

Human resource management practices, knowledge management and organizational leadership: Basis for knowledge driven leadership framework

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ISSN: 2243-7770
Online ISSN: 2243-7789

Received: 13 April 2025

Revised: 5 May 2025

Accepted: 15 May 2025

OPEN ACCESS

Available Online: 20 May 2025

DOI: 10.5861/ijrsm.2025.25051

Abstract

The study aimed to develop a knowledge driven leadership framework for Global Manufacturing industries. Thus, to establish the framework, Human Resource Management, Knowledge Management and Organizational Leadership variables were used, tested and validated to establish relationship. A total of four hundred (400) participants from four (4) global manufacturing industries from different Technopark's in CALABARZON area answered the survey questionnaire. The result of the survey was subjected to statistical methods to determine the correlation of the variables using Spearman's Rho. Using rho and p-values, Human Resource Management practices exhibited significant or highly significant relationship with Knowledge Management practices except for the training and development's impact on knowledge retention. HRM practices, especially Innovation and Creativity, have the strongest correlations with supportive leadership, while the connections with Achievement-Oriented and Strategic Leadership are more varied. KRM practices have significant or highly significant positive relationships with leadership dimensions, with Knowledge Retention showing the strongest associations. Results of the study showed that Human Resource Management Practices including Training and Development, Innovation and Creativity, Adaptability and Agility are foundational pillars of the organization to have competitive edge in global manufacturing industries. The intervention of Human Resource Management Practices resulted in effective Knowledge Management (KM). KM practices of knowledge creation, knowledge acquisition and knowledge retention are relevant in attaining effective organizational leadership. It showed the correlation and influence of Human Resource Practices and Knowledge Management Practices with Organizational leadership. Innovation and creativity supported knowledge creation and retention which provided astounding impact on organizational leadership specifically supportive leadership. The study showed Human Resource Management Practices have strong correlation with Supportive Leadership but have varied correlation with Achievement Oriented Leadership while Knowledge Management Practices proved to have significant and highly significant positive relationship with leadership dimensions. This suggested that aside from Human Resource

Management Practices and Knowledge Management Practices, it is also pertinent to consider other Organizational Leadership enablers like organizational culture, management system, human capital. Based on the results of the study, Human Resource Management Practices and Knowledge Management Practices provide intervention in developing a Knowledge Driven Leadership Framework to achieve competitive organizational performance of Global Manufacturing Industries. Global Manufacturing Industries may adapt the Knowledge Driven Leadership Framework that will assist in strategic decision making in the operation and sustain competitive advantage in global business operation.

Keywords: human resource management practices, knowledge management practices, organizational leadership practices

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1. Introduction

Global Manufacturing Industry is emerging rapidly as a result of technological innovation, cultural and sociological shift, political and economic situation, pandemics, climate change, automation, commercial networks and flows of knowledge. Alongside the changes and innovation, competition in the global manufacturing industry is high, which requires each industry to be strategic to retain position in the market. Global market continuously changes to complement and adjust to changing consumer and market preferences as well as technology innovation. Going global helps companies to widen and expand their reach to more customers by shifting to international operation. Arshed et al. (2022) emphasized that globalization encouraged local industries to compete in the global markets where there are more resources and facilities and possible lower operating costs as well. Globalization depicts an increasing internationalization of goods and services, production process, financial area, corporations, enterprises, manufacturing with emphasis on environmental, political and cultural derivatives, (OECD, 2022).

Therefore, to remain competitive in the global market, industries need to embark on global strategies when it comes to resources, innovation, manpower's skill and competencies. Such strategies can be achieved when there is strong organizational leadership. Leadership is a manner of influencing others to know and recognize the needs to be done and how it will be implemented, and help individual and group achieve the common target goal and objective (Yukl et al., 2020). Retaining an organizational workforce and providing satisfactory well-being in the organization is core responsibility of the leader. Leaders have immense influence on the organization, thus standard and style of leadership is important because of its direct impact in the performance of the organization (Habes et al., 2020). It is vital to have material resources but without strong organizational leadership to run the organization will in effect result to unproductive operation. Berger et al. (2019) quoted that each organization has different leadership practice and style to cope with increasing technological progress, changing office management due to virtual communication, changes in working hours, changing employment culture needs and preference, thus it is obligatory that leadership style should be effective to attain employee cooperation and creativity and excel in work performance. Celo et al. (2019) confirms that some global manufacturing industries failed because of complex management coordination and lack of system. Management, direction and coordination activities are the typical roles of leaders or managers. Global operation values the importance of direction of leadership aspect of operation. On this note, it is imperative that for the global factory to achieve its purpose, the applicable leadership style that suits the organization and leadership system must be considered because leaders play an important role in connecting together all aspects of operation, resources, system and process of organization.

Global Manufacturing Industries operating at various Economic Zones at the Calabarzon have identified Organizational Leadership as one of the weaknesses when environmental scanning is conducted. Various root causes are identified including changes of leadership due to resignation. Some leaders are not prepared for leadership skills like decision making, strategic system, analytical thinking and ability to perform contextual and adaptable function which are important attribute of a leader. Unprepared leadership capability is due to unprepared assumption of leadership position brought by high attrition rate in manufacturing industry. Another root cause identified of weak organizational leadership is lack of leadership structure aligned with management objectives. Transition of leadership is critical in the operation. It posts advantages and disadvantages in the operation. Transition of leadership usually post constraints in the operation because it disrupts continuity of programs and innovations introduced by outgoing heads and leaders. However, this downside can be remedied if the new leadership is equipped with skill and capabilities to propel the operation given of any circumstances in

the global environment. Likewise, leadership style is distinct to every individual. Each leader has their own perception, mindset, views, belief, style and strategies. In addition Leadership styles plays a significant role in creating organizational culture with shared values and norms and in developing a creative and resilient environment (Akanji et. al.,2020). Furthermore, the rapid changes of business process in manufacturing industries requires effective leadership structure to remain competitive in the industry. To address this, there should be defined leadership system that will be basis of operation irrespective of changes in management. Another root cause of weakness in organizational leadership in Global manufacturing industry is strength of Human Resources to manage human capital as most important resources of the organization.

A strong human resource management provides competitive advantage to an organization because it develops the skills and competencies of the organization which is vital in leadership role. Another factor contributing to organizational leadership weakness in the manufacturing industry is the ability to adapt to critical changes in global operation. Transformation of business process to automation, AI's, and electronics post big challenge to global manufacturing industry. As the heart of the organization. Human Resource should be strategic in their practices to support organizational leaders (Anita et. al.,2024). Hence, high turnover rates of employees due to high overseas job opportunities resulted in gaps on knowledge and information management in manufacturing industries. The challenge is how to acquire, process and retain information to produce knowledge, (Doulougeri et. al.,2024). Knowledge management will fervently challenge strong leaders. Likewise, industries may have enough resources. However, without good and strong leadership, resources cannot be managed effectively. Along these lines, strong organizational leadership is crucial and vital in any organization.

With the above limitations and veracity on organization leadership in global manufacturing industry, the researcher felt the need to bridge the gap in leadership competency and weakness of leadership as identified from environmental scanning. Thus, the researcher would like to study the factors that will be the objective basis of strengthened organizational leadership. The basis will serve as framework of organizational leadership that will serve as model to manufacturing industry. Since the manufacturing industry is engaged in continual improvement to achieve customer satisfaction, vast amounts of information is necessary to facilitate improvement and decision making. With this premise, the researcher opted to propose a knowledge driven leadership framework in Global manufacturing industries. Drivers of Knowledge are factors including Human Resource Management Practices, Knowledge Management and Organizational Leadership. This leadership framework is vital to effective and healthy organizational operation. The Knowledge Driven Leadership Framework specifically aims to help Global Manufacturing Industries to identify practices of Human Resources Practices and Knowledge Management Practices that will serve as basis of organizational leadership. Enablers of organizational knowledge. Strengthening organizational leadership through the Knowledge driven Leadership Framework, the manufacturing industry will enrich competitive advantage in global operation, achieve sustainable business operation and maintain if not supersede global market position.

Objectives of the Study - The study aimed to examine the Human Resource Management, Knowledge Management and Organizational Leadership that will be a basis in developing a knowledge driven leadership framework for Global Manufacturing Industry. Specifically, the study described Human Resource Management Practices in terms of Training and Development, Innovation and Creativity and Adaptability and Agility; determined the knowledge management practices in terms of Knowledge Acquisition, Knowledge Creation and Knowledge Retention; assessed the Organizational Leadership in terms of Supportive Leadership, Achievement Oriented Leadership and Strategic Leadership; tested the significant relationship between Human Resource Management Practices, Knowledge Management and Organizational Leadership an developed a Knowledge Driven Leadership Framework for Global Manufacturing Firms .

2. Methods

Research Design - This study employed survey research design methods and quantitative approach. A survey research design is a systematic approach whose main method of data collection is by survey. Quantitative

research focused on theories of dependent and independent variables and measures relationship, percentage errors, validity and reliability and employs measurement methods such as statistical, mathematical, or numerical analysis of data collected or by working on pre-existing statistical data using computational techniques, (Watson, 2015). Furthermore, he advised that surveys are fundamental design of quantitative research design approach. Additionally, survey design of **Quantitative research methods serves as a tool on data collection which will describe variable(s) that the researcher intends to understand and analyze** (Tessler et. al., 2019). In addition, Tessler noted that when survey respondents finish answering the instrument/survey questions, more often feelings, thoughts, idea and behavior on certain situation in the questionnaire are revealed without prejudice. Thus, the researcher opted to use the survey research design method.

Participants of the Study - The researcher intend to use Manufacturing Industries engaged in Global Operation. Participating in Global Manufacturing Industries are located at CALABARZON Technopark's, belonging to top ten highest tax payor within their local municipality. To get the highest tax paying company, the researcher coordinated with Philippine Economic Zone Authority and Bureau of Internal Revenue to get the information. Respondents belonged to rank and file, line leaders and Assistant Supervisors of chosen Global Manufacturing Industry who have the capability to evaluate the leadership capabilities and practices in the organization. Only organic and direct employees participated in the study. A total of 400 participants coming from 4 Global Manufacturing Industries from CALABARZON accomplished the survey questionnaire.

Data Gathering Instrument - The instrument to be used is a self-made instrument. Validation was done where three experts on Organizational Leadership assessed and evaluated the self-made instrument and propose suggestions to strengthen the instrument and yield a reliable result. The instrument is comprised of three parts. Part 1 comprises Human Resource Management Practices with three sub-parts including Training and Development Practices, Innovation and Creativity Practices and Adaptability and Agility Practices. Part 2 involves Knowledge Management which is measured through 3 dimensions: Knowledge Acquisition Practices, Knowledge Creation Practices, and Knowledge Retention. Third Part is Organizational Leadership with 3 sub-parts including Supportive Leadership Practices, Achievement Oriented Leadership and Strategic Leadership. All parts are quantitatively measured using the 4-Likert Scale in which 4 is the highest rating and 1 is the lowest rating.

Table 1

Reliability Summary Table – Knowledge Based Organizational Leadership Framework Instrument

Indicators	Cronbach Alpha	Remarks
Knowledge Based Organizational Leadership Framework	.986	Excellent
Per variable		
Human Resource Management	.961	Excellent
Training and Development	.887	Good
Innovation and Creativity	.904	Excellent
Adaptability and Agility	.929	Excellent
Knowledge Management	.969	Excellent
Knowledge Acquisition	.907	Excellent
Knowledge Creation	.888	Good
Knowledge Retention	.936	Excellent
Organizational Leadership	.955	Excellent
Supportive Leadership	.887	Good
Achievement Oriented Leadership	.872	Good
Strategic Leadership	.886	Good

George and Mallery (2003) provide the following rules of thumb: “_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 –

Questionable, _ > .5 – Poor; and _ < .5 – Unacceptable”

Based on result, the Knowledge Based Organizational Leadership Framework Instrument has an Excellent consistency as exhibited by the Cronbach's Alpha value of (.986). This was validated by the Excellent remark from Human Resource Management (.961); it was confirmed by the Good result from Training and Development

(.887), and Excellent results from (.904), and Adaptability and Agility (.929); Also, it was validated by the Excellent remark from Knowledge Management (.969); it was confirmed by the good result from Knowledge Creation (.888), and Excellent results from Knowledge Acquisition (.907), and Knowledge Retention (.936). It was further validated by the Excellent remarks from Organizational Leadership (.955); it was confirmed by the good results from Supportive Leadership (.887), Achievement Oriented Leadership (.872), and Strategic Leadership (.886), which shows that the instrument at hand passed the reliability index test and can be used to proceed on the survey process.

Data Gathering Procedure - The researcher presented the proposed study to the Research Group Committee for review and comments. Upon final approval the researcher finalized a self-made questionnaire and proceeded with the validation process. A validation process was conducted with the assistance from the research adviser and a statistician. A letter was prepared and submitted to three experts of the Organizational Leadership to confirm their acceptance of validation of instrument. Based on the validation, comments of expert were incorporated to the instrument. The instrument was subjected to a reliability test to ensure viability and applicability in data gathering and to ensure that it will answer and satisfy objective of the study. To do the reliability test, the instrument was sent via email and messenger to select 30 participants. Data collected were tabulated and submitted to experts for Reliability Testing. The researcher assured the participants of reliability test that confidentiality of data of respondents would be respected and observed. Once the Reliability Test is proved acceptable, the researcher prepared Letter of Request and Approval from the Official Representative of Global Manufacturing Industry to conduct survey for the study. Once approval is received, the researcher presented the purpose of the study during the general assembly of the participating companies to seek their assistance and to confirm that result of the study will be shared to the group as basis for their improvement. Questionnaires were distributed during the General Assembly schedule by researcher to all participating employees. Responses were collected after. Once the Survey Questioner was completed, the researcher tabulated the result subject for statistical analysis.

Data Analysis - Data gathered from the survey was tallied and was subjected to statistical methods to measure the relationship of variables pertaining to Human Resource Management Practices in terms of Training and Development, Innovation and Creativity and Agility; Knowledge Management Practices in terms of Knowledge Acquisition, Knowledge Creation and Knowledge Retention; and Organizational Leadership in terms of Supportive Leadership, Achievement Oriented Leadership and Strategic Leadership. Frequency and weighted means were used to determine and describe Human Resource Management Practices, Knowledge Management Practices and Organizational Leadership Practices. To determine the correlation of the variables, Spearman's Rho was applied. Based on the statistics, the following result was gathered: Relationship between various Human Resource Management (HRM) practices and Knowledge Management (KM) practices was evaluated to assess the significance using the rho and p-values.

Ethical Consideration - The researcher ensured that ethical factors are highly regarded in conducting the study. Thus, prior to the conduct of the survey, the researcher submitted letters to respondents requesting their consent of participation in the study. Respondents were given free will to answer or refuse if they were not comfortable to do so. Respondents were not required to write personal information on the survey questionnaire form. Respondents were also assured that all data presented shall be treated with full confidentiality and they shall not be subjected to harm in any way whatsoever. Also, Privacy and anonymity of respondents was of supreme importance. The use of offensive, or other unacceptable language was avoided in preparation of the Questionnaire/ Interview/ Focus group questions. The highest level of objectivity and analysis in discussion throughout the research was maintained. Likewise, the researcher submitted the paper to University Ethical Review Committee for ethical evaluation. Ethical clearance was secured to ensure compliance as prescribed by the University. Informed Consent from participants of instrument was secured to ensure adherence to Data Privacy.

3. Results and discussion

Table 2

Summary Table of Human Resource Management Practices

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Training and Development	3.49	Agree	2
2. Innovation and Creativity	3.53	Strongly Agree	1
3. Adaptability and Agility	3.46	Agree	3
Composite Mean	3.49	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree

Table 2 summarizes Human Resource Management Practices. As interpreted in the result, respondents Agree with Grand Composite Mean of 3.49. The result confirmed that Training and Development Practices, Innovation and Creativity Practices and Adaptability and Agility Practice are effective Human Resource Management dimensions in organizational operation.

Summary confirmed that Human Resource Management Practice in terms of Creativity and Innovation has the highest indication. Respondents strongly agreed on Creativity and Innovation with the highest weighted mean of 3.53. Creativity and Innovation Practices are vital in organizational leadership because this will measure the result of strategic action of management to remain competitive in fast changing global manufacturing industry. It is critical that organization leadership promotes, supports and initiate creativity and innovation in the organization. Continuous improvement is vital in the manufacturing industry. Thus, innovative and creative ideas are necessary in problem solving and decision making, especially on unprecedented operational problems (de Vasconcellos et al., 2019). Circumstances in manufacturing industries varies based on the presented data, resources, conditions, manpower, market, culture and values. This situation requires management to be creative and innovative in providing solutions or making new opportunities to overcome threats of global industry.

Training and Development Practice is on the second rank as agreed by respondents with a weighted mean of 3.49. Adaptability and Agility Practice is in the lowest rank as an indicator of Human Resource Management Practices. Respondents agreed with the weighted mean of 3.46. Although adaptability and agility is vital in organization to cope with the changes, organizational culture plays an important role in developing adaptability and agility in the organization. Pillai et al. (2022) attested that employees must be committed and ready for change. Thus, weakness in employees' agility is crucial individual responsibility necessary for successful performance in global manufacturing industry. Another study emphasized that organizational support is necessary to achieve workforce agility and adaptability (Sameer, 2022). Thus, to achieve agility, Global Manufacturing Industry should be ready to provide support to employees whether moral or resources support. This supported the gap in the workforce's weak ability to respond quickly.

Table 3

Summary Table of Knowledge Management Practices

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Knowledge Acquisition	3.56	Strongly Agree	2
2. Knowledge Creation	3.57	Strongly Agree	1
3. Knowledge Retention	3.48	Agree	3
Composite Mean	3.54	Strongly Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree

Table 3 summarizes Knowledge Management Practices. Respondents strongly agreed on the practices with composite means of 3.54. Respondents ranked highest and strongly agreed on Knowledge Management Practice in terms of Knowledge Creation with Weighted Mean of 3.57. It can be concluded that manufacturing industries engage more in Knowledge Creation as part of its continual improvement. With the changing global conditions and business environment constraints, manufacturing industries need to cope and continuously improve to overcome the challenges and remain competitive in the market. To implement continual improvement, It is

necessary that there are sources of information and ideas both internal in the organization and outside of organization. This information and data are vital in knowledge creation propelling improvement in the manufacturing industry. Song (2020) who concluded in the study that sharing of information is important to create new knowledge that will initiate improvement and product development. Thus, the manufacturing industry is focused on knowledge creation to achieve customer's satisfaction and maintain its competitive advantage in the market

Respondents strongly agreed on Knowledge Management Practices in terms of Knowledge Acquisition and perceived it on 2nd rank with weighted mean of 3.56. Respondents agreed and ranked Knowledge Retention Practice in the lowest rank with a weighted mean of 3.48. The result emphasized that the Manufacturing industries need to improve more on knowledge retention management and consider formulating system to ensure that knowledge are retained in the organization. It is important that knowledge is properly taken care of and cascaded or transferred to other members of the organization or retained in the organization to ensure continuity of the operation.

Table 4

Summary Table of Organizational Leadership

Indicators	Weighted Mean	Verbal Interpretation	Rank
1.Supportive Leadership	3.57	Strongly Agree	2
2.Achievement Oriented Leadership	3.62	Strongly agree	1
3.Strategic Leadership	3.48	Agree	3

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree

Table 4 below summarized Organizational Leadership. Organizational Leadership is strongly agreed with composite mean of 3.56. This proves organizational leadership in global manufacturing industry operation.

On the highest rank is Achievement Oriented Leadership which is strongly agreed with weighted mean of 3.57 while the lowest in rank and agreed is Strategic Leadership with weighted mean of 3.48. Achievement Oriented Leadership is in the highest rank because manufacturing industry is implementing quality management system not only because it is customer requirement but more, so manufacturing industry is engaged in continual improvement to improve productivity and financial capability. As per Quality Management System, each department has performance objective and target to ensure responsible operation. Performance is monitored on regular basis and evaluate reason of non-achievement if encountered so that action plan can be prepared to meet the achievement of target. As supported by the studies, total quality management system intends to achieve continuous improvement in the organization (Rana et al., 2021). Maciel et al. (2020) further confirms that quality management system aims to succeed in 100% customers satisfaction operational improvements, product improvement, organizational development and increase productivity.

Supportive Leadership is strongly agreed and on the second rank with weighted mean of 3.57. Adversely, Strategic Leadership ranked lowest because basically unlike Achievement Oriented Leadership, which is system and structured based, Strategic leadership depends on the dynamics of the leaders and situations presented. Leaders must be able to manage operations strategically as presented by the situation. Dynamic situation tests leaders to resolve problems strategically considering various factors including Human resources welfare and business requirement. Miller (2023) stressed that although Strategic leadership has benefit, difficulty can't be outweighed. One problem encountered is how leaders will reconcile corporate objectives with varying personnel needs and requirements that more often receive opposition from employees.

Table 5 below examines the relationship between various Human Resource Management (HRM) practices and Knowledge Management (KM) practices using the rho and p-values to assess significance correlation.

Training and Development shows a significant positive correlation with both Knowledge Acquisition ($\rho=0.141$, $p=0.005$) and Knowledge Creation ($\rho=0.116$, $p=0.020$), but its relationship with Knowledge Retention is not significant ($p=0.246$). This shows the relevance of Human Resources in terms of Training and

Development in acquiring and creating new knowledge that is necessary in organizational operation. Through training and learning programs, employees can get new skills to help them analyze new ideas and create new information, improve processes, develop new products or add new services. Acosta-Prado (2022) confirmed that Training and development has a big influence in Knowledge Acquisition and Creation which is mediating factor of innovative performance of any organization. Furthermore, Demir et al., (2021) supported that operational sustainability can be achieved if there is continuous learning and training programs that will promote increased knowledge among employees and create new ideas and information to have innovative performance. Likewise, Bhatti et al., (2020) found that organization with a learning culture through training and development reflected employee's willingness to acquire new skills and create new ideas. On the other hand, Training and development showed no significance on Knowledge retention because of inadequate knowledge management policy in the organization. Dewah et al. (2022) advised that technological support and other infrastructure is necessary to have successful knowledge retention to enable employees to store, retrieve and share information effectively. Likewise, Ryba (2022) advised that Human Resource practice in succession planning is effective strategy to have effective knowledge retention. Also, lack of planning will post failed knowledge retention.

Table 5*Relationship Between Human Resource Management Practices and Knowledge Management Practices*

Variables	rho-value	p-value	Interpretation
Training and Development			
Knowledge Acquisition	.141**	0.005	Significant
Knowledge Creation	.116*	0.020	Significant
Knowledge Retention	0.058	0.246	Not Significant
Innovation and Creativity			
Knowledge Acquisition	.193**	<.001	Highly Significant
Knowledge Creation	.137**	0.006	Significant
Knowledge Retention	.117*	0.020	Significant
Adaptability and Agility			
Knowledge Acquisition	.309**	<.001	Highly Significant
Knowledge Creation	.163**	0.001	Significant
Knowledge Retention	.126*	0.012	Significant

Legend: Significant at $p\text{-value} < 0.01$

Innovation and Creativity has a highly significant correlation with Knowledge Acquisition ($\rho=0.193$, $p<0.001$) and significant relationships with Knowledge Creation ($\rho=0.137$, $p=0.006$) and Knowledge Retention ($\rho=0.117$, $p=0.020$). HR Practice and programs supporting employee's creativity and innovation effectively support employees' acquisition of new knowledge and knowledge creation vital in decision making activities. Likewise, employees are motivated to share ideas to develop base knowledge for the organization. According to Alani et al. (2019), innovation and employee's creativity are one of the driving factors behind knowledge management which is essential to both organization sustainability and success. Ode et al. (2020) on the other hand discussed that supporting employee's creativity and innovation facilitates creating, spreading storing knowledge and organizational development.

Lastly, Adaptability and Agility shows the strongest correlations, being highly significant with Knowledge Acquisition ($\rho=0.309$, $p<0.001$) and significant with both Knowledge Creation ($\rho=0.163$, $p=0.001$) and Knowledge Retention ($\rho=0.126$, $p=0.012$). HR Practice promoting agility and adaptability drives employees to engage more in knowledge creation and in retaining relevant information to create action plans in the face of operational challenges and situations. Establishing an agile environment in an organization helps employees to cope with the changes and use knowledge and ideas to overcome the situation. Arokodare (2021) substantiated that HR practice on agility is a strong management tool that promotes knowledge acquisition, creation, sharing and retention. Both Organization agility and knowledge management promotes success and stability against business unpredictable competition. Likewise in the study of Ali et al. (2021) revealed Organizational agility is more effective if the strategic response of the organization in times of challenging situation are aligned with Knowledge processes and if knowledge is shared and retained across organization.

Overall, all HRM practices exhibit significant or highly significant relationships with KM dimensions, except for Training and Development's impact on Knowledge Retention.

Table 6*Relationship Between Human Resource Management Practices and Organizational Leadership*

Variables	rho-value	p-value	Interpretation
Training and Development			
Supportive Leadership	-0.060	0.235	Not Significant
Achievement Oriented Leadership	0.034	0.492	Not Significant
Strategic Leadership	.100*	0.046	Significant
Innovation and Creativity			
Supportive Leadership	.190**	<.001	Highly Significant
Achievement Oriented Leadership	.127*	0.011	Significant
Strategic Leadership	0.015	0.758	Not Significant
Adaptability and Agility			
Supportive Leadership	.187**	<.001	Highly Significant
Achievement Oriented Leadership	0.086	0.087	Not Significant
Strategic Leadership	.144**	0.004	Significant

Legend: Significant at $p\text{-value} < 0.01$

Table 6 presents the relationship between Human Resource Management (HRM) practices and various dimensions of Organizational Leadership, with rho and p-values indicating the strength and significance of the correlations. For Training and Development, there is no significant relationship with either Supportive Leadership ($p = 0.235$) or Achievement-Oriented Leadership ($p = 0.492$), but there is a significant positive correlation with Strategic Leadership ($\rho = 0.100$, $p = 0.046$). The significant positive correlation of Training and Development and Strategic Leadership can be attributed to the fact that intervention provided by training employees and continuous development plan prepares employees to understand more some strategic decision making that is being proposed and implemented by leaders and management. This further reduces employee's resistance on strategic moves but rather provide support on the implementation. In the manufacturing industry, employees are equipped with training and technical know-how on identifying root cause of the problem and planning corrective action to address the problem. This in return supports strategic leaders. Thus, Training and development has strong relationship in implementing successful strategic leadership. The significant correlation of Strategic Leadership and Training and Development is supported by Zhong et al. (2021) who concluded that HR Practices in promoting innovation through training and development strengthens success of strategic management. Training and development prepare employees to cope with the changes that will be accorded in strategic management while strategic leaders are equipped as well with expertise to ensure that their strategies will be successful. In contrast, training and development has no significant relationship with supportive leadership and achievement-oriented leadership because efficiency of organizational leadership style is affected by various factors including organizational culture, norms, and situation. The need to use a strategy that is fit to organizational circumstances rather than relying on standard approach is necessary (Pirayesh et. al., 2020)

Innovation and Creativity demonstrates a highly significant positive correlation with Supportive Leadership ($\rho=0.190$, $p<0.001$) and a significant correlation with Achievement-Oriented Leadership ($\rho=0.127$, $p=0.011$), though its relationship with Strategic Leadership is not significant ($p=0.758$). The highly significant relationship of Innovation and creativity on supportive Leadership and significant relationship on Achievement oriented leadership can be attributed to the fact the in-Manufacturing Industry, customer's satisfaction is very important. Furthermore, high competition in global industry pushes global manufacturing industry to be innovative and creative in improving process and services as well as introducing new products to remain competitive. To have an innovative and creative environment, a supportive environment is necessary. Employees are motivated to be creative if their ideas is supported, listened to and encouraged as well as provided with resources to implement creative ideas. Likewise, innovative and creative environment preempt continuous improvement in manufacturing industry operation. Continuous improvement in process is vital in achieving target result. Thus, HR practice on innovation and creativity fosters and supports leadership to achieve the required result in the

organization. On the study of Patel (2020), he supported that HR practice of creativity and innovation lies on leadership that sets priorities to achieve the set target and objective of the organization. Sarwar et al. (2022) likewise confirmed that HR practice on creativity and innovation inspires leaders to drive employees to perform beyond what is required and achieve the goals. HR Practice on creativity and innovation showed no correlation with organizational Strategic Leadership. No significant relationship of Innovation and Creativity with Strategic Leadership in manufacturing industry is due to the fact that there are other factors affecting strategic leadership. Good communication policy is necessary so that ambiguity, fear and resistance can be avoided in case strategic leadership is needed. Values and organizational norms are important factors as well to consider to have effective strategic leadership. Alateeg et al. (2024) discussed the relationship of organizational culture and innovation where in if culture of risk taking, collaboration and communication is strongly developed, strategic leadership will be influenced. However, if organizational culture is not developed, innovation is difficult, and hence strategic leaders will have difficulty in the organization.

For Adaptability and Agility, there are highly significant correlations with Supportive Leadership ($\rho=0.187$, $p<0.001$) and a significant relationship with Strategic Leadership ($\rho=0.144$, $p=0.004$), but the correlation with Achievement-Oriented Leadership is not significant ($p=0.087$). The high significant correlation of Adaptability and Agility with Supportive Leadership and Strategic Leadership in Manufacturing Industry can be explained due to the fact that in manufacturing industry where needs and requirement of customers changes as well as trend of global market changes, the industry finds ways to cope and adapt to changes. This spirit of adaptability and agility is vital to have a supportive environment and leadership where there is teamwork and collaboration among employees to cope with changes. Likewise, adaptable and agile environment supports leaders to implement effectively strategic decisions because manufacturing industry employees are already used and trained to cope with changes. Qurratul et al. (2024) supported in the study that supportive leadership style requires adaptability and cooperative decision making to realize effective leadership in the organization. Melián-Alzola et al. (2020) likewise confirmed that organizational agility has significant effect on supportive leadership. The study of PT PLN (PERSERO) confirmed a strong relationship between employees adaptability and agility in changing conditions and supportive organizational leadership (Siddik et al., 2022). Sameer (2022) also confirmed on previous study the strong correlation of organizational support and employee adaptability.

Adaptability and Agility showed no significant relationship with Achievement Oriented Leadership because in unstable situation or changing business environment, Achievement Oriented Leadership should be flexible to cope with the changes. This explains the no significant correlation between adaptability and agility and achievement-oriented leadership. Achievement-oriented leaders need to be decisive and open-minded in adapting and adjusting strategies to the given situation to achieve the required result. Likewise, the achievement of goals lies on several factors affecting people. Alzghoul et al. (2023) concluded in the study that effective achievement-oriented leadership is not only mediated by resiliency and readiness when there are changes but involves factors including vision, communication, rewards to enable leaders to achieve the required result and performance. Further, high work performance and achievement of goals requires alignment with the company objective and vision, thus it entails a lot of skill aside from employee's readiness to adapt to changes, (Khawaldeh et. al.,2024).

HRM practices, especially Innovation and Creativity, have the strongest correlations with Supportive Leadership, while the connections with Achievement-Oriented and Strategic Leadership are more varied.

Table 7 displays the relationship between Knowledge Management practices and Organizational Leadership. It shows that Knowledge Acquisition has significant positive correlations with all leadership dimensions: Supportive Leadership ($\rho=0.146$, $p=0.003$), Achievement-Oriented Leadership ($\rho=0.139$, $p=0.005$), and a highly significant correlation with Strategic Leadership ($\rho=0.243$, $p<0.001$)

Knowledge acquisition has a highly significant correlation with Strategic Leadership in the manufacturing industry can be attributed to the fact that strategic leadership requires complete information to come up with

decision making specially when the decision will entail changes that will affect people and process. A thorough study is required, and this entails a lot of information acquired from operation or from other industry. Thus, knowledge acquisition is vital to succeed in strategic leadership. Knowledge acquisition has a significant relationship with supportive and achievement-oriented leadership which can be explained in the manufacturing industry due to the fact that knowledge acquired from different sources supports in decision making and provide leaders additional tools and information to further improve process to achieve the target output.

Table 7*Relationship Between Knowledge Management Practices and Organizational Leadership*

Variables	rho-value	p-value	Interpretation
Knowledge Acquisition			
Supportive Leadership	.146**	0.003	Significant
Achievement Oriented Leadership	.139**	0.005	Significant
Strategic Leadership	.243**	<. 001	Highly Significant
Knowledge Creation			
Supportive Leadership	.329**	<. 001	Highly Significant
Achievement Oriented Leadership	.273**	<. 001	Highly Significant
Strategic Leadership	.169**	0.001	Significant
Knowledge Retention			
Supportive Leadership	.361**	<. 001	Highly Significant
Achievement Oriented Leadership	.280**	<. 001	Highly Significant
Strategic Leadership	.158**	0.002	Significant

Legend: Significant at p-value<0.01

Knowledge Creation is weakly related to leadership, with highly significant correlations across Supportive Leadership ($\rho=0.329$, $p<0.001$), Achievement-Oriented Leadership ($\rho=0.273$, $p<0.001$), and a significant very weak positive relationship with Strategic Leadership ($\rho=0.169$, $p=0.001$). The highly significant relationship of Knowledge Creation with Supportive Leadership and Achievement Oriented Leadership in manufacturing industry can be explained because the knowledge created including new ideas helps leaders in providing support to employees. Employees need changes and supportive leaders should find creative ways to provide assistance to employees so that they can perform their best. Likewise, updated information and new knowledge should always be available to achieve the required target. Achievement oriented leaders are usually dependent on the information and focus on attaining the result. Thus, availability of new knowledge is vital in decision making of supportive leaders and achievement-oriented leaders. On the other hand, Knowledge creation has a weak significant relationship with strategic leadership because in strategic leadership to be effective, vital factor is not only knowledge but most specifically the organizational values, communication and ability of leaders to implement strategies so that it will be supported by everybody. Knowledge Creation assists the flow of information and capabilities in the organization that are necessary in empowering leaders to initiate a supportive environment (Onyango et al., 2022). Likewise, Hussainy (2022) supported that systematic knowledge creation supports a achievement oriented environment that aligns with employees continuous growth.

Lastly, Knowledge Retention exhibits the strongest correlations with leadership dimensions, showing highly significant correlations with Supportive Leadership ($\rho = 0.361$, $p < 0.001$) and Achievement-Oriented Leadership ($\rho=0.280$, $p<0.001$), along with a significant correlation with Strategic Leadership ($\rho=0.158$, $p=0.002$). The strongest significant relationship of Knowledge retention with leadership dimensions can be attributed to importance of knowledge to be retained, remembered, stored for future reference. Knowledge acquired and created will only have meaning if this is retained to employees. If knowledge is retained and preserved, it will help leaders in providing support and assistance to employees because information can be retrieved immediately. Likewise, availability of information and knowledge is vital in achieving the expected output because employees will have reference on implementing a certain task of duty and the enclosed correct process. Lastly, in conceptualizing strategic decisions, available information and knowledge is necessary to evaluate the cause and effect of the decision. Thus, it can be concluded that in any leadership style, availability of correct information and knowledge is inevitable. Yoo et. al, (2022) confirmed a strong relationship between

leadership dimension and knowledge creation, knowledge exchange and retention. This affirmed the importance of operation where knowledge sharing, and creation thrives to foster leadership in the organization. Rehman et al. (2020) showed a significant relationship between organizational leadership and knowledge management which leads to increased organizational performance. Iqbal et al. (2018) discussed that Human Resources has a significant effect on Knowledge Management and Knowledge Management Process influenced organizational leadership.

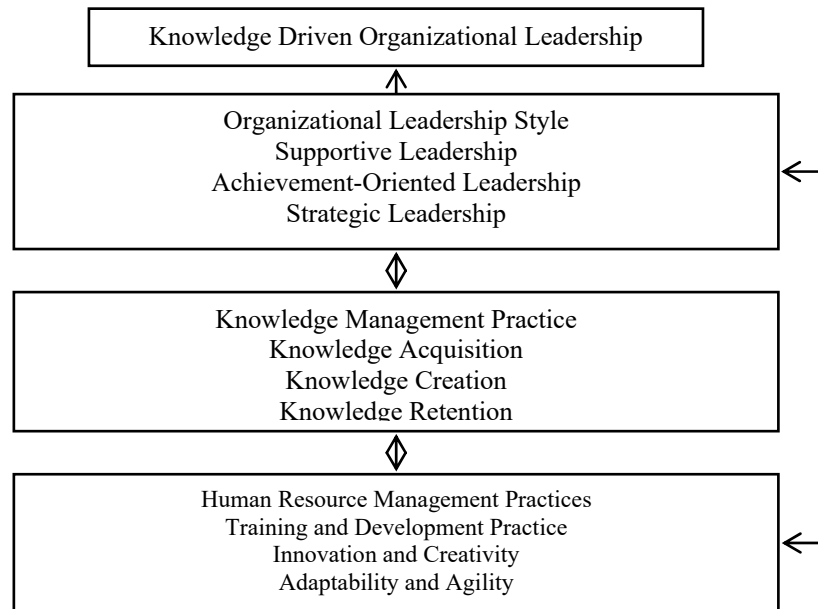


Fig 1. Knowledge-Driven Leadership Framework

Figure 1 illustrates the Basis of Knowledge-Driven Leadership Framework through intervention and implementation of Human Resource Management Practices and Knowledge Management Practices. The framework further illustrates that HR Practices of Training and Development, Innovation and Creativity, Adaptability and Agility serve as foundational and groundwork in implementing knowledge management practices. Knowledge Management Practices, give rise to effective organizational leadership. Likewise, this framework encapsulates results and findings of the study and converts it to effective action plans to achieve knowledge-driven leadership in the organization. The framework consists of 3 sections including Human Resource Management Practice; Knowledge Management; and Leadership Style. Training and Development as part of Human Resource Management Practices serves as a catalyst to knowledge acquisition and knowledge creation. New knowledge created in turn assists organizational leaders in decision making to achieve target results. Likewise, Innovation and Creativity propels knowledge acquisition, creation and retention which has strong influence in engaging in supportive leadership and achievement-oriented leadership. Adaptability and Agility Practices of Human Resource Management likewise has significant impact on knowledge management and improves supportive and strategic leadership of organization.

Knowledge Management Practice on the other hand serves as an intermediary factor between Human Resource Management Practice and implementing organizational leadership. Knowledge Acquisition fosters continuous education and learning enabling adaptability to any situation. Knowledge acquisition impacts and contribute effective implementation of leadership. Knowledge Creation in the same manner resulted in innovative organization which is vital in exercising both supportive and achievement-oriented leadership. Knowledge Retention is necessary for sustained progress and adaptability which is vital in strategic leadership.

The 3rd part of the framework is the Organizational Leadership Style which is on top of the framework manifesting the correlation and influence of HR Practices and Knowledge Management to Organizational Leadership. HR Practices of innovation and adaptability promote knowledge creation and retention which has formidable impact on Supportive Leadership. HR Management Practices supports knowledge creation and

acquisition to develop a goal-oriented leadership. Comparably, HR Management Practices build up organizational adaptability and creativity to strengthen knowledge acquisition and retention necessary in implementing strategic leadership. The Knowledge Driven Framework will help achieve organizational leadership effectiveness through incorporation of Human Resource Management and Knowledge Management. Effective organizational leadership is crucial in achieving efficient operational performance and maintaining competitive advantage in the global market of manufacturing industry. On the study conducted by Phong et.al, (2023) concluded a framework on leadership which is greatly influenced by Knowledge management and Innovation. Shatha et al. (2023) supported the framework connecting Human Resource Management, Knowledge Management, Leadership and organizational performance where leadership is improved through viable HR Practices supported by Knowledge management.

4. Conclusions and recommendations

The respondents' agreement on Human Resource Management Practices proved that Training and Development, Innovation and Creativity and Adaptability and Agility are vital practices that serve as foundational pillars in the organization which are necessary to remain competitive in the manufacturing business industry. The respondent's strong agreement on Knowledge Management Practices of Knowledge Creation, Knowledge Acquisition and Knowledge Retention signified the relevance of organizational knowledge in attaining effective organizational leadership. Organizational knowledge serves as a catalyst in effective decision making while effective knowledge management serves as an instrument in executing organizational leadership. The Organizational Leadership Style particularly Supportive Leadership, Achievement-Oriented Leadership and Strategic Leadership are greatly affected and influenced by various enablers including human resource management practices, knowledge management, organizational culture, management system and human capital. This signified the importance, interdependence, and consideration of different practices and factors in organizational leadership's decision making. Human Resource Management Practices is strongly correlated with Supportive Leadership and varied correlation with Achievement Oriented Leadership and Strategic Leadership while Knowledge Management Practices have significant or highly significant positive relationships with leadership dimensions. Knowledge Retention has the strongest correlation with leadership dimensions. A Knowledge-Driven Leadership Framework was developed to provide foundation of knowledge-focused environment through the intervention of Human Resources Management and Knowledge Management to achieve optimum and sustained organizational performance in the manufacturing industry.

Manufacturing industry may invest in Knowledge Management technology like information technology and process system to ensure preservation of important data and knowledge as well as availability of information when needed. Availability of knowledge will provide manufacturing leadership efficiency. The Human Resources Management manager may revisit Training and Development Program and implement learning strategies and systems to improve Knowledge Retention and create innovative and adaptive organization. To fully develop employees' creativity and support innovation, the HR supervisors may evaluate and assess factors contributing to employees' engagement that will motivate them to share ideas and propose improvement in the operation. Manufacturing industries may adapt the Knowledge-Driven Leadership Framework that will assist in strategic decision making in the operation and sustain competitive advantage in the global market set-up. Future researchers may explore the relationship of Human Resources Practices in terms of Organization Development delving particularly in Organizational culture and values with other Organizational Leadership Style. Study may reveal significance of culture and values in leadership performance.

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