the relationship between AL and IWB is statistically significant, but negative, as the interaction term of OLC and ALS(OLC*ALS) ($\beta = -0.221$, $p = 0.000$). Thus, **H12** is also supported which implies that OLC negatively moderate the relationship between AL and IWB with a total effect of -0.221. In addition, the statistical finding reveals that the moderation effect of OLC on the relationship between TL style and IWB is statistically significant and but positive, as the interaction term of OLC and TRNS(OLC*TRNS) ($\beta = 0.158$, $p = 0.026$). Thus, **H14** is also supported

5.2 Conclusion

The findings of this study provide valuable insights into the dynamics of the three leadership styles, PE, and OLC within the context of pharmaceutical manufacturing industries in Ethiopia. The analysis utilized the Pearson correlation coefficient and structural equation modeling to explore these relationships, revealing several significant conclusions.

The correlation analysis demonstrated a robust positive relationship among the explanatory variables, mediating variables, moderating variables, and the dependent variable at a 1% significance level. This indicates that as one variable increases, so do the others, suggesting a coherent framework where AL is positively associated with IWB through PE.

The results indicated that both AL and SL styles positively influence PE, while TL negatively affects it. Specifically: PE was found to partially mediate the relationship between AL style and IWB while PE fully mediates the relationship between SL and IWB.

The study revealed that OLC plays a complex role: It positively moderates the relationship between TL and IWB with a significant interaction effect ($\beta = 0.158$).

Conversely, it negatively moderates the relationship between AL and IWB, indicating that while AL is beneficial, its effectiveness may be diminished in organizations with strong learning cultures (interaction term $\beta = -0.221$).

The findings suggest that organizations aiming to foster IWB should focus on enhancing AL practices while being mindful of their OLC's characteristics. Training programs for leaders to develop AL skills could be beneficial, alongside initiatives to empower employees psychologically.

5.3 Recommendations

Based on the major findings of the study and conclusion drawn based on the findings, the following recommendations are forwarded by the researcher.

- **Enhance AL Training:** Organizations should invest in training programs that develop AL qualities among managers. This could include workshops focused on self-awareness, transparency, and ethical decision-making.
- **Foster PE:** Companies should implement strategies that enhance PE among employees. This can involve providing opportunities for autonomy, encouraging participation in decision-making, and recognizing employee contributions.
- **Evaluate OLC:** Management should assess their OLC to understand its impact on innovation. If the culture is found to hinder innovation despite strong leadership, interventions may be necessary to align learning practices with innovation goals.
- **Tailor Leadership Approaches:** Leaders should be aware of the varying impacts of different leadership styles on innovation outcomes. Emphasizing AL while being cautious about the potential drawbacks of SL in this context may yield better results.
- **Continuous Research:** Further studies should explore the dynamics of how OLC interacts with various leadership styles beyond just authentic and SL to provide a more comprehensive understanding of factors influencing IWB.

5.4 Limitation of the study and Direction for future studies

This study has limitations even though it adds to the body of literature on its own. Future research must therefore take this study's limitations into account. First, the study's focus is restricted to the Addis Ababa City pharmaceutical manufacturing industries. It then investigates the relationship between IWB and different leadership styles, taking into account the moderating role of OLC and the mediating effect of PE. As this reduced generalizability of the study findings, further future studies need to incorporate pharmaceutical manufacturing industries located outside Addis Ababa City.

Second, future research should use longitudinal designs if available, given the time-dependent nature of innovative behavior and its relationships with PE, leadership style, and OLC (OLC). Finally, from a psychological and learning-oriented perspective, future research should identify different mediating and moderating factors in the relationship between AL and innovation.

References

- Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, 45(2), 357-376. <https://doi.org/10.1037/0022-3514.45.2.357>
- Afsar, B., F. Badir, Y., & Bin Saeed, B. (2014). TL and IWB. *Industrial Management & Data Systems*, 114(8), 1270-1300.
- Al Hawamdeh, N. (2022). Exploring the Nexus Between Knowledge-Oriented. *International Journal of Academic Research in Business and Social Sciences*, 12(7), 1746-1761.
- Al-Haq, A., & Rasyid, R. (2022, July). The Influence of Organizational Learning and Innovation Climate on IWB, Mediating Role of Learning Motivation. In Eighth Padang International Conference on Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA-8 2021) (pp. 329-332). Atlantis Press.
- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154–84.
- Amundsen, S., & Martinsen, Ø. L. (2015). Linking empowering leadership to job satisfaction, work effort, and creativity: The role of self-leadership and PE. *Journal of Leadership & Organizational Studies*, 22(3), 304-323. <https://doi.org/10.1177/1548051814565819>
- Argyris, C. (1977). Double loop learning in organizations. *Harvard Business Review*, 55(5), 115-125.
- Asada, N., Hashmib, H. B. A., Nasirc, M., & Khalidd, A. (2021). TL relationship with employee creativity: The moderating effect of knowledge sharing and mediating effect of creative self-efficacy. *Leadership*, 15(8), 1005-1029.
- Ashfaq, F., Abid, G., Ilyas, S., & Hasnain, A. (2021). How TL influences innovative behavior: The mediating role of PE and proactivity of employees. *Independent Journal of Management & Production*, 12(1), 241-264.
- Ashforth, B. E. (1989). The experience of powerlessness in organizations. *Organizational behavior and human decision processes*, 43(2), 207-242.

- Astuty, I., & Udin, U. D. I. N. (2020). The effect of perceived organizational support and TL on affective commitment and employee performance. *The Journal of Asian Finance, Economics and Business*, 7(10), 401-411.
- Ausubel, D. P. (1963). *The psychology of meaningful verbal learning*. New York: Grune & Stratton.
- Avolio, B. J., Wernsing, T., & Gardner, W. L. (2018). Revisiting the development and validation of the AL questionnaire: Analytical clarifications. *Journal of Management*, 44(2), 399-411.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Bass, B.M. & Avolio, B.J. (1990) The Implications of Transactional and TL for Individual, Team, and Organizational Development. *Research in Organizational Change and Development*, 4(1), 231–72.
- Bass, B.M. (1999). Two decades of research and development in TL. *European Journal of Work and Organizational Psychology*, 8(1), 9-32.
- Blau, P. M. (1964). Justice in Social exchange. *Sociological Inquiry*, 34(2), 193–206.
- Burleson, W. (2005). Developing creativity, motivation, and self-actualization with learning systems. *International Journal of Human-Computer Studies*, 63(4-5), 436-451.
- Carroll, J. S., & Edmondson, A. C. (2002). Leading organizational learning in health care. *BMJ Quality & Safety*, 11(1), 51-56.
- Cetindamar, D., Abedin, B., & Shirahada, K. (2021). The role of employees in digital transformation: a preliminary study on how employees' digital literacy impacts use of digital technologies. *IEEE Transactions on Engineering Management*.
- Chiniara, M., & Bentein, K. (2016). Linking SL to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction. *The Leadership Quarterly*, 27(1), 124–141.
- Choi, I. (2020). Moving beyond Mandates: OLC, Empowerment, and Performance. *International Journal of Public Administration*, 43(8), 724-735.
- Conger, J. A., & Kanungo, R. N. (1988). The empowerment process: Integrating theory and practice. *Academy of management review*, 13(3), 471-482.

- Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies*, 47(6), 1154-1191.
- Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business School Press.
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of applied psychology*, 74(4), 580.
- Dobbins, J. E., & Platz, S. J. (1986). Sidney Hook's philosophy of history. *History and Theory*, 25(2), 143–157.
- Domínguez-Escrig, E., Broch, F. F. M., Chiva, R., & Alcamí, R. L. (2022). AL: boosting organizational learning capability and innovation success. *The Learning Organization*, 30(1), 23-36.
- Dust, S. B., Resick, C. J., & Mawritz, M. B. (2014). TL, PE, and the moderating role of mechanistic–organic contexts. *Journal of Organizational Behaviour*, 35(3), 413-433.
- Eid, R., & Agag, G. (2020). Determinants of innovative behaviour in the hotel industry: a cross-cultural study. *International Journal of Hospitality Management*, 91, 102642.
- Erdogan, B., Liden, R. C., & Kraimer, M. L. (2006). Justice and leader-member exchange: The moderating role of organizational culture. *Academy of Management journal*, 49(2), 395-406.
- Eva, N., Robin, M., Sendjaya, S., Van Dierendonck, D., & Liden, R. C. (2019). SL: A systematic review and call for future research. *The Leadership Quarterly*, 30(1), 111–132.
- Fang, Y. C., Chen, J. Y., Wang, M. J., & Chen, C. Y. (2019). The impact of inclusive leadership on employees' innovative behaviors: The mediation of psychological capital. *Frontiers in Psychology*, 10, 1803. <https://doi.org/10.3389/fpsyg.2019.01803>
- Faraz, N. A., Mughal, M. F., Ahmed, F., Raza, A., & Iqbal, M. K. (2019). The impact of SL on employees' innovative work behaviour-mediating role of PE. *International Journal of Management Science and Business Administration*, 5(3), 10-21.
- Fiorella, L., & Mayer, R. E. (2015). *Learning as a generative activity: Eight learning strategies that promote understanding*. Cambridge University Press.
- Flood, R. L., & Romm, N. R. A. (1996). *Diversity management: Triple loop learning*. Chichester: Wiley.

- Gardner, W. L., Avolio, B. J., Luthans, F., May, D. R., & Walumbwa, F. (2005). "Can you see the real me?" A self-based model of authentic leader and follower development. *The leadership quarterly*, 16(3), 343-372.
- Garg, V., Attree, A. K., & Kumar, V. (2023). The mediating role of PE on the TL-Innovative work behaviour relationship: A study of Indian banking sector. *South Asian Journal of Human Resources Management*, 10(1), 130-151.
- Garvin, D.A. (1993) Building a learning organization. *Harv. Bus. Rev.* 19(11), 71, 78–91.
- George, B., Sims, P., McLean, A. N., & Mayer, D. (2007). Discovering your AL. *Harvard business review*, 85(2), 129.
- Gilson, L. L., & Shalley, C. E. (2004). A little creativity goes a long way: An examination of teams' engagement in creative processes. *Journal of management*, 30(4), 453-470.
- Gist, M. E. (1987). Self-efficacy: Implications for organizational behavior and human resource management. *Academy of management review*, 12(3), 472-485.
- Gomes, S. B., Santoro, F. M., Da Silva, M. M., & Iacob, M. E. (2019, October). A reference model for digital transformation and innovation. In *2019 IEEE 23rd International Enterprise Distributed Object Computing Conference (EDOC)* (pp. 21-30). IEEE.
- Goswami, B. K., & Upadhyay, Y. (2019). An empirical study on digital transformation and its impact on employee engagement. In *Proceedings of 10th International Conference on Digital Strategies for Organizational Success*.
- Greenleaf, R. K. (1977). *SL: A journey into the nature of legitimate power and greatness*. Paulist Press.
- Greenleaf, R. K. (2008). *The Servant as Leader: The Greenleaf Center for SL*.
- Grošelj, M., Černe, M., Penger, S., & Grah, B. (2021). Authentic and TL and innovative work behaviour: The moderating role of PE. *European Journal of Innovation Management*, 24(3), 677-706
- Han, S. H., Seo, G., Yoon, S. W., & Yoon, D. Y. (2016). TL and knowledge sharing: Mediating roles of employee's empowerment, commitment, and citizenship behaviors. *Journal of Workplace Learning*, 28(3), 130-149.

- Hanaysha, J. R. (2020). Innovation capabilities and AL: Do they really matter to firm performance? *Journal of Asia-Pacific Business*, 21(4), 271-290.
- Hansen, J. A., & Pihl-Thingvad, S. (2019). Managing employee innovative behaviour through transformational and transactional leadership styles. *Public Management Review*, 21(6), 918-944.
- Hayes, A. F., & Aut, V. X. X. (2018). Introduction to Mediation, Moderation, and Conditional Process Analysis a Regression-Based Approach Andrew f. Hayes; Series Editor's Note by Todd d. Little.
- Hersey, P., & Blanchard, K. H. (1969). Life cycle theory of leadership. *Training and Development Journal*, 23(5), 26–34.
- Hoch, J. E., Bommer, W. H., Dulebohn, J. H., & Wu, D. (2018). Do ethical, authentic, and SL explain variance above and beyond TL? A meta-analysis. *Journal of management*, 44(2), 501-529.
- House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: Quo Vadis. *Journal of management*, 23(3), 409-473.
- Hunter, D. E., & Nielsen, S. B. (2013). Performance management and evaluation: Exploring complementarities. *New Directions for Evaluation*, 2013(137), 7–17.
- Hunziker, S., & Blankenagel, M. (2024). Research design in business and management. SpringerLink. <https://doi.org/10.1007/978-3-658-42739-91>
- Ilies, R., Morgeson, F. P., & Nahrgang, J. D. (2005). AL and eudaemonic well-being: Understanding leader–follower outcomes. *The leadership quarterly*, 16(3), 373-394.
- Imam, H., Naqvi, M. B., Naqvi, S. A., & Chambel, M. J. (2020). AL: unleashing employee creativity through empowerment and commitment to the supervisor. *Leadership & Organization Development Journal*, 41(6), 847-864.
- Janssen, O. (2000). Job demands, perceptions of effortreward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73(3), 287-302. <https://doi.org/10.1348/096317900167038>
- Javed, B., Abdullah, I., Zaffar, M. A., Haque, A. U., & Rubab, U. (2019). Inclusive leadership and IWB: The role of PE. *Journal of Management & Organization*, 25(4), 554–571
- Javed, B., Naqvi, S. M. M. R., Khan, A. K., Arjoon, S., & Tayyeb, H. H. (2019). Impact of inclusive leadership on IWB: The role of psychological safety. *Journal of Management & Organization*, 25(1), 117-136.

- Jenkins, W. O. (1991). Trait theory and leadership effectiveness. *Journal of Applied Psychology*, 76(3), 468–478.
- Jensen, P. E. (2005). A contextual theory of learning and the learning organization. *Knowledge and Process Management*, 12(1), 53-64.
- Jha, S. (2014). TL and PE: Determinants of organizational citizenship behavior. *South Asian Journal of Global Business Research*, 3(1), 18-35.
- Joo, B. K. (2012). Leader–member exchange quality and in-role job performance: The moderating role of learning organization culture. *Journal of Leadership & Organizational Studies*, 19(1), 25-34.
- Joo, B. K., & Lim, T. (2009). The effects of OLC, perceived job complexity, and proactive personality on organizational commitment and intrinsic motivation. *Journal of Leadership & Organizational Studies*, 16(1), 48-60. <https://doi.org/10.1177/1548051809334195>
- Jung, K. B., Ullah, S. E., & Choi, S. B. (2021). The mediated moderating role of OLC in the relationships among AL, leader-member exchange, and employees' innovative behavior. *Sustainability*, 13(19), 10802.
- Kale, E., Aknar, A., & Başar, Ö. (2019). Absorptive capacity and firm performance: The mediating role of strategic agility. *International journal of hospitality management*, 78, 276-283.
- Karakoc, N. & Yilmaz, A.K. (2009). Employee empowerment and differentiation in companies: A literature review and research agenda. *Enterprise Risk Management*, 1(2), 1–12.
- Kelloway, E. K., Turner, N., Barling, J., & Loughlin, C. (2012). TL and employee psychological well-being: The mediating role of employee trust in leadership. *Work & Stress*, 26(1), 39-55.
- Khan, M. A., et al. (2020). The Interplay of Leadership Styles, IWB, and Organizational Culture. *SAGE Open*, 10(3), 215824402098264.
- Khan, M. M., Mubarik, M. S., Ahmed, S. S., Islam, T., & Khan, E. (2021). Innovation with flow at work: exploring the role of SL in affecting IWB through flow at work. *Leadership & Organization Development Journal*, 42(8), 1267-1281.
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, 4(2), 193-212.

- Krog, C. L., & Govender, K. (2015). The relationship between SL and employee empowerment, commitment, trust and innovative behaviour: A project management perspective. *SA Journal of Human Resource Management*, 13(1), 12.
- Kuhnert, K. W., & Lewis, P. (1987). Transactional and TL: A constructive/developmental analysis. *The Academy of Management Review*, 12(4), 648–657. DOI: 10.2307/258070
- Kusmargono, C. A., Jaya, W. K., Hadna, A. H., & Sumaryono, S. (2023). The Effect of AL on IWB Mediated by Work Meaningfulness. *Journal of Psychology and Behavior Studies*, 3(2), 01-07.
- Kwon, K., & Kim, T. (2020). An integrative literature review of employee engagement and innovative behavior: Revisiting the JD-R model. *Human Resource Management Review*, 30(2), 100704.
- Langhof, J. G., & Güldenber, S. (2020). SL: A systematic literature review—toward a model of antecedents and outcomes. *German Journal of Human Resource Management*, 34(1), 32–68. DOI: 10.1177/2397002219869903
- Laub, J. A. (1999). Assessing the servant organization: Development of the servant organizational leadership assessment (SOLA) instrument. Florida Atlantic University.
- Ling-Lang Tang, Yin-Lan Yeh. (2015). Effect of organizational culture, leadership style, and organizational learning on organizational innovation in the public sector., 22(5), 461-481.
- Liu, X., Huang, Y., Kim, J., & Na, S. (2023). How ethical leadership cultivates IWBs in employees? Psychological safety, work engagement, and openness to experienceSustainability.
- Liu, Y., Wang, W., & Chen, D. (2019). Linking ambidextrous organizational culture to innovative behavior: A moderated mediation model of PE and TL. *Frontiers in Psychology*, 10, Article 2192
- Luthans, F., & Avolio, B. J. (2003). AL development. *Positive organizational scholarship*, 241(258), 1-26.
- MacGregor, D. (2003). The discovery of leadership: A personal learning journey. *Journal of Leadership Studies*, 9(4), 3–16
- Mahendri, M. R., Susita, D., & Yohana, C. (2022). The effect of SL on IWB with PE and job crafting as intervening variables. *The International Journal of Social Sciences World (TIJOSSW)*, 4(2), 197-214.

- Mahmood, S., & Iqbal, S. M. J. (2021). How Leadership styles facilitate Innovative Behavior and Firm Performance: Examining the role of OLC. *Journal of the Research Society of Pakistan*, 58(3), 256.
- Manners, A. T. (2008). Influence of transformational, autocratic, democratic and laissez faire leadership principles On effectiveness of religious leaders (Doctoral dissertation, university of phoenix)
- Marane, B. (2012). The mediating role of trust in organization on the influence of PE on innovation behaviour. *European Journal of Social Sciences*, 33(1), 39-51.
- Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the value of an organization's learning culture: the dimensions of the learning organization questionnaire. *Advances in developing human resources*, 5(2), 132-151.
- Maslyn, J. M., & Uhl-Bien, M. (2001). Leader-member exchange and its dimensions: Effects of self-effort and other's effort on relationship quality. *Journal of applied psychology*, 86(4), 697.
- Masood, M., & Afsar, B. (2017). TL and IWB among nursing staff. *Nursing inquiry*, 24(4), e12188.
- Men, L. R., & Stacks, D. W. (2013). The impact of leadership style and employee empowerment on perceived organizational reputation. *Journal of Communication Management*, 17(2), 171-192.
- Menon, S. T. (2001). Employee empowerment: An integrative psychological approach. *Applied Psychology: An International Review*, 50(1), 153-180. <https://doi.org/10.1111/1464-0597.000521>.
- Messmer, M. (2001). Encouraging employee creativity. (Careers). *Strategic finance*, 83(6), 16-18.
- Mittal, S., & Dhar, R. L. (2015). TL and employee creativity: mediating role of creative self-efficacy and moderating role of knowledge sharing. *Management Decision*, 53(5), 894-910.
- Moulang, C. (2015). Performance measurement system use in generating PE and individual creativity. *Accounting & Finance*, 55(2), 519-544.
- Mubarak, F., & Noor, A. (2018). Effect of AL on employee creativity in project-based organizations with the mediating roles of work engagement and PE. *Cogent Business & Management*, 5(1), 1.
- Mücelandili, B., Turan, H., & Erdil, O. (2013). The influence of AL on creativity and innovativeness. *Procedia-Social and Behavioral Sciences*, 99, 673-681.

- Munyaka, S. A., Boshoff, A. B., Pietersen, J., & Snelgar, R. (2017). The relationships between AL, psychological capital, psychological climate, team commitment and intention to quit. *SA Journal of Industrial Psychology*, 43(1), 1-11.
- Naqshbandi, M. M., & Tabche, I. (2018). The interplay of leadership, absorptive capacity, and OLC in open innovation: Testing a moderated mediation model. *Technological Forecasting and Social Change*, 133, 156-167.
- Neubert, M. J., Hunter, E. M., & Tolentino, R. C. (2016). A servant leader and their stakeholders: When does organizational structure enhance a leader's influence? *The Leadership Quarterly*, 27(6), 896-910.
- Niazi, Z. Z., & Arshad, F. (2022). AL and IWB. Mediating Role of Creative Self-Efficacy and Buffering Effect of Mastery Goal Orientation. *RADS Journal of Business Management*, 4(1), 13-29.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. New York: Oxford University Press.
- Novak, J. D. (1998). *Learning, creating, and using knowledge: Concept maps as facilitative tools in schools and corporations*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Park, Y. K., Song, J. H., Yoon, S. W., & Kim, J. (2014). Learning organization and innovative behavior: The mediating effect of work engagement. *European Journal of Training and Development*, 38(1/2), 75-94.
- Perwitasari, N. I. (2022). *Employee Engagement as Moderating Variable in The Influence of AL to Performance Through PE (A Moderated Mediation Analysis)* (Doctoral dissertation, STIE YKPN).
- Peschl, M. F. (2007). Triple-loop learning as foundation for profound change, individual cultivation, and radical innovation. *Construction processes beyond scientific and rational knowledge. Constructivist Foundations*, 2(2-3), 136-145.
- Pieterse, A. N., Van Knippenberg, D., Schippers, M., & Stam, D. (2010). Transformational and transactional leadership and innovative behavior: The moderating role of PE. *Journal of Organizational Behavior*, 31(4), 609-623. <https://doi.org/10.1002/job.650>
- Pradhan, R. K., Panda, M., & Jena, L. K. (2017). TL and PE: The mediating effect of organizational culture in Indian retail industry. *Journal of Enterprise Information Management*, 30(1), 82-95.

- Pozzebon, M., & de Souza Bido, D. (2019). "Research methods in management: Advances and applications." *RAUSP Management Journal*, 54(4), 366-370. <https://doi.org/10.1108/RAUSP-10-2019-148>
- Rappaport, J. (1987). Terms of empowerment/exemplars of prevention: Toward a theory for community psychology. *American Journal of Community Psychology*, 15(2), 121-148. <https://doi.org/10.1007/BF00919275>.
- Redmond, M. R., Mumford, M. D., & Teach, R. (1993). Putting creativity to work: Effects of leader behaviour on subordinate creativity. *Organizational behavior and human decision processes*, 55(1), 120-151.
- Rodríguez-Carvajal, R., de Rivas, S., Herrero, M., Moreno-Jiménez, B., & Van Dierendonck, D. (2014). Leading people positively: Cross-cultural validation of the SL Survey (SLS). *The Spanish journal of psychology*, 17, E63.
- Romasanta, A. K. S., van der Sijde, P., & van Muijlwijk-Koezen, J. (2020). Innovation in pharmaceutical R&D: mapping the research landscape. *Scientometrics*, 125, 1801-1832
- Russell, R. F., & Stone, A. G. (2002). A review of SL attributes: Developing a practical model. *Leadership & organization development journal*, 23(3), 145-157.
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), 580-607. <https://doi.org/10.2307/256701>
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Senge, P. M. (1997). The fifth discipline. *Measuring business excellence*, 1(3), 46-51.
- Shalley, C. E., & Zhou, J. (2008). Organizational creativity research: A historical overview. *Handbook of organizational creativity*, 331, 3-31.
- Smith, M. K. (2001). Chris Argyris: Theories of action, double-loop learning and organizational learning. *The Encyclopedia of Informal Education*.
- Song, J. H., Kolb, J. A., Lee, U. H., & Kim, H. K. (2012). Role of TL in effective organizational knowledge creation practices: Mediating effects of employees' work

engagement. *Human Resource Development Quarterly*, 23(1), 65-101.
<https://doi.org/10.1002/hrdq.21120>

Spreitzer, G. M. (1995). PE in the workplace: Dimensions, measurement, and validation. *Academy of management Journal*, 38(5), 1442-1465.

Sun, L. Y., Zhang, Z., Qi, J., & Chen, Z. X. (2012). Empowerment and creativity: A cross-level investigation. *The leadership quarterly*, 23(1), 55-65.

Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An “interpretive” model of intrinsic task motivation. *Academy of management review*, 15(4), 666-681.

Toros, E., Maslakci, A., & Surucu, L. (2021). The mediating effect of PE on inclusive leadership and IWB: A research in hotels. *University of South Florida (USF) M3 Publishing*, 5(2021), 65.

Udin, U. (2023). Linking TL to OLC and Employee Performance: The Mediation-Moderation Model. *International Journal of Professional Business Review*, 8(3), e01229.

Van Dierendonck, D. (2011). SL: A review and synthesis. *Journal of Management*, 37(4), 1228–1261. DOI: 10.1177/0149206310380462

Van Dierendonck, D., & Nuijten, I. (2011). The SL survey: Development and validation of a multidimensional measure. *Journal of business and psychology*, 26, 249-267.

Wagner, J. I., Cummings, G., Smith, D. L., Olson, J., Anderson, L., & Warren, S. (2009). The relationship between structural empowerment and PE for nurses: a systematic review. *Journal of nursing management*, 18(4), 448-462.

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). AL: Development and validation of a theory-based measure. *Journal of management*, 34(1), 89-126.

Wang, H., Chen, M., & Li, X. (2021). Moderating multiple mediation model of the impact of inclusive leadership on employee innovative behavior. *Frontiers in psychology*, 12, 666477.

Wang, H., Sui, Y., Luthans, F., Wang, D., & Wu, Y. (2014). Impact of AL on performance: Role of followers' positive psychological capital and relational processes. *Journal of Organizational Behavior*, 35(1), 5-21.

Wang, L., & James, K. T. (2013). 20. Cameo: the challenge for AL in multi-cultural settings. *AL: Clashes, convergences and coalescences*, 255.

- Wang, Z., & Wang, N. (2012). Knowledge sharing, innovation and firm performance. *Expert systems with applications*, 39(10), 8899-8908.
- West, M. A., & Farr, J. L. (1990). Innovation and creativity at work: Psychological and organizational strategies.
- Woolley, L., Caza, A., & Levy, L. (2011). AL and follower development: Psychological capital, positive work climate, and gender. *Journal of Leadership & Organizational Studies*. 18(4): 438–448.
- Wu, T. J., & Wu, Y. J. (2019). IWBs, employee engagement, and surface acting: a delineation of supervisor-employee emotional contagion effects. *Management Decision*, 57(11), 3200-3216.
- Yang, J., Liu, H., & Gu, J. (2017). A multi-level study of SL on creativity: The roles of self-efficacy and power distance. *Leadership & Organization Development Journal*, 38(5), 610–629.
- Yukl, G. (1989). Managerial leadership: A review of theory and research. *Journal of management*, 15(2), 251-289.
- Yukl, G. (2006), *Leadership in Organizations*, 6th ed., Prentice Hall, Upper Saddle River, NJ.
- Zeb, A., Abdullah, N. H., Hussain, A., & Safi, A. (2020). AL, knowledge sharing, and employees' creativity. *Management Research Review*, 43(6), 669-690.
- Zimmerman, M. A. (2000). Empowerment theory: Psychological, organizational, and community levels of analysis. In J. Rappaport & E. Seidman (Eds.), *Handbook of community psychology* (pp. 43–63). Kluwer Academic Publishers. https://doi.org/10.1007/978-1-4615-4193-6_21.

APPENDIX

Research Questionnaire

The purpose of this questionnaire is to obtain data for a research project conducted by Yabsera Alemu on the topic “The Effect of Leadership Styles on IWB: Mediating effect of PE and moderating Influence of OLC in the Case of Selected Pharmaceutical Manufacturing Companies in Ethiopia in partial fulfillment of the requirements for the award of MBA.

Your cooperation in filling out the questionnaire carefully and genuinely, therefore will not contribute towards reasonable output in the study. The researcher, in this regard, assure you that it is not a test of your ability; and all the information you provide will be confidential & is to be used only for research purpose. No need to write your name.

Thank you for your participation and if you have any questions or concerns please do not hesitate to contact me directly at 0911967230 or email at Yeabsira.alemu@aau.edu.et

Thank you!

Part I: Demographic information

SECTION 2: GENERAL BACKGROUND INFORMATION OF

Please place a tick (√) or a mark (x) in the appropriate box

1. Gender of respondents: 1. Male 2. Female
2. Age of respondents: 1. 18-30 2. 31-40 3. 41-50 4. Above 50
3. Highest level of educational of respondents: 1. Elementary 2. Secondary 3. Diploma 4. First degree 5. Second degree
4. Respondents Work Experience in the job

1. Less than 2 years 2. 2-5 years 3. 6-10 years 4. Above 10 years

5. Level of position

1. Middle level manager

2. Senior expert

3. Junior expert

The sets of statements aimed at helping you assess your feelings or perceptions of the leadership style, OLC, PE and innovative working behavior in your institution. You are requested to rate each statement to indicate your level of agreement with what the statement is suggesting, where the following ratings are: 1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Please place a tick (√) or a mark (x) in the box that represents your perception.

Part II: Leadership Questionnaire

I. AL

Sr.no	Statements	1	2	3	4	5
	Self-Awareness					
1	My leader solicits feedback for improving his/her dealing with others.					
2	My leader clearly states what he/she means.					
3	My leader shows consistency between his/her beliefs and actions.					
4	My leader asks for ideas that challenge his/her core beliefs.					
	Relational Transparency					
1	My leader describes accurately the way that others' views his/her abilities.					

2	My leader admits mistakes when they occur.					
3	My leader uses his/her core beliefs to make decisions.					
4	My leader carefully listens to alternative perspectives before reaching a conclusion.					
	Internalized Moral Perspective					
1	My leader shows that he/she understands his/her strengths and weaknesses.					
2	My leader openly shares information with others.					
3	My leader resists pressures on him/her to do things contrary to his/her beliefs.					
4	My leader objectively analyzes relevant data before making a decision.					
	Balanced Processing					
1	My leader is clearly aware of the impact he/she has on others.					
2	My leader expresses his/her ideas and thoughts clearly to others.					
3	My leader is guided in his/her actions by internal moral standards.					
4	My leader encourages others to voice opposing points of view.					

2. *SL style*

	Statements	1	2	3	4	5
	Empowerment					
1	My manager gives me the information I need to do my work well.					
2	My manager encourages me to use my talents					
3	My manager helps me to further develop myself.					
4	My manager encourages his/her staff to come up with new ideas.					
5	My manager gives me the authority to take decisions which make work easier for me.					
6	My manager enables me to solve problems my self instead of just telling me what to do					
7	My manager offers me abundant opportunities to learn new skills					

	Standing back					
1	My manager keeps himself/herself in the background and gives credits to others.					
2	My manager is not chasing recognition or rewards for the things he/she does for others.					
3	My manager appears to enjoy his/her colleagues' success more than his/her own.					
	Accountability					
1	My manager holds me responsible for the work I carry out.					
2	I am held accountable for my performance by my manager.					
3	My manager holds me and my colleagues responsible for the way we handle a job.					
	Forgiveness					
1	My manager keeps criticizing people for the mistakes they have made in their work (-).					
2	My manager maintains a hard attitude towards people who have offended him/her at work (-).					
3	My manager finds it difficult to forget things that went wrong in the past (-).					
	Courage					
1	My manager takes risks even when he/she is not certain of the support from his/her own manager.					
2	My manager takes risks and does what needs to be done in his/her view.					
	Authenticity					
1	My manager is open about his/her limitations and weaknesses					
2	My manager is often touched by the things he/she sees happening around him/her.					
3	My manager is prepared to express his/her feelings even if this might have undesirable consequences.					
4	My manager shows his/her true feelings to his/her staff.					
	Humility					
1	My manager learns from criticism.					
2	My manager tries to learn from the criticism he/she gets from his/her superior.					
3	My manager admits his/her mistakes to his/her superior.					
4	My manager learns from the different views and opinions of others.					
5	If people express criticism my manager tries to learn from it					

Stewardship						
1	My manager emphasizes the importance of focusing on the good of the whole.					
2	My manager has a long-term vision.					
3	My manager emphasizes the societal responsibility of our work.					

3. TL style

No						
	<i>Statements</i>	1	2	3	4	5
1	My leader describes the organization's vision clearly.					
2	My leader demonstrates the right role model.					
3	My leader encourages the achievement of shared goals.					
4	My leader encourages followers to show their best performance.					
5	My leader shows respect for followers.					
6	My leader pays high attention to the welfare of followers.					
7	My leader considers follower suggestions before acting.					

Part III: OLC Questionnaire

4. OLC

Sr.no	Statements	1	2	3	4	5
1	My organization encourages sharing of knowledge with each other.					
2	My organization motivates or encourages staff in formal learning.					
3	Top management supports learning in my organization.					
4	My organization motivates or encourages staff in informal learning.					
5	My organization allows me to further my study in learning institution.					
6	My organization provides sufficient facilities to support learning.					

7	In my organization, staff help each other to learn.					
8	In my organization, staff view problems in their work as an opportunity to learn.					
9	My leader encourages me to learn as a team (meeting, discussion, brainstorming, seminar).					
10	My organization supports me in terms of financial or motivation to further my study					
11	My leader encourages me to learn as a team (meeting, discussion, brainstorming, seminar).					
12	In my organization rewards staff for taking initiative in learning.					

Part IV: PE Questionnaire

5. PE

Sr.no	Statements	1	2	3	4	5
	Meaning					
1	The work I do is very important to me.					
2	My job activities are personally meaningful to me.					
3	The work I do is meaningful to me.					
	Competence					
1	I am confident autonomy my ability to do my job.					
2	I am self-assured about my capability to perform my work activity.					
3	I have the skills necessary for my job.					
	Self-Determination					
1	I have significant autonomy in determining how do my job.					
2	I can decide on my own how to go about doing my work.					
3	I have considerable for independence and freedom in how I do my job.					
	Impact					
1	My impact on what happen in my department is large.					

2	I have a deal of control over what happens in my department.					
3	I have significant influence over what happens in my department.					

Part V: Innovative Behavior Questionnaire

6. Innovative Behavior

Sr.no	Statements	1	2	3	4	5
1	I pay attention to the issues that are not part my daily job.					
2	I wonder how I can improve things.					
3	I actively seek out new working method, techniques or instruments to improve my job.					
4	I came up with original solution for problems encounter.					
5	I came up with new approach for executing tasks.					
6	I make important organizational members enthesitis about my innovative ideas.					
7	I attempt to convince others to support my innovative idea.					
8	I systematically introduce innovative ideas to work practice.					
9	I contributed to the implementation of new ideas.					
10	I put effort to the development of new ideas.					

THANK YOU!

APPENDICES II

Confirm Factor Analysis

Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate
AUT ANTIC	AL1	0.835	0.0514	16.13	< .001	0.842
	AL2	0.619	0.0531	11.67	< .001	0.634
	AL3	0.593	0.0519	11.43	< .001	0.627
	AL4	0.774	0.0481	15.29	< .001	0.803
	AL5	0.608	0.0467	13.03	< .001	0.689
	AL6	0.577	0.0473	11.89	< .001	0.666
	AL7	0.567	0.0383	14.82	< .001	0.756
	AL8	0.784	0.0481	16.29	< .001	0.808
	AL9	0.751	0.0536	14.03	< .001	0.729
	AL10	0.826	0.0512	16.13	< .001	0.801
	AL11	0.539	0.0453	11.89	< .001	0.644
	AL12	0.911	0.0556	16.39	< .001	0.810
	AL13	0.534	0.0451	11.83	< .001	0.639
	AL14	0.768	0.0542	14.07	< .001	0.792
	AL15	0.567	0.0473	11.99	< .001	0.646
	AL16	0.885	0.0566	15.46	< .001	0.792
SURV ANT	SRL1	0.666	0.0569	13.36	< .001	0.678
	SRL2	0.778	0.0552	14.09	< .001	0.722
	SRL3	0.752	0.0573	13.13	< .001	0.685
	SRL4	0.875	0.0566	15.46	< .001	0.772
	SRL5	0.752	0.0580	12.98	< .001	0.679
	SRL6	0.729	0.0515	14.14	< .001	0.724
	SRL7	1.015	0.0564	17.99	< .001	0.852
	SRL8	0.817	0.0562	14.54	< .001	0.738
	SRL9	0.636	0.0519	12.24	< .001	0.649
	SRL10	0.847	0.0540	15.69	< .001	0.779
	SRL11	0.568	0.0494	11.49	< .001	0.617
	SRL12	0.552	0.0545	10.13	< .001	0.556
	SRL13	0.615	0.0573	10.74	< .001	0.584
	SRL14	0.674	0.0535	12.82	< .001	0.672
	SRL15	0.738	0.0508	14.77	< .001	0.748
	SRL16	0.752	0.0580	12.98	< .001	0.679
	SRL17	0.780	0.0546	14.76	< .001	0.745
	SRL18	0.890	0.0563	15.82	< .001	0.783
	SRL19	0.938	0.0558	16.80	< .001	0.816
	SRL20	0.673	0.0525	12.81	< .001	0.673
	SRL21	0.623	0.0480	12.98	< .001	0.678
	SRL22	0.657	0.0494	13.28	< .001	0.690
	SRL23	0.558	0.0502	11.12	< .001	0.601
	SRL24	0.630	0.0508	12.40	< .001	0.655
	SRL25	0.711	0.0461	15.41	< .001	0.770
	SRL26	0.748	0.0507	14.75	< .001	0.746
	SRL27	0.703	0.0474	14.83	< .001	0.749
	SRL28	0.816	0.0482	16.94	< .001	0.820
	SRL29	0.915	0.0556	16.47	< .001	0.805
	SRL30	1.066	0.0592	18.00	< .001	0.853
TRANSFORMA TIONAL	TRL1	0.899	0.0546	16.46	< .001	0.814
	TRL2	0.912	0.0528	17.29	< .001	0.845
	TRL3	0.826	0.0490	16.85	< .001	0.832

	TRL4	0.796	0.0449	17.72	< .001	0.854
	TRL5	0.597	0.0550	10.86	< .001	0.611
	TRL6	0.623	0.0514	12.13	< .001	0.664
	TRL7	0.713	0.0482	14.81	< .001	0.763
OL CAL TURE	OL C1	0.714	0.0478	14.93	< .001	0.758
	OL C2	0.833	0.0578	14.40	< .001	0.738
	OL C3	0.786	0.0468	16.79	< .001	0.820
	OL C4	0.795	0.0528	15.05	< .001	0.761
	OL C5	0.836	0.0568	14.73	< .001	0.750
	OL C6	0.980	0.0557	17.58	< .001	0.844
	OL C7	0.702	0.0441	15.92	< .001	0.791
	OL C8	0.755	0.0549	13.75	< .001	0.714
	OL C9	0.852	0.0574	14.84	< .001	0.754
	OL C10	0.664	0.0432	15.38	< .001	0.772
	OL C11	0.812	0.0542	14.98	< .001	0.759
	OL C12	0.714	0.0498	14.32	< .001	0.742
PSYCOL OGICAL	PSE1	0.728	0.0462	15.77	< .001	0.798
	PSE2	0.543	0.0454	11.97	< .001	0.652
	PSE3	0.833	0.0578	14.40	< .001	0.738
	PSE4	0.515	0.0310	16.60	< .001	0.820
	PSE5	0.899	0.0546	16.46	< .001	0.814
	PSE6	0.639	0.0393	16.24	< .001	0.809
	PSE7	0.598	0.0381	15.80	< .001	0.784
	PSE8	0.587	0.0371	15.81	< .001	0.794
	PSE9	0.577	0.0407	14.18	< .001	0.737
	PSE10	0.637	0.0383	16.21	< .001	0.809
	PSE11	0.550	0.0612	8.79	< .001	0.605
	PSE12	0.728	0.0462	15.77	< .001	0.798
EWBEHA VIOUR	EWB1	0.833	0.0578	14.40	< .001	0.738
	EWB2	0.714	0.0478	14.93	< .001	0.758
	EWB3	0.608	0.0493	12.34	< .001	0.668
	EWB4	0.575	0.0381	15.07	< .001	0.772
	EWB5	0.568	0.0429	13.24	< .001	0.705
	EWB6	0.606	0.0351	17.26	< .001	0.847
	EWB7	0.566	0.0488	11.60	< .001	0.639
	EWB8	0.727	0.0461	15.76	< .001	0.797
	EWB9	0.812	0.0542	14.98	< .001	0.759
	EWB10	0.985	0.0562	15.63	< .001	0.817

Model Fit

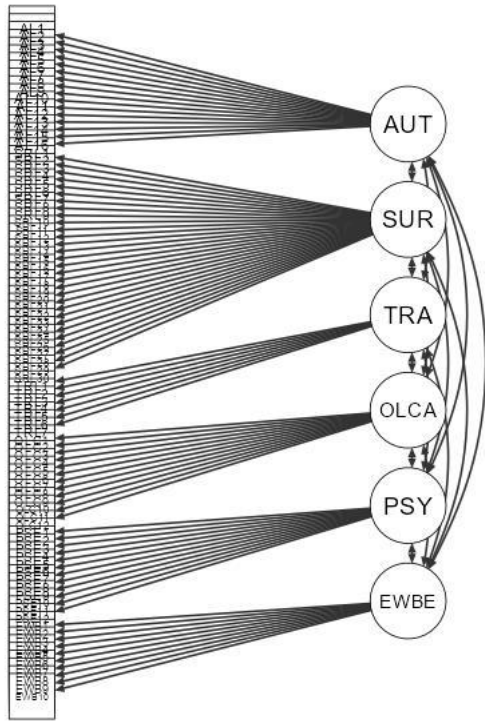
Test for Exact Fit

χ^2	Df	p
1197.7	377	> .061

Fit Measures

CFI	TLI	SRMR	RMSE A	RMSE A 90% CI		AIC	BIC
				Lower	Upper		
0.9700	0.9610	0.054	0.052	0.334	0.337	54685	55696

Path Diagram



[4]

References

- [1] The jamovi project (2022) *jamovi*. (Version 2.3) [Computer Software] retrieved from <https://www.jamovi.org>.
- [2] R Core Team (2021). *R: A Language and environment for statistical computing*. (Version 4.1) [Computer software] retrieved from <https://cran.r-project.org> (R packages retrieved from MRAN snapshot 2022-01-01).
- [3] Rosseel, Y., et al. (2018) *lavaan: Latent Variable Analysis*. [R package]. retrieved from <https://cran.r-project.org/package=lavaan>
- [4] Epskamp, S. (2017) *semPlot: Path Diagrams and Visual Analysis of Various SEM Packages' Output*. [R package]. etrievedR from <https://cran.r-project.org/package=semPlot>.

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
PSE <--- AUTHLSH	.346	.067	5.208	***	par_1
PSE <--- SRLDSHP	.310	.061	5.124	***	par_2
PSE <--- TRANLS	-.175	.055	-3.200	.001	par_3
IWB <--- AUTHLSH	.628	.059	10.584	***	par_4
IWB <--- SRLDSHP	-.009	.054	-.165	.869	par_5
IWB <--- TRANLS	.033	.047	.704	.481	par_6
IWB <--- PSE	.343	.050	6.827	***	par_10

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
PSE <--- AUTHLSH	.347
PSE <--- SRLDSHP	.397
PSE <--- TRANLS	-.261
IWB <--- AUTHLSH	.555
IWB <--- SRLDSHP	-.010
IWB <--- TRANLS	.044
IWB <--- PSE	.303

Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
SRLDSHP <--> TRANLS	.397	.040	10.023	***	par_7
AUTHLSH <--> TRANLS	.260	.029	8.855	***	par_8
AUTHLSH <--> SRLDSHP	.201	.025	8.212	***	par_9

Correlations: (Group number 1 - Default model)

	Estimate
SRLDSHP <--> TRANLS	.734
AUTHLSH <--> TRANLS	.613
AUTHLSH <--> SRLDSHP	.554

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
AUTHLSH	.284	.024	11.979	***	par_11
SRLDSHP	.465	.039	11.979	***	par_12
TRANLS	.630	.053	11.979	***	par_13
e1	.217	.018	11.979	***	par_14
e2	.158	.013	11.979	***	par_15

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
PSE	.235
IWB	.567

Matrices (Group number 1 - Default model)

Total Effects (Group number 1 - Default model)

	TRANLS	SRLDSHP	AUTHLSH	PSE
PSE	-.175	.310	.346	.000
IWB	-.027	.098	.747	.343

Direct Effects (Group number 1 - Default model)

	TRANLS	SRLDSHP	AUTHLSH	PSE
PSE	-.175	.310	.346	.000
IWB	.033	-.009	.628	.343

Indirect Effects (Group number 1 - Default model)

	TRANLS	SRLDSHP	AUTHLSH	PSE
PSE	.000	.000	.000	.000
IWB	-.060	.106	.119	.000

Total Effects - Two Tailed Significance (BC) (Group number 1 - Default model)

	TRANLS	SRLDSHP	AUTHLSH	PSE
PSE	.094	.021	.007	...
IWB	.536	.066	.004	.015

Direct Effects - Two Tailed Significance (BC) (Group number 1 - Default model)

	TRANLS	SRLDSHP	AUTHLSH	PSE
PSE	.094	.021	.007	...
IWB	.615	.948	.006	.015

Indirect Effects - Two Tailed Significance (BC) (Group number 1 - Default model)

	TRANLS	SRLDSHP	AUTHLSH	PSE
PSE
IWB	.090	.014	.008	...

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
IWB <--- AUTHLSH	1.455	.188	7.749	***	
IWB <--- SRLDSHP	.160	.270	.595	.552	
IWB <--- TRANLS	-.607	.258	-2.354	.019	
IWB <--- OLC	.766	.196	3.906	***	
IWB <--- OLCAUT	-.221	.053	-4.157	***	
IWB <--- SROC	-.067	.069	-.969	.333	
IWB <--- TRNSOLC	.158	.071	2.219	.026	

Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
SROC <--> TRNSOLC	17.795	1.544	11.523	***	

	Estimate	S.E.	C.R.	P	Label
OLCAUT <--> TRNSOLC	15.064	1.216	12.384	***	
OLC <--> TRNSOLC	3.248	.281	11.552	***	
TRANLS <--> TRNSOLC	2.750	.240	11.474	***	
SRLDSHP <--> TRNSOLC	2.160	.218	9.925	***	
AUTHLSH <--> TRNSOLC	.734	.113	6.478	***	
OLCAUT <--> SROC	13.242	1.118	11.845	***	
OLC <--> SROC	3.302	.282	11.695	***	
TRANLS <--> SROC	1.927	.209	9.238	***	
SRLDSHP <--> SROC	2.662	.237	11.241	***	
AUTHLSH <--> SROC	.225	.067	3.370	***	
OLC <--> OLCAUT	2.526	.213	11.834	***	
TRANLS <--> OLCAUT	1.648	.163	10.089	***	
SRLDSHP <--> OLCAUT	1.433	.148	9.682	***	
AUTHLSH <--> OLCAUT	1.186	.120	9.867	***	
TRANLS <--> OLC	.322	.037	8.671	***	
SRLDSHP <--> OLC	.395	.039	10.034	***	
AUTHLSH <--> OLC	.043	.017	2.505	.012	
SRLDSHP <--> TRANLS	.308	.033	9.417	***	
AUTHLSH <--> TRANLS	.126	.019	6.640	***	

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
AUTHLSH	.284	.024	11.979	***	
SRLDSHP	.465	.039	11.979	***	
TRANLS	.512	.041	12.537	***	
OLC	.628	.052	12.046	***	

	Estimate	S.E.	C.R.	P	Label
OLCAUT	14.054	1.035	13.575	***	
SROC	19.565	1.622	12.065	***	
TRNSOLC	21.103	1.685	12.526	***	
e1	.148	.012	11.979	***	