Impact of Authentic Leadership, Sustainable Leadership on Sustainable Growth with Mediating Role of Organizational Learning

Haleema Malik[1] and **Muzamil Mahmood[2],***

Abstract

Sustainable development is an emerging field of research. Sustainable leadership is an effective leadership style but to enhance its effect authentic leadership, which is a new field of effective leadership. Authentic leadership is a multi-dimensional theory, and it has a resemblance to transformational leadership theory. Authentic leadership is a general term, and it can consolidate transformational, charismatic, servant, spiritual, or other forms of leadership styles. Organizational learning is something new introduced by modern management and leadership styles as a strategic tool to improve competitiveness and to even out the organization's success and compatibility. This research examines methods of implanting sustainable and authentic leadership into sustainable development goals (SDGs) and examined the mediating role of organizational learning between sustainable leadership and SDGs (economic performance, environmental performance, and social performance) as well as the mediating role of organizational learning between authentic leadership and SDGs. The data in this study was collected from the manufacturing industries of Pakistan using a convenient sampling technique. IBM SPSS Statistics tool was used to analyze the data. The results show (a) sustainable leadership has a positive impact on organizational learning (b) authentic leadership has a positive impact on organizational learning (c) organizational learning mediates the relationship between sustainable leadership and SDGs (d) organizational learning mediates the relationship between authentic leadership and economic performance. (e) Organizational learning mediates the relationship between authentic leadership and social performance. The present study offered a detailed study of dynamic capabilities and sustainable development. Effective leadership and management styles are proposed for organizations to combat sustainable development challenges.

Keywords: Learning Organization, Sustainable Leadership, Performance & Natural Resource-Based View.

[1,2] Department of Engineering Management, NUST, Islamabad, Pakistan.

Corresponding Author: muzamilmahmood1995@gmail.com

1. Introduction

Sustainability is an emerging field of research globally. Sustainable development is a hold to adjust for full filling human development goals, keeping the natural system intact to provide natural resources environmental services on which economy and society depends. Climate changes are becoming adverse, the world economy is vast, growing rapidly (Iqbal & Ahmad, 2021). Climate change is a thoughtful and crucial issue. Human activities have notably contributed to changing the earth's climate (Banuri & Opschoor, 2007).

Our world has numerous resources and extreme poverty, there's no balance, people are enjoying their best life and people are in abject poverty and striving for bare survival (Coulthard, Johnson, & McGregor, 2011). The expenditure on development always has a positive impact on economic growth (Ullah, R., & Khan, B., 2021). Sustainable development is a universal debate and need and it's because of environmental degradation which ensues from the misuse of natural resources (Nwagbara & Eucharia, 2012) the world's economy is not only unbelievingly imbalanced but also crucially hostile to the earth itself.

Corporates can never outflow from the impact of climate change that is becoming progressively worse, corporations need to work on developing a more environmentally friendly model, though many businesses are working on it already, for this they need to adapt up-to-date technologies and need to make new policies which are in favor with the environment to tackle the deadly issues which are associated with climate change (Asian Development Bank, 2017).

Climate change, severe poverty, resource shortages, cultural conflicts, instability in politics, the dispute of human migration, and globalization are just a few of the hot topics, which are contested by academics and practitioners today (Caffaro, Roccato, Micheletti, Cremasco, & Cavallo, 2019). To address these issues, the United Nations created the Sustainable Development Goals, which are a worldwide set of objectives, targets, and indicators (SDGs).

These SDGs are used to promote broad economic development, global poverty eradication, social trust-building among diverse stakeholders, and environmental preservation (Holden, Linnerud, Banister, Schwanitz, & Wierling, 2017). The three mutually reinforcing pillars of social development, economic advancement, and environmental protection, as well as dynamic interaction amongst many stakeholders, demonstrate the complexity of sustainable development (Halisçelik & Soytas, 2019).

1.1. Sustainable Development Goals (SDGs)

Today is the age of sustainable development, using it as a focal point we deduced sustainable development interacts with three systems simultaneously: the world's economy, the universal society, and earth's corporal environment. To achieve sustainable development, there is a dire need to achieve sustainable development goals (SDGs) to achieve social, economic, and environmental growth on the planet. Development has always been the top tier concern of United Nations, world has never worked on SDGs before, it's a good initiative and accomplishment, for human beings and for the globe (Mincher, 1994).

To endorse sustainable development, there are some important focal points on which efforts are needed to address them. These are SDGs, long-term action plans, reliable management policies, and organizational learning (CSIS Project on Prosperity and Development et al., 2016). Every country needs to make policies and follow the best approaches to implement these focal points based on usual social, environmental, historical, and political conditions. By following national sustainable development strategies, economic, social, and environmental objectives are balanced and incorporated. NSDS is the focal point for describing and implementing SDGs (Avery & Bergsteiner, 2011).

Inadequate economic, social, and environmental plans and policies are a barrier in combating SDGs implementation in the manufacturing industries of Pakistan. Similarly, lack of inclusive learning, innovation, and poor resilient infrastructure is a hindrance in adopting sustainable development goals. To achieve SDGs, organizations need to be learning and for that, we need effective leadership. To align employees' goals with respect to organizations' goals and performance, organizations need to identify skill gaps amongst employees and teams and then develop trainings to bridge those gaps. For bridging this gap, leadership plays an important role and ultimately everything falls in line.

To promote sustainability within individuals, organizational and social levels, there is a need for good leadership styles as well as to implement a natural resource-based view (NRBV) in an organization— it's a newly proposed theory which is based on organizations related to the natural environment. Sustainable and authentic leadership are two leadership styles that are effective in achieving the proposed goals. Previous work done based on effective leadership styles is no more doable. The complex problems that we face globally and are needed to be effaced, but to figure out the problems we need dynamic native leaders.

1.2. Sustainable Learning

Sustainable learning is being created and preserved by sustainable leadership. It also ensures the leadership of others. Social integrity has been addressed by sustainable leadership. Rather than passing on human and non-human resources, sustainable leadership develops them. It also works on developing environmental uniformity and its maintenance. Sustainable leadership set strategies to make sure the provision of results that endure the triple bottom line of social-economic (Gerard et al., 2017). Sustainable organizations work on reducing the utilization of its resources, maximizing profit, introducing environmental initiatives, adapting diversity of stakeholders, and working on the growth of economic performance. Therefore, we propose that sustainable and learning organizations need new and modern working models, which authentic and sustainable leadership styles can provide (Peterlin, Pearse, & Dimovski, 2015). Plans which will help to achieve sustainable development goals (SDGs), improve organization's performance by working on its economy, society, and environment correspondingly (Gupta & Vegelin, 2016).

1.3. Authentic Leadership

Authentic leadership is an established leadership style, authentic leadership is defined as a managerial style, in which they build their validity by their ethical conduct, their honest relationship, and they value their subordinates and their efforts (Covelli & Mason, 2017). The word Authenticity is defined as, "owning one's personal experiences, be they thoughts, emotions, needs, preferences, or beliefs, processes captured by the injunction to know oneself" (Datta, 2015).

The qualities an authentic leader must have - should have a strong character and conduct that their subordinates are deemed to trust them, they own their mistakes and give makeup for it, they have the courage to take up the chain of leadership and own their people/processes (Walumbwa et al., 2008).

Authentic leadership is a multi-dimensional theory, and it has a resemblance to transformational leadership theory. Authentic leadership is a general term and "it can consolidate transformational, charismatic, servant, spiritual or other forms of leadership styles", therefore authentic leader has control on his nerves and has a good command over his/her psychological competencies and organizational framework (Bishop, 2013).

To work on a natural resource-based view, leaders must have a proper understanding of the environment of the organization. A leader must know the impact of all activities on the environment such as the movement of raw material to the production process, the disposal of used products, and its impact on the environment. To adopt all these things in organizations leaders must make and organization a learning organization, with a low power distance index. The characteristics of an authentic leader are as follows: they have a strong character and behavior that their subordinates see as trustworthy, they own their errors and make up for them, they have the bravery to step up the chain of command and own their people/processes. In the distinct traditional environment, a joint biasness factor is involved (Idris & Saeed, 2021). Leadership is a concept whose aim is to motivate the employees to achieve the defined objectives of the organizations (Nawaz & Khan, 2021).

1.4. Organizational Learning

The concept of organizational learning is to improve the performance and effectiveness of the organization. Organizational learning is something new introduced by modern management and leadership styles as a strategic tool to improve competitiveness and to even out the organization's success and compatibility. Organizational learning is not only restricted to enhancing employees' knowledge but also to improving their skills, which will ultimately elevate the growth of an organization with a flexible attitude of the organization. (Saadat & Saadat, 2016).

To be competitive and up-to-date, organizations are deemed to be learning organizations, to survive in the market. Organizational learning works on getting new knowledge and its impact on the triple bottom line. To be flexible and adaptive, organizational learning is the key driver for organizations (Prewitt, 2003). Learning organizations are supposed to be more flexible and adapt things more quickly than their opponents in the market and develop good competition. Organizational learning is one of the most effective strategies to achieve sustainable development goals (Makabila & Iravo, 2017). To measure the performance of a learning organization under the supervision of correspondingly (Gupta & Vegelin, 2016).

The goal of one of the studies is to raise awareness about the role of learning organizations in meeting the requirements demands of sustainability, especially TBL sustainability. A description of sustainability is given, as well as an examination of the practical challenges that come with implementing organizational learning to solve it. This paper intends to assist companies in

removing barriers to attaining sustainability goals and stimulate progress on their sustainability journey by examining research and practitioner perspectives on sustainability-related uses of organizational learning (Smith, 2012).

A learning organization is still in its infancy. The literature, on the other hand, identifies common behaviors as well as, perhaps more crucially, explicit emphasis to specific components of organizational learning (Molnar & Mulvihill, 2003):

- To explicit commit to becoming a learning organization
- To foster the community and to create connections in the organization
- To encourage inclusivity and empower the employees
- To support the individuals who take the risk and perform experiments
- To create an environment where everyone can ask the question and this assumption of questioning is considered as safe
- To focus on the skills of communication with effective meanings
- To engage the conversation among employees about the future of the company with different ideas from different perspectives

Sustainable as well as the authentic leadership style, for stakeholders, organizational sustainability performance index is used to integrate the measurement of sustainable balanced scorecard conceptual framework. Henceforth, sustainable, and authentic leadership styles not only work on the present but also on the future growth of the organization, as well as uplift the quality life of all the stakeholders and sustainable leaders and work on long-term action.

Sustainable organizations work on reducing the utilization of its resources, maximizing profit, introducing environmental initiatives, adapting diversity of stakeholders, and working on the growth of economic performance. Therefore, we propose that sustainable and learning organizations need new and modern working models, which authentic and sustainable leadership styles can provide (Peterlin et al., 2015).

2. Literature Review

Natural resource-based view- has a strong connection with the resources, competitive advantage, and competencies of the organization (Iqbal & Ahmad, 2021). NRBV, emphasis on economic, environmental, and sustainable development. Existing scholars have studied the relationship of the environment with this theory but could not find any effective way to prevent the environment and achieve sustainable development (Avery & Bergsteiner, 2011).

A strong managerial framework is needed to achieve a competitive advantage as the concept of sustainable development is growing so far, to meet the challenges of sustainable development. To achieve sustainable development, there is a need to achieve sustainable development goals (SDGs), to achieve the goal of sustainable performance based on social, economic, and environmental concerns.

Leadership is a key component of an organization; leadership is a peerless, exceptional, valuable, and irreplaceable asset for an organization to achieve sustainable competitive advantage. Sustainable leadership considers all the stakeholders and promotes the active incorporation of environmental, social, and economic concerns.

Resources are not impartially distributed overall, according to NRBV theory; henceforth, sustainable leadership helps the organization in a dynamic market. However, to survive in the competitive market, organizations are deemed to be learning organizations, it helps the organization to adapt to the new requirements of the market. Organizational learning can be achieved with the help of sustainable leadership and authentic leadership qualities. Dynamic capabilities bring newness and promote knowledge creation.

2.1. Sustainable Leadership, Authentic Leadership and Organizational Learning

Sustainability can be defined with different definitions. One of the most relevant definitions is to preserve the natural resource in the best possible way, for future is sustainability. Whereas United Nations defined it as "meet the needs of the present without compromising the ability of the future generations to meet their own goals" (United Nations, 1987) (cited in: Emas, 2015).

NBVR theory states better organizational performance, environmental friendly resources are the key. Leadership is a key component of an organization. Leaders play an important role in developing organizational culture. Leaders play an important role in team building. Leaders are responsible for creating and developing effective communication and helping in decision-making. Leaders must know how they must build organizational culture. Leaders should have firm beliefs, moral values, and conduct to develop a good organizational culture and improve organizational performance.

In addition, organizations must need work and need to make efforts in developing leaders. To make sure organizations have chosen positive leaders, they need to work on creating modern leaders. Sustainable leadership considers all the

stakeholders and promotes the active incorporation of environmental, social, and economic concerns. Sustainable learning is being created and preserved by sustainable leadership.

Sustainable leaders share long-term vision, outgrow green management policies and initiatives (Nollman, 2013). It also ensures the leadership of others. Sustainable leadership has addressed social integrity. Rather than passing on human and non-human resources, sustainable leadership develops them. It also works on developing environmental uniformity and its maintenance. Sustainable leadership and sustainable development both go hand in hand, collectively the complex issues can be resolved as the aim of both these designations, which is to achieve long-term sustainability and SDGs. Sustainable leadership is not a wholesome methodology as it is derived from predefined leadership theories. Moreover, there are a number of terms, which are being used as an alternative to sustainable leadership. Since authors defined this term of sustainable leadership with some different perspectives based on investigations with different approaches.

An authentic leader is based on the beliefs of authenticity, which states that authentic leaders are honest and are genuine with themselves as well as with the team. They never compromise on equality, trust, impartiality, morality, and responsibility. They are aware of their responsibilities, about their moral values in the environment where they work. They have a high level of self-reflection, self-regulation at a discrete level.

To compete in the global market, organizations need to be very open to adaptation. They should be capable of learning and unlearning. Learning organizations show that they are changing themselves and can be changed any further if needed, they provide towards active up-gradation and always indulge in learning activities (Örtenblad, 2004). Moreover, an organization becomes learning with the leadership styles, which tend to improve learning and performance as well. The long-term vision is shared by sustainable leaders, who outgrow green management strategies. It also withstands the leadership of others. Social integrity has been addressed by sustainable leadership. Sustainable leadership develops human and non-human resources rather than passing them on. It also tries to promote and maintain environmental consistency. Both sustainable leadership and sustainable development go hand in hand; jointly, complicated challenges may be handled as the goal of both designations, which is to achieve long-term sustainability and the SDGs. Because it is based on specified

leadership ideas, sustainable leadership is not a complete technique. Furthermore, a variety of concepts are being utilized as an alternative to sustainable leadership.

2.2. Organizational Learning and Sustainable Performance

To strive dynamically and highly competitive market, the organizations should be pro-active and competitive to cope with sustainable challenges. To cope with all the challenges, organizations need to be adaptive and open towards rapid change. They should be responsive towards social, environmental, and economic change. Learning organizations achieve term good performance.

Organizational learning is a deliberate tool in the modern management approach, to compete in a competitive dynamic market, it accelerates an organization's success. Learning organizations not only enhance the skills of their workers but also compete in a dynamic market (Dutta & Crossan, 2005). By unlearning accumulated knowledge, organizations allow to diverge from existing processes and move towards a new dynamic approach, which leads towards innovation. And this innovative approach leads towards achieving sustainable development goals (International Science Index Vol 8 2014) (Silins & Mulford, 2005).

To measure the performance of learning organizations under the supervision of sustainable and authentic leadership style, for stakeholders, the organizational sustainability performance index is used to integrate the measurement of sustainable balanced scorecard conceptual framework. Henceforth, sustainable, and authentic leadership styles not only work on present but also on the future growth of the organization, as well as uplift the quality of life of all the stakeholders and sustainable leaders and work on long term action plans which will help to achieve sustainable development goals (SDGs), improve organization's performance by working on its economy, society an environment correspondingly (Waldman et al., 2001).

Sustainable organizations work on reducing the utilization of its resources and maximizing profit, introducing environmental initiatives and adapting diversity of stakeholders, and working on the growth of economic performance. Therefore, we propose that sustainable and learning organizations need new and modern working models, which authentic and sustainable leadership styles can provide (Kraatz, 1998).

2.2.1 Organizational Learning and Social Performance

Organizational learning can create, generate, administrate, and process the information and knowledge of individuals collectively. Good stakeholders and

competitive leadership styles i.e., sustainable leadership and authentic leadership helps to improve social performance by continually implementing learning models in organizations to improve the skills and knowledge of employees and compete in a competitive market. To improve social performance organizations, need to implement sustainable models to satisfy their stakeholders and to achieve good social performance as well as to achieve sustainable development goals. To improve an organization's financial condition, there is a good strategy needed from business owners, sustainable and authentic leaders. Organizational learning is one of the most auspicious concepts in strategic management "the ability to learn faster than your competitors may be the only sustainable competitive advantage" (as cited in Senge, 2006).

Good organizational learning improves innovation, which ultimately improves the social performance of the organization. We are moving into the more sustainable sensitive world, in manufacturing industries, if organizations tend to adopt new sustainable techniques and learn new technologies it will help the organizations to improve their social performance as well that either this new technology/methodology is beneficial for industry or not. Sustainable and authentic leadership abilities need to be strong and responsible enough to bring a change in performance (Metcalf & Benn, 2013).

2.2.2 Organizational Learning and Environment Performance

Growing organizations need to maintain this balance between sustainable development and environmental performance. Environmental sustainability can be defined as, "the situation in which vital environmental functions are safeguarded for future generation". Without changing the current organizational routine, sustainable and authentic leaders cannot bring any change without adapting up-to-date environmental policies (Van Hoof, 2014).

Organizational learning continually introduces new methodologies and innovative ideas, which are effective towards the dynamic market and towards the turbulent environment. To achieve sustainability, organizations must need work on dynamic learning capabilities, share a corporative sustainability approach, should be vigilant and innovative towards the challenging market (Huber, 1991). The theory on keeping in mind the concept of Natural resource-based view and effective strategic policies and sustainable and authentic leadership styles, growing organizations managed to create a balance between its learning growth and its performance towards the environments well.

Being a developing country, Pakistan is facing many ecological challenges which are affecting people in a negative way i.e., water pollution, soil adulteration,

deforestation, desertification, and loss of biodiversity. When organizations work towards the sensitivity of the environment i.e., efficiency improvement and think towards reducing, recycling, and reusing it is a long-term investment that ultimately improves environmental performance (Kasser, 2011).

Organizations are reluctant towards the environmental realization and adapting sustainability approach it's because of cost and being not open towards the learning approach as a win-win way out for both organizations and society, organizations need to work towards openness, innovation, continuous learning, and growth to achieve sustainable development goals (SDGs) (The Private Sector and the SDGs: The Need to Move Beyond 'Business as Usual' - Scheyvens - 2016 - Sustainable Development - Wiley Online Library, n.d.), henceforth the outcome from the learning organizations is improved environmental performance.

Sustainable and authentic leadership styles have the capabilities to deploy effective organizational learning strategies in an organization, which can appropriately align with the environmental turbulence. Therefore, to overshadow rivals, organizations are deemed to be proactive towards learning, adaptability, and continuous growth for effective environmental performance.

2.2.3 Organizational Learning and Economic Performance

To beat the competitive market, organizations are promptly working on sustainability (Igbinakhase & Naidoo, 2018). By adopting a sustainability mindset, organizations achieve better performance results in a highly competitive market. The learning, vigilant and innovative capabilities of an organization help to achieve sustainable development goals, which are achieved by good sustainable and authentic leadership performances. Organizational learning tells the relationship between the capabilities of an organization and its leadership styles. It also talks about the company's governance towards sustainability openness in a manufacturing industry. The good relationship of an organization with its external and internal customers, with suppliers, and sustainable and authentic leadership performances towards the innovation and growth of the organization ultimately improve economic performance (Tomšič et al., 2015).

Organizational learning is the most modern tool for strategic organizational policies and competitive advantage (Lopez et al., 2005). Sustainable and authentic leaders develop an environment towards growth, continuous learning, and knowledge sharing all these are the key factors of organizational growth, which ultimately lift the economic performance.

Sustainable and authentic leaders make sure that the people of an organization understand the importance of continuous learning and improvement towards financial growth. When an organization understands the sensitivity of the competitive market and works on competing with the competitors, sustainable and authentic leaders work on catching new customers to develop new products and services through organizational learning. Deployment of new ideas, knowledge sharing openness towards growth, these all are the key factors to the economic growth and development of an organization, region, and country itself. Learning organizations give doable solutions and long-term insight (Dimovski & Skerlavaj, 2004).

Henceforth, better organizational learning leads towards better economic performance.

2.3. The Mediating Role of Organizational Learning

Organizational learning plays a mediating role in achieving the organization's abilities, its governance, sustainable and authentic leadership roles, and the organization's sustainability performance. "Organizations teach only thought individuals who learn" (Senge, 1990). Nevertheless, individual learning is not as effective for organizations as organizational learning. When employees share their knowledge in the firm, modern leadership styles are needed to comprehend the ideas and effective work performance. For effective learning, sustainable and authentic leaders play a vital role to drive in the employee's ideas and skills into organizational practices and ensuring the presence of creative employees in the organization. The concept of Organizational learning is a long-term thing, and it positively affects the organizations' performance in a long-run (Obeso et al., 2020). Sustainable and authentic leadership proves an effective medium of organizational commitments and learning, which ultimately helps to achieve sustainable development goals (Macke & Genari, 2018). Sustainable leadership and authentic leadership support in achieving technical support, effective strategic policies, and collective efforts to uphold the learning of organization to and allow their employees to improve their skills, share knowledge, and ultimately improves organizations performance. The factor of learning organization mediates the relationship between sustainable leadership and authentic leadership with sustainable performance to achieve sustainable development goals (Guinot et al., 2020). Organizational learning can be improved by introducing effective policies made by sustainable and authentic leadership. Employees are given the freedom to share their ideas and skills with the organizations. By effective leaders, knowledge sharing, long-term action plans

there come remarkable consequences on social performance, economic performance, and environmental performance of an organization. (Lumpkin & Lichtenstein, 2005).

3. Research Methodology

The research design is quantitative. The quantitative research methods are adapted when researchers want to do research with statistical analysis. This analysis involves many participants who want precise results and to do generalized work as well. Non-probability sampling technique i.e. convenience sampling is used in the research. The variables in quantitative research are casual and cross-sectional approach is mainly used and data is collected from the same kind of community at one point in time (Electronic Journal of e-Learning, 2017).

The population of the study is a set of individuals from which data is being collected or sampled. The objective population for the study comprised of the manufacturing Industry of Pakistan (white-collar Employees).

To keep in mind, the objectives of the research, narrow timelines, and resources it's never a possibility to understand the situation of workers of all the workers of the manufacturing industry of Pakistan. Therefore, only the white-collar employees ofmanufacturing industry were selected at Sialkot. The convenience sampling approach is being used as a suitable technique. By this technique, those white-collar workers of manufacturing industries were selected on a convenience basis and were used as an important part of this study, who were easily accessible and were ready to answer the questionnaire.

The data was collected from different sources. In a various research, different methods and many approaches are being used and are encouraged to collect data from multiple sources both primary and secondary (Noor, 2008). A questionnaire was used as the instrument to collect the data. Through this way, researchers can approach a wide range of respondents. For this study, the primary source was used to collect the data. For this questionnaire was constructed which was being administered by middle level (white-collar workers). In addition, data was attained from sources such as journals articles, news, textbooks, related papers, and the internet. In this study, questionnaires were floated among workers in the manufacturing industry.

Existing scales were used to measure six of the study variables (sustainable leadership, authentic leadership, organizational learning, economic performance, environmental performance, and social performance) except for age and work

experience which were treated as a demographic variable. The questionnaire was made up of a few sections.

One of the sections was the demographic section and was constructed of items like gender, age, years of working. Work experience is measured using the number of years spent in the manufacturing profession. Work experience is considered as a demographic variable and though is a part of the demographic section. One section consisted of items. Items under this section were rated on a 5-point Likert scale (1 - Strongly disagree, 2- disagree, 3- Neutral, 4- agree 5- strongly agree). Instrument reliability is a method of confirming that any instrument used for measuring experimental variables gives the same results every time. The collected data was analyzed quantitatively. First, the biography of the respondents was examined through descriptive statistics. Frequencies and percentages were used to narrate patterns of the respondents' demography. Next, a Pearson's correlation analysis was administered to discover whether relationships existed among the numerous study variables.

Statistical Package for Social Sciences (SPSS) version 22.0 was the main analytical instrument used to examine the data. Two hundred and four (204) questionnaires were collected. The data was collected from the manufacturing industries of Pakistan. Two hundred and four (204) questionnaires were analyzed, representing a response rate of 100%. During the analysis of questionnaires, SPSS did not discard any responses and analyzed all responses.

4. Research Hypotheses

With the help of a thorough literature review, the following are the research propositions derived:

(Direct Hypothesis)

H1: Sustainable leadership is positively associated with organizational learning.

H2: Authentic leadership is positively associated with organizational learning.

H3: Organizational learning positively influences social performance.

H4: Organizational learning positively influences environmental performance.

H5: Organizational learning positively influences economic performance

(Indirect Hypothesis - Mediation)

H6: Organizational learning mediates the relationship between sustainable leadership and economic performance

H7: Organizational learning mediates the relationship between sustainable leadership and social performance.

H8: Organizational learning mediates the relationship between sustainable leadership and environmental performance.

H9: Organizational learning mediates the relationship between authentic leadership and economic performance

H10: Organizational learning mediated the relationship between authentic leadership and environmental performance.

H11: Organizational learning mediated the relationship between authentic leadership and social performance

To determine whether associations exist among variables, a Pearson correlation test was conducted. Pearson estimates the presence (given by a p-worth) and quality of a straight association between two variables. It ought to potentially be used when its fundamental assumptions are satisfied. If the outcome is basic, we reason that a relationship exists. To test the hypothesis, we need to do the regression analysis on SPSS, where we need the value of beta, r square, standard error, and t- value to deduce the hypothesis is accepted or not.

Table 1: Testing of Hypotheses

Hypotheses	β	R Square	SE	t-value	Result
SL > EP	0.85	0.719	0.038	22.749	Accepted
AL > EP	0.75	0.632	0.040	18.617	Accepted
SL > EN	0.69	0.508	0.048	14.439	Accepted
AL > EN	0.70	0.579	0.042	16.674	Accepted
SL > SP	0.78	0.652	0.040	19.456	Accepted
AL > SP	0.76	0.706	0.035	22.0113	Accepted

*Note: * p<0.01*

5. Discussion and Implications

For interpretations of results, findings we need to analyze respondent's demographic features. From table 4.1, in terms of gender 190 (93.1%) were male and 14 (6.1%) were female in terms of age, 14 (6.9 %) were between 26-35 years, 41 (20.1%) were between 36-45 years, 11 (5.4%) were between 46-55 years and 138 (67.6%) were between 56-65 years. This indicates that most of the respondents were aged between 56-65 years. Based on work experience, 3(1.5 %) had an experience of 1 – 3 years, 20 (9.8%) had an experience of 4 - 6 years, 122 (59.8 %)

had an experience of 7– 9 years and 59 (28.9 %) had an experience of more than 10 years. The results indicate that majority of workers in manufacturing industries have working experience between 7-9 years

The next step is to do the correlation regression analysis and if the value of correlation is up to +1 it means the relationship between two variables is strong and if its more towards -1 the relationship between two variables is weak. If the value is from 0.00 to 0.19 the correlation between variables is very weak, if the value is from 0.20 to 0.39 the correlation between variables is weak, if the value is from 0.40 to 0.59 the correlation between variables is moderate, if the value is from 0.60 to 0.79 the correlation between variables is strong, if the value is from 0.80 to 1.00 the correlation between variables is very strong.

From table 4.3, It was found that there is very strong relationship between organizational learning and sustainable leadership (β = 0.840, p <0.001), there is a very strong relationship between organizational learning and authentic leadership (β = 0.833, p <0.001), the correlation analysis says there is a very strong relationship between economic performance and sustainable leadership (β = 0.848, p <0.001), there is a strong relationship between economic performance and authentic leadership (β = 0.795, p <0.001), there is a strong relationship between economic performance and organizational learning (β = 0.721, p <0.001), there is a strong relationship between environmental performance and sustainable leadership (β = 0.713, p <0.001),), there is a strong relationship between environmental performance and authentic leadership (β = 0.761, p <0.001), there is a strong relationship between environmental performance and organizational learning (β = 0.691, p <0.001), there is a strong relationship between environmental performance and economic performance (β = 0.693, p <0.001),there is a strong relationship between social performance and sustainable leadership (β = 0.807, p <0.001),), there is a very strong relationship between social performance and authentic leadership (β = 0.840, p <0.001), there is a very strong relationship between social performance and organizational learning (β = 0.794, p <0.001), there is a strong relationship between social performance and economic performance (β = 0.675, p <0.001), there is a strong relationship between social performance and environmental performance (β = 0.737, p <0.001).

5.1. Testing of Mediation Effect

To establish the extent of the relationship, hierarchical regression analyses were conducted. Regression analysis is one of the most frequently used tools in research. Regression analysis allows researchers to analyze the relationship between independent and dependent variables.

Based on the t-values the value of t in relation AL>OL>EN is 1.711 which is less than 1.96 (Hair at el., 2017), therefore the result says organizational leadership doesn't mediate the relationship between authentic leadership and environmental performance all the other proposed mediations are accepted (Springer, 2017).

Table 2: Testing of Mediation Effect

Hypotheses	β	R Square	SE	t-value	Result
SL > OL > EP	0.256	0.798	0.070	3.657	Accepted
AL > OL > EP	0.394	0.763	0.072	5.482	Accepted
SL > OL > EN	0.297	0.546	0.102	2.917	Accepted
AL > OL > EN	0.154	0.605	0.090	1.711	Rejected
SL > OL > SP	0.322	0.714	0.080	4.025	Accepted
AL > OL > SP	0.281	0.743	0.072	3.908	Accepted

The interpretations of the hypothesis after doing the analysis tell the implications of the research questions. Either the proposed hypothesis is accepted or rejected and on what basis. Following are the research questions and their implications after interpretation.

Does sustainable and authentic leadership affect Organizational learning

The implication of Research question 1 says that sustainable leadership and authentic leadership both are positively associated with organizational learning, stating the facts that to implement SDGs in organizations there is a need for leadership to make sure organizations are learning and evolving. Henceforth, hypothesis 1 and hypothesis 2 are positive.

Does organizational learning positively associate with Strategic Development Goals (economic performance, environmental performance, social performance)?

The implication of Research question 2 says that organizational learning is positively associated with sustainable development goals (economic performance, environmental performance, and social performance), therefore its necessary for the organizations to be learning to achieve SDGs. Hypotheses 3,4 and 5 are positive based on interpretations.

Does organizational learning mediate the relationship between sustainable leadership and SDGs?

The implication of Research question 3 says that organizational learning is a mediator, it positively mediates the relationship between sustainable leadership

and economic performance, environmental performance, and social performances as well, therefore, hypotheses 6, 7, and 8, are said to be positive.

Does organizational learning mediate the relationship between authentic leadership and SDGs?

The implication of Research question 4 says that organizational learning is a mediator, and it positively mediates the relationship between authentic leadership and economic performance, and between social performances as well, therefore, hypotheses 9 and 11 are said to be positive.

Does organizational learning mediate the relationship between authentic leadership and environmental performance?

The implication of Research question 4 says that organizational learning is a mediator, and it is a rejected hypothesis based on interpretations, it does not mediate the relation between authentic leadership and environmental performance.

5.2. Theoretical and Practical Contribution

The theoretical contribution says that there is an empirical role of authentic leadership in organizations to trickle down the effect of leadership in an organization to make the learning environment in organizations and to implement SDGs ultimately. Organizational learning is used as a mediator, and it mediated the relationship between authentic leadership and economic performance as well as social performance. Henceforth it practically Proves that leadership practices help in implementing SDGs in organizations. Sustainable leaders are important in organizations usually the top management has sustainable leaders to achieve sustainable culture organizations need to adapt authentic leadership styles to help in making learning organizations and to implement SDGs.

5.3. Limitations and Future Directions

Due to COVID-19, we could not have done longitudinal studies. We could not perform comparative analysis with other industries because of resources and time limitations. For future work, transformational leadership style can be added as an independent variable, studies say that it has a strong relationship with organizational learning and power distance index as a moderator to analyze other factors, which affect the implementation of SDGs.

6. Conclusion

Sustainable leadership has a positive impact on organizational learning. Subsequently, authentic leadership has a positive impact on organizational

learning and organizational learning mediates the relationship between sustainable leadership and SDGs. Organizational learning mediates the relationship between authentic leadership and economic performance and organizational learning mediate the relationship between authentic leadership and social performance. The learning organizations used as a mediator, and it mediated the relationship between authentic leadership and economic performance as well as social performance. Henceforth, it practically proves that leadership practices help in implementing SDGs in organizations. Sustainable leadership and authentic leadership both are positively associated with organizational learning, stating the fact that to implement SDGs in organizations, there is a need for leadership to make sure organizations are learning and evolving.

7. References

Avery, G. C., & Bergsteiner, H. (2011). Sustainable leadership practices for enhancing business resilience and performance. *Strategy & Leadership. 39*(3), 5-15.

Bishop, W. H. (2013). Defining the authenticity in authentic leadership. *The Journal of Values-Based Leadership*, *6*(1), 1-8.

Caffaro, F., Roccato, M., Micheletti Cremasco, M., & Cavallo, E. (2019). An ergonomic approach to sustainable development: The role of information environment and social-psychological variables in the adoption of agri-environmental innovations. *Sustainable Development*, *27*(6), 1049-1062.

Chaudhry, Q. U. Z. (2017). *Climate change profile of Pakistan*. Asian development bank.

Coulthard, S., Johnson, D., & McGregor, J. A. (2011). Poverty, sustainability and human wellbeing: a social wellbeing approach to the global fisheries crisis. *Global Environmental Change*, *21*(2), 453-463.

Covelli, B. J., & Mason, I. (2017). Linking theory to practice: Authentic leadership. *Academy of Strategic Management Journal*, *16*(3), 1-10.

Datta, B. (2015). Assessing the effectiveness of authentic leadership. *International Journal of Leadership Studies*, *9*(1), 62-75.

Dimovski, V., & Škerlavaj, M. (2004). Organizational learning and information-communication technologies–a promising link. *Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu*, *22*(1), 7-19.

Dutta, D. K., & Crossan, M. M. (2005). The nature of entrepreneurial opportunities: Understanding the process using the 4I organizational learning framework. *Entrepreneurship Theory and Practice*, *29*(4), 425-449.

Emas, R. (2015). The concept of sustainable development: definition and defining principles. *Brief for GSDR*, *2015*.

Gerard, L., McMillan, J., & D'Annunzio-Green, N. (2017). Conceptualising sustainable leadership. *Industrial and Commercial Training*.

Gupta, J., & Vegelin, C. (2016). Sustainable development goals and inclusive development. *International environmental agreements: Politics, law and economics*, *16*(3), 433-448.

Gupta, J., & Vegelin, C. (2016). Sustainable development goals and inclusive development. *International environmental agreements: Politics, law and economics*, *16*(3), 433-448.

Halisçelik, E., & Soytas, M. A. (2019). Sustainable development from millennium 2015 to Sustainable Development Goals 2030. *Sustainable Development*, *27*(4), 545-572.

Halisçelik, E., & Soytas, M. A. (2019). Sustainable development from millennium 2015 to Sustainable Development Goals 2030. *Sustainable Development*, *27*(4), 545-572.

Holden, E., Linnerud, K., Banister, D., Schwanitz, V. J., & Wierling, A. (2017). *The imperatives of sustainable development: needs, justice, limits*. Routledge.

Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organization science*, *2*(1), 88-115.

Idris, M., & Saeed, S. (2020). Investigating Authentic Leadership of two Universities-Abdul Wali Khan University Mardan and Swat in Pakistan: A Cross-Culture Comparative study. *Academic Journal of Social Sciences (AJSS)*, *4*(4), 1026-1038.

Igbinakhase, I., & Naidoo, V. (2018). Organisational Capabilities and Replicating Successful Programs Designed to Empower Poor Youths: A Correlational Study. *Journal of Economics and Behavioral Studies*, *10*(5 (J)), 89-99.

Kasser, T. (2011). Ecological challenges, materialistic values, and social change. In *Positive psychology as social change* (pp. 89-108). Springer, Dordrecht.

Kraatz, M. S. (1998). Learning by association? Interorganizational networks and adaptation to environmental change. *Academy of management journal*, *41*(6), 621-643.

Lopez, B. R., Lincoln, A. J., Ozonoff, S., & Lai, Z. (2005). Examining the relationship between executive functions and restricted, repetitive symptoms of autistic disorder. *Journal of autism and developmental disorders*, *35*(4), 445-460.

Lumpkin, G. T., & Lichtenstein, B. B. (2005). The role of organizational learning in the opportunity–recognition process. *Entrepreneurship theory and practice*, *29*(4), 451-472.

Macke, J., & Genari, D. (2019). Systematic literature review on sustainable human resource management. *Journal of Cleaner Production*, *208*, 806-815.

Makabila, G. P., Iravo, M. A., Waititu, A. G., & Kagiri, A. W. (2017). The mediating role of organizational learning performance in the achievement of competitive advantage of state corporations in Kenya. *International Academic Journal of Human Resource and Business Administration*, *2*(3), 402-431.

Metcalf, L., & Benn, S. (2013). Leadership for sustainability: An evolution of leadership ability. *Journal of business ethics*, *112*(3), 369-384.

Molnar, E., & Mulvihill, P. R. (2003). Sustainability-focused organizational learning: recent experiences and new challenges. *Journal of Environmental Planning and Management*, *46*(2), 167-176.

Nawaz, S., & Khan, I. U. (2020). The Leadership Styles and Occupational Stress: The Mediating Role of Emotional Intelligence. *Academic Journal of Social Sciences (AJSS)*, *4*(4), 906-917.

Nollman, M. R. (2013). Sustainability initiatives in the workplace and employee productivity. *Research Papers*, *441*.

Noor, K. B. M. (2008). Case study: A strategic research methodology. *American journal of applied sciences*, *5*(11), 1602-1604.

Obeso, M., Hernández-Linares, R., López-Fernández, M. C., & Serrano-Bedia, A. M. (2020). Knowledge management processes and organizational performance: the mediating role of organizational learning. *Journal of Knowledge Management. 24*(8), 1859-1880.

Örtenblad, A. (2004). The learning organization: towards an integrated model. *The learning organization. 11*(2), 129-144.

Peterlin, J., Pearse, N., & Dimovski, V. (2015). Strategic decision making for organizational sustainability: The implications of servant leadership and sustainable leadership approaches. *Economic and Business Review*, *17*(3), 1.

Rodwell, A. M., & Hawkes, A. J. (2013). The Mediating Role of Climate & Follower Authenticity on the Authentic Leadership—OCB Relationship. In *Academy of Management Proceedings* (Vol. 2013, No. 1, p. 15827). Briarcliff Manor, NY 10510: Academy of Management.

Saadat, V., & Saadat, Z. (2016). Organizational learning as a key role of organizational success. *Procedia-Social and Behavioral Sciences*, *230*, 219-225.

Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization* (Rev. ed.). New York: Doubleday.

Smith, P. A. (2012). The importance of organizational learning for organizational sustainability. *The Learning Organization. 19*(1), 4-10.

Tomšič, N., Bojnec, Š., & Simčič, B. (2015). Corporate sustainability and economic performance in small and medium sized enterprises. *Journal of cleaner production*, *108*, 603-612.

Ullah, R., & Khan, B. (2021). Empirical Investigation of Fiscal, Monetary and Trade Policies Impact on Economic Growth of Pakistan. *Academic Journal of Social Sciences (AJSS)*, *5*(1), 43-57.

Van Hoof, B. (2014). Organizational learning in cleaner production among Mexican supply networks. *Journal of Cleaner Production*, *64*, 115-124.

Waldman, D. A., Ramirez, G. G., House, R. J., & Puranam, P. (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *Academy of management journal*, *44*(1), 134-143.

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