American University Kyiv

LEADERSHIP STYLES IN THE UKRAINIAN IT INDUSTRY

СТИЛІ ЛІДЕРСТВА В УКРАЇНСЬКІЙ ІТ-ІНДУСТРІЇ

by **Oleksii Kersov**

Presented in Partial Fulfillment of the Requirements

for the Master Degree

2024

APPROVED BY:

Artem Kliuchnikov, Ph.D., Faculty Mentor

ABSTRACT

This research investigates leadership styles in the Ukrainian IT industry, aiming to identify key leadership competencies and qualities and to compare these styles with those prevalent in other countries. The study is grounded in the context of Ukraine's rapidly evolving IT industry.

The research methodology involved qualitative interviews with six Ukrainian IT professionals, representing diverse roles within the industry and gender balance. The interview questions, detailed in Appendix A, focused on exploring participants' perceptions of effective leadership, the impact of different leadership styles on team dynamics and professional growth, and the specific challenges and opportunities in the Ukrainian IT sector.

The findings reveal that the most valued leadership competencies in the Ukrainian IT industry include support, trust, effective communication, ability to provide constructive feedback, fostering professional growth, and motivation. These competencies align closely with democratic and transformational leadership styles. Unique aspects identified include a strong emphasis on personalized support, bidirectional trust, and a blend of informal and formal communication. Contrarily, some negative traits noted were challenges in feedback mechanisms and communication efficacy.

Comparatively, these leadership styles show notable similarities with transformational and democratic leadership traits identified in global IT industries. However, the Ukrainian context distinctively emphasizes personalized support and a balanced approach to technical and interpersonal skills.

The research has significant implications for IT companies and individuals. For companies, understanding these key leadership competencies can guide hiring and development strategies. For leaders, it highlights essential qualities for effectiveness in the dynamic IT industry. The findings suggest a need for a flexible, context-sensitive approach to leadership in IT companies, considering the unique challenges and cultural nuances of the Ukrainian IT sector.

Future research should expand on these findings using quantitative methods and a broader sample to generalize the understanding of leadership styles in the Ukrainian IT industry, and to explore the impact of these styles on organizational outcomes such as employee satisfaction and team productivity.

Keywords: leadership styles, Ukrainian IT industry, democratic leadership, transformational leadership, professional growth

TABLE OF CONTENTS

INTRODUCTION

The Ukrainian IT industry has shown remarkable resilience and growth despite the ongoing war in the country. The sector continued to expand rapidly even during the conflict, growing from 1.7% of Ukraine's GDP in 2014 to 4% in 2019 and employs around 300,000 professionals and 5,000 IT companies (Rimsky & Sasic, 2020). The workforce is dominated by young, driven, business-oriented, and tech-savvy professionals who are keen to develop the sector into the main driver of the Ukrainian economy (Bandura et al., 2023). However, there is a growing need for effective leadership development programs in the Ukrainian IT industry due to the sector's increasing importance. The role of women's leadership in supporting the Ukrainian economy has also become more visible in the IT sector (How Ukrainian Women in IT Leadership Navigate the Challenges of War, 2023). Private sector engagement is essential to rebuilding and modernizing Ukraine's ICT infrastructure, which will be foundational for economic growth and to attract further investments in other sectors (Bandura et al., 2023). The Ukrainian tech industry looks set to emerge from the war stronger than ever with a significantly enhanced global reputation, and effective leadership development programs will be crucial to sustaining this growth.

CHAPTER 1. LITERATURE REVIEW

The evolving landscape of leadership in IT companies has been a subject of extensive research, with studies conducted across various geographical contexts and organizational settings. These studies, while diverse in their methodologies and focus, collectively offer insights into how different leadership styles impact employee performance, innovation, and project success in the IT sector.

A recurring theme across these studies is the exploration of the relationship between different leadership styles and their influence on employee performance, motivation, innovation, project success, and organizational commitment. Rashdi et al. (2021) study within Chinese IT companies found that transformational leadership significantly enhances employee performance and positively impacts the organizational innovation climate. This aligns with Thite's (2000) findings, emphasizing transformational and technical leadership traits in successful Australian IT project managers. In contrast, transactional leadership did not show a significant influence on employee performance in Rashdi et al. (2021) study. However, both transformational and transactional leadership styles positively influence the organizational innovation climate and correlate with employee performance.

The role of leadership in IT project success is another critical area of research. Thite (2000) found that successful IT project managers in Australia exhibited a blend of transformational and technical leadership qualities. This research highlighted essential leadership characteristics for successful IT project managers, emphasizing qualities such as acting as organizational catalysts, intellectual stimulation, charisma, contingent reward, and active monitoring of exceptions. These findings suggested that leadership in IT projects should encompass a balance of transformational, technical, and transactional leadership styles, depending on the project's complexity and stage.

Similarly, Lei et al. (2022) focused on the relationship between transformational leadership and the recovery process of troubled IT projects. The findings indicated a significant influence of transformational leadership on change leadership, leadership effectiveness, and the recovery process in IT projects. The study found that leadership effectiveness had a stronger and more significant impact on the recovery process compared to change leadership.

Godson (2019) also focused on the effect of leadership styles on IT project success. The study found that transformational and transactional leadership styles often lead to successful IT projects, while passive avoidant leadership is less frequent. Sherman (2020) examined transformational leadership in IT project execution in the Western Cape. The study revealed a prevalent use of transformational leadership

characteristics, such as intellectual stimulation and inspirational motivation, positively influencing project execution.

The relationship between leadership styles and employee attitudes, such as job satisfaction and organizational commitment, has also been a focus. Aydogmus et al. (2017) study among IT professionals in Turkey found that employees with higher levels of conscientiousness perceived a stronger positive impact of transformational leadership on their job satisfaction compared to those with lower levels of conscientiousness. This finding suggests that when employees perceive their leaders as transformational, it enhances their feelings of psychological empowerment, which in turn positively influences their job satisfaction levels.

Addressing the issue of employee burnout, Hetland et al. (2007) investigated the impacts of various leadership styles on employee burnout components, such as exhaustion, cynicism, and professional efficacy. The study found a significant association between transformational leadership and higher levels of professional efficacy and engagement, contrasting with passive-avoidant leadership, which was linked to increased cynicism among employees. In contrast, Hickman and Akdere (2018) focused on leadership development in IT, emphasizing the importance of formal mentorship programs, robust feedback mechanisms, and a long-term process view in enhancing leadership skills within IT environments. The researchers argue for the importance of treating leadership development as a core long-term process, particularly focusing on emergent and transformational leadership styles. The paper's findings suggest that transformational leadership, characterized by attributes like idealized influence, individualized consideration, intellectual stimulation, and inspirational motivation, is particularly relevant in the IT context. These leadership qualities are found to be closely related to increased job satisfaction, effectiveness, and motivation among followers.

Similarly, Patrick's (2018) research in Indian IT organizations shows that leadership strategies, particularly prescriptive approaches, have a constructive impact on employees. The findings revealed that IT managers in Indian IT organizations prefer prescriptive leadership strategies more than restrictive strategies. Prescriptive strategies, which guide and direct employees toward goals and opportunities, were found to be stronger compared to restrictive strategies, which constrain and prohibit activities. The results indicated that leadership strategies adopted by Indian IT managers have a constructive impact on employees, encouraging and motivating them to meet higher-order needs for growth and satisfaction. The study also highlighted the importance of leadership in the context of Indian IT organizations, emphasizing that leaders need to adopt strategies that promote non-linear growth and motivate employees to engage in meaningful and innovative behaviors.

Collin et al. (2018) study adds another dimension by exploring how different leadership practices influence professional agencies and creativity in IT organizations. The research suggests that an optimal leadership style likely lies between managerialism and laissez-faire, promoting creativity and agency. It underlines that leadership is not confined to managerial hierarchies. Instead, it can emerge through social interactions and informal influencing.

Grootboom et al. (2011) focused on leadership preferences across various technical designations within IT organizations. The study highlighted a preference for participative and democratic leadership styles. Corporate Consultants (43%) and Principal Consultants (33%) prefer participative leadership style. At the same time Consultants (44%) and Senior Consultants (47%) showed a strong inclination towards a democratic leadership style. Each group exhibited distinct secondary preferences. Corporate Consultants leaned towards achievement-oriented (29%) and team management (28%). Principal Consultants balanced achievement-oriented (25%), task-oriented (17%), and team management (25%). Senior Consultants also valued middle-of-the-road management (20%) and delegating (7%). Consultants welcomed consulting (28%), directive (17%), selling (6%), and task-oriented leadership (5%). Staff Consultants uniquely preferred a selling leadership style (33%), along with directive (17%), relationship-oriented (17%), and supportive leadership (16%). Each group exhibited distinct secondary preferences. Corporate Consultants leaned towards achievement-oriented (29%) and team management (28%). Principal Consultants balanced achievement-oriented (25%), task-oriented (17%), and team management (25%). Senior Consultants also valued middle-of-the-road management (20%) and delegating (7%). Consultants welcomed consulting (28%), directive (17%), selling (6%), and task-oriented leadership (5%). Staff Consultants uniquely preferred a selling leadership style (33%), along with directive (17%), relationship-oriented (17%), and supportive leadership (16%). This study underscores the importance of adapting leadership styles to align with the distinctive attributes and requirements of team members at different technical designations. Implementing the recommended leadership styles is expected to significantly enhance overall team performance. When leadership approaches are tailored to individual attributes, higher levels of achievement are likely to result. Applying the recommended leadership styles is anticipated to bring team members in alignment with the organization's vision and mission. This alignment can lead to heightened motivation, more efficient task completion, and improved goal attainment.

Shim and Lee (2001) provided a unique perspective by investigating the upward influence tactics of R&D project leaders. The study explored how project leaders in research and development (R&D) influence others within their organizations. This study revealed that R&D project leaders utilize a variety

of influence tactics, which fall into three main styles: tacticians, who primarily use rational and assertive tactics; shotguns, who employ a diverse range of tactics; and bystanders, who are less active in influencing others. The research also discovered that personal characteristics, specifically the need for achievement and self-monitoring abilities, significantly impact the choice of influence style. Leaders with a high need for achievement and strong self-monitoring skills typically adopted the tactician style. Additionally, the study found that tacticians tended to report more favorable responses from their influence targets compared to shotguns or bystanders. Moreover, from the project leaders' perspective, teams led by tacticians showed higher levels of viability and efficacy. However, an interesting gap was observed between the perceptions of project leaders and their team members regarding the impact of influence on team performance. While project leaders believed their influence tactics positively affected project outcomes, team members did not always recognize or agree with this assessment. This research underscores the complexities of the role of R&D project leaders, particularly in how personal traits and influence tactics intertwine and impact project success. The study highlights the importance of understanding the dynamics of influence within R&D settings and the varying perceptions of influence effectiveness between leaders and team members.

The study by Mtsweni (2019) investigates the most effective leadership styles for managing millennials in the software industry. Using a qualitative approach, the study involved 26 in-depth interviews with leaders and millennials in the software industry. The research aimed to understand millennials' needs, motivations, current leadership styles in the industry, and the preferred leadership styles for millennials. The key findings suggest that while traditional leadership styles like situational and transformational leadership are considered effective, a flexible style of leadership is crucial. This flexibility highlights the need for a diverse approach, as no single leadership style is universally effective for millennials. The study emphasizes the importance of adaptability in leadership styles, driven by millennials' willingness, behavior, and motivations. The research contributes to the understanding of leadership dynamics in the context of a multigenerational workforce in the software industry, particularly focusing on millennials' unique characteristics and needs. Mtsweni's (2019) research findings revealed that effective communication, adaptability to change, and the ability to inspire and motivate employees are key leadership strategies for enhancing business performance in the IT sector. The study contributes to business practices by providing insights into effective leadership strategies that can be implemented in the IT industry to improve performance and sustain business growth. It also offers recommendations for IT leaders to enhance their leadership skills for their organizations' benefit.

Sinha and Sengupta (2020) analyzed the impact of different leadership styles on training effectiveness in Indian IT companies. The results showed that transactional leadership positively impacts operational-level training effectiveness, while transformational leadership enhances strategic-level training, indirectly boosting employee innovation and efficiency.

Araújo et al. (2022) explored the relationship between leadership styles and turnover intentions in software teams. The results indicated no significant correlation between transformational, transactional, and passive/avoidant leadership styles and turnover intentions, suggesting other factors influence employee turnover.

Siji (2022) emphasized the importance of leadership styles in IT companies, particularly noting the preference for transformational leadership styles over free rein and transactional styles. T It also notes that IT professionals demonstrate better contextual performance compared to adaptive and task performance. A significant finding is the low level of counterproductive work behavior, which can be mitigated by positive climate and appropriate leadership. The abstract further identifies a correlation between leadership styles and job satisfaction, indicating that transformational leadership has the most significant positive impact. Additionally, the research suggests that the right leadership style can mitigate the negative effects of counterproductive work behavior in IT professionals. The study concludes with a recommendation for IT companies to focus on developing and nurturing transformational leadership to enhance employee performance and satisfaction.

Rani et al. (2013) focused on situational leadership in the software industry, highlighting its necessity for task, team, and people management. The study, involving 100 individuals from the software industry, found that 90% of followers reported job satisfaction when leaders exhibited leadership styles matching their readiness level. However, it also revealed that 70% of managers were inflexible in adapting to follower needs, often maintaining a directing style without much flexibility. The study concludes that situational leadership, which involves leaders adapting their styles to follower readiness levels, is crucial for high productivity and quality in work. It recommends leaders to be more flexible in changing their leadership styles and to understand the varying needs and readiness levels of each follower. The research highlights the importance of situational leadership in the IT sector for enhancing job satisfaction and overall productivity. The study concludes that situational leadership, where leaders adapt their styles to match their followers' readiness levels, is crucial for achieving high productivity and quality in work.

The mentioned findings of the studies highlight the critical role of transformational leadership in enhancing employee performance, the impact of transactional leadership on organizational climate, and the importance of adaptability in leadership styles according to technical roles and team member needs.

The studies also underline the significance of communication skills in leadership effectiveness and the varying influences of leadership styles on training effectiveness, employee innovation, job satisfaction, and organizational commitment. The central topics emerging from these studies are:

- Positive Impact of Transformational Leadership: This style consistently enhances employee performance, project success, and contributes to a favorable organizational innovation climate. Rashdi (2021) found that transformational leadership significantly enhances employee performance within Chinese IT companies. Similarly, Thite (2000) noted that successful Australian IT project managers exhibited prominent transformational leadership traits. Lei et al. (2022) also supported this, indicating that transformational leadership significantly influences the recovery process of troubled IT projects. Aydogmus et al. (2017) confirmed a significant positive relationship between perceived transformational leadership and job satisfaction among Turkish IT professionals. Sherman (2020) observed the prevalence of transformational leadership in IT projects in the Western Cape, positively influencing project execution.
- Transactional Leadership: Rashdi et al. (2021) found that while transactional leadership did not significantly influence employee performance, it positively affected the organizational innovation climate. Godson (2019) observed that project managers exhibiting a combination of transformational and transactional leadership styles often lead to successful IT projects.
- Leadership Adaptation Based on Context: Studies by Grootboom et al. (2011) and the study by Collin et al. (2018) highlight the need for leadership styles to be adaptive and tailored to specific team roles and organizational contexts, emphasizing a dynamic approach to leadership.
- Importance of Technical and Intellectual Leadership Qualities: The studies by Thite (2000) and Shim and Lee (2001) both underscore the importance of technical and intellectual qualities in leadership, particularly in project management and R&D settings within IT.
- Situational Leadership and Adaptation of Leadership Styles: The study by Rani et al. (2013) specifically addresses the concept of situational leadership in the context of the software industry. The research underscores the modern requirements of leadership in IT, including task, team, and people management. The study by Rani et al. (2013) reveals that a significant majority of individuals (90%) in the software industry expressed satisfaction when leaders adapted their styles to match the readiness levels of their team members. The findings from this study strongly advocate for situational leadership in the IT sector, emphasizing the need for leaders to be flexible and responsive to the varying needs and readiness levels of individual team members. Similarly, Mtsweni's (2019) study highlights the necessity for a flexible leadership style, tailored to the unique characteristics and needs of millennials. The study suggests that while traditional

leadership styles like situational and transformational are considered effective, leaders must also exhibit adaptability to address the distinct motivations and behaviors of millennials.

However, there are slight differences in study results, highlighting the nuanced and context-specific nature of leadership within the IT sector. These differences reflect the varied impacts of leadership styles across diverse organizational settings, project types, and workforce demographics. For instance:

- Transactional Leadership's Mixed Outcomes: Rashdi et al. (2021) study in Chinese IT firms found that transactional leadership did not significantly influence employee performance, in contrast to its positive impact on the innovation climate. This is a nuanced finding compared to Thite's (2000) study, which suggests a more balanced approach between transformational, technical, and transactional leadership styles in IT projects.
- Differences in Leadership Preferences Across Technical Roles: Grootboom et al. (2011) revealed varied preferences for leadership styles across different technical designations within an organization. For instance, Corporate Consultants favored participative leadership, while Senior Consultants preferred a democratic style. This finding differs from the broader leadership implications suggested by Sherman (2020), which focused on the overall positive influence of transformational leadership in IT project execution, not differentiating based on specific technical roles.
- Cultural and Context-Specific Variations: The studies reveal differences in leadership preferences and effectiveness across different cultures and sectors. For instance, Aydogmus et al. (2017) study in Turkey emphasizes the role of personality traits and psychological empowerment in mediating the effects of transformational leadership on job satisfaction, a perspective not directly explored in other studies. Lei et al. (2022) highlighted the significant influence of transformational leadership on the recovery process of troubled IT projects, emphasizing leadership's role in managing project complexity. In contrast, Godson (2019) found that a combination of transformational and transactional leadership styles often leads to successful IT projects, suggesting a balanced approach rather than a singular focus on transformational leadership. Patrick (2018) focused on the leadership strategies adopted by IT managers in Indian IT organizations, finding a preference for prescriptive leadership strategies. This contrasts with the study by Collin et al. (2018), which explored the impact of different leadership practices on professional agency and creativity within IT organizations, not specifically focusing on

prescriptive or restrictive strategies but on the balance between managerialism and laissez-faire leadership.

These variations in findings across different studies illustrate how leadership effectiveness can be contingent upon specific organizational contexts, the nature of the workforce, and the particular challenges and opportunities inherent in different IT projects. This diversity of findings enriches the understanding of leadership in IT, suggesting that a one-size-fits-all approach may not be sufficient and highlighting the need for a more tailored and contextually aware leadership strategy.

These studies collectively suggest that while transformational leadership is widely beneficial across different contexts, the effectiveness of transactional and other leadership styles can vary based on cultural, sector-specific, and organizational factors. This implies a need for IT companies to adopt a flexible and context-sensitive approach to leadership, considering the unique attributes of their workforce and project requirements.

Transformational Leadership, as conceptualized by Bass (1985), is a dynamic leadership style that fosters significant changes in followers and organizational systems through a combination of four key attributes: Individualized Consideration, Inspirational Motivation, Idealized Influence, and Intellectual Stimulation.

Individualized Consideration, as detailed by Bass (1985), involves leaders who act as mentors or coaches, giving personalized attention to the developmental needs of each follower. These leaders listen empathetically to their followers' concerns, understanding their unique backgrounds and situations. By recognizing and fostering each follower's individual talents and skills, these leaders cultivate an environment where followers are intrinsically motivated and encouraged to develop further.

In the realm of Inspirational Motivation, Bass (1985) emphasizes leaders who articulate an engaging and optimistic vision, inspiring followers to exceed ordinary expectations. These leaders instill a strong sense of purpose and meaning in their followers, highlighting the importance of all duties and responsibilities. Through this motivational approach, followers are encouraged to put forth greater effort and to remain optimistic about future goals and their abilities.

Idealized Influence, as per Bass’s (1985) framework, is characterized by leaders who serve as ethical role models. These leaders uphold high standards of moral and ethical conduct, earning deep respect and trust from their followers. By embodying these standards, they provide a clear sense of vision and mission, prompting followers to identify with and emulate their behavior.

Intellectual Stimulation under Bass's (1985) model involves leaders who challenge existing assumptions and encourage innovation and creativity. These leaders are open to new ideas and risk-taking, fostering an environment where followers feel supported in thinking independently and exploring new solutions to organizational challenges. This aspect of leadership is pivotal in encouraging followers to become autonomous and creative problem solvers.

CHAPTER 2. METHODOLOGY

In this research, the phenomenological method has been chosen to explore and understand the unique leadership qualities in IT companies in Ukraine. Phenomenology, as a qualitative approach, is ideal for delving into the lived experiences and perceptions of individuals, enabling a deeper understanding of their realities. This method is particularly suited for studies that aim to capture the essence of a phenomenon as experienced by people in a specific context (Manen, 2021).

The core of phenomenology is its focus on the meanings that individuals ascribe to their experiences, an aspect central to this study's goal of examining leadership qualities. By employing phenomenology, the research aims to uncover the nuances and subtleties of leadership as perceived by IT professionals in Ukraine.

The research method involves conducting in-depth interviews with 6 individuals from the researcher's personal network. This approach aligns with phenomenological research's emphasis on capturing detailed and profound insights from a smaller, more focused sample rather than seeking generalizability from a large population (Giorgi, 2009). The use of semi-structured interviews allows for flexibility in exploring the nuances of participants' experiences and perceptions of leadership qualities.

The choice of phenomenology for this study is driven by the need to understand the subjective experiences of IT professionals in Ukraine. This approach enables the exploration of how these professionals perceive and interact with leadership qualities in their unique setting, a crucial aspect given the rapidly evolving and challenging environment of the Ukrainian IT industry. The interview questions which are provided in the Appendix A are designed to elicit rich, descriptive responses that provide insights into the effectiveness of leadership, the approaches to team management, the impact of leaders on professional growth, and the influence of leadership styles on team dynamics.

CHAPTER 3. DATA DESCRIPTION AND DATA ANALYSIS

The methodology involved qualitative interviews with six professionals from the IT industry in Ukraine. The participant group comprised an equal gender split: three males and three females. These individuals represented a variety of roles within the IT sector, including Quality Assurance (QA), Back-end Developer, Business Analyst, Business Intelligence Developer, Data Engineer, and Scrum Master. Their professional backgrounds varied significantly, encompassing different companies and projects, with two participants working in the same company but on entirely distinct projects. Each participant was engaged in a structured interview process. The primary data collection tool consisted of 10 main questions provided in Appendix A, supplemented by additional queries for clarification. These interviews were conducted individually, with each session lasting approximately one hour. This approach allowed for in-depth exploration of each participant's views and experiences. The interviews were recorded and subsequently transcribed into text. This transcription served as the foundation for the analysis phase. During analysis, the responses were scrutinized to identify and highlight the qualities, attributes, skills, and characteristics of leaders. These factors were then classified as positive, negative, or neutral.

Building on the methodology described, the analysis phase focused on identifying and categorizing the qualities, attributes, skills, and characteristics of leaders as mentioned by the interviewees. To systematize the vast array of data obtained from the interviews, a two-step process was implemented to determine the most significant competencies of leaders in the IT industry.

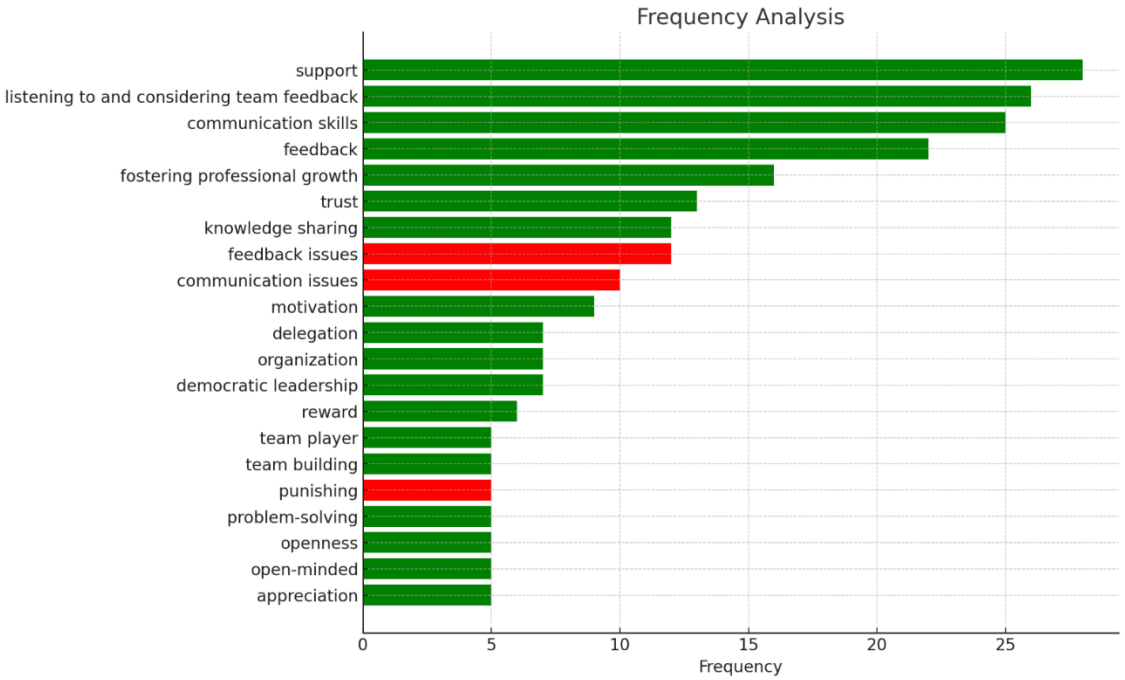
Firstly, each mentioned quality, attribute, skill, or characteristic was carefully cataloged. These elements were then grouped based on either the frequency of their mention in the context of different interviews or the similarity in the competencies they represented. This process of grouping allowed for a more structured and coherent analysis, enabling a clearer understanding of the competencies that were most valued across the participant group. Subsequently, two distinct methods were employed to ascertain the most significant competencies:

1. Frequency Analysis: each competency mentioned by the participants was counted. This count aimed to identify the most cited competencies across all interviews, offering a metric of significance based on the number of times a specific competency was referenced. This frequency-based approach provided an objective measure of the competencies perceived as most crucial by the participants. The top results of the analysis are illustrated in Figure 1 and mentioned in Table

1. This visual representation not only highlights the most frequently cited competencies but also provides insights into the participants' attitudinal leanings towards each competency. Figure 2 displays not only the most commonly cited competencies but also the connections between them based on the context of interviewees answers.

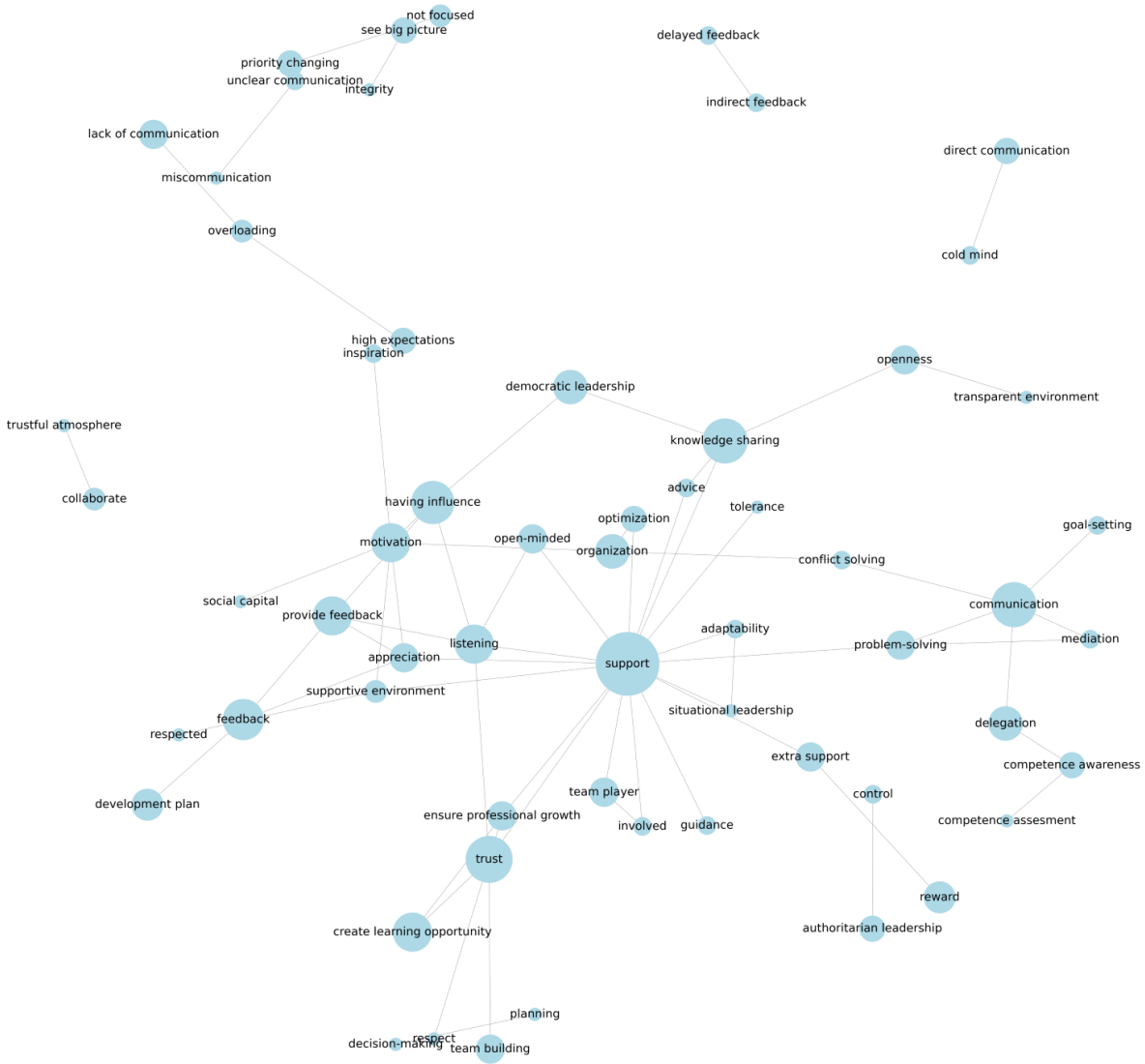
2. Consensus Approach: competencies cited by the majority of the interviewees were earmarked as significant. This approach sought to identify not just the most frequently mentioned competencies but also those that had a broad consensus among the different professionals. This approach aims to identify competencies mentioned by all interviewees or by the vast majority of them. Such competencies are listed in Table 1. This consensus-based analysis was pivotal in understanding which skills and attributes were universally recognized across various roles within the IT industry.

Figure 1. Frequency Analysis Bar Chart



Note. This bar shows how frequently competences were mentioned in interviews. Each bar represents a specific competency, with its length corresponding to the number of mentions. Green bars indicate competencies with a positive attitude, while red bars denote those associated with a negative attitude.

Figure 2. Competences Network Graph



Note. This graph shows how different competencies are connected as mentioned in interviews. The size of each node reflects how often each competency was mentioned. The lines between the nodes represent the relationships between competencies.

By combining these two methods, a comprehensive and multi-dimensional view of the key competencies for leadership in the IT sector was achieved and listed in Table 1. The frequency analysis offered insights into the most recognized competencies, while the consensus approach provided an understanding of the competencies with the widest agreement among professionals. The resulting table

with combination of most frequently mentioned competencies on the left and cited by majority of interviewees on the right:

Table 1. Summary of data analysis

Frequency Analysis (most cited at the top)	**Consensus Approach**
support	
listening to and considering team feedback	
communication skills	
providing feedback	
fostering professional growth	reward
trust	problem-solving
knowledge sharing	
motivation	

Note. This table presents the outcomes of the data analysis conducted on the interviews. The left column enumerates the competencies that were most frequently cited, organized in descending order based on their frequency of mention. The left column contains those competencies mentioned by all interviewees or by the vast majority of them. Common competencies for both approaches are merged into one cell and shared for both columns.

Based on the outcomes of the analysis, it was observed that both analytical methods employed identifying the most frequently mentioned competencies and pinpointing competencies acknowledged by all respondents yielded remarkably similar results. This convergence of findings substantiates the conclusion that the competencies identified are indeed the most prevalent among the respondents within the scope of this research.

The aspect of support, as detailed by interviewees, is multifaceted. Leaders are valued for their ongoing assistance in work-related tasks, particularly in challenging situations. Moreover, leaders often extend support beyond their formal responsibilities, offering personal support, rewards, or aiding the team in meeting crucial deadlines. The aspect of support is based on the following interview parts:

- “my leader supported me and instead of criticizing he guided me on correct actions and after this I had feelings that making mistake is not so big problem”
- “my leader helped, first of all, to recover this server so it was done pretty quickly”
- “Leader provides support to team members so people feel that they are not one-on-one with their issues but they work as a team”

- “we know that if we need something and if there is something that he might help with he would always do it”
- “if she sees that something is not as good as could be, she is acting at this particular moment and try to help”

The ability to listen and consider team feedback is another significant trait. Leaders who not only welcome feedback but also act on it, demonstrating that team members’ opinions are valued and influential, are highly regarded. This competency is supported by the following parts of interviews:

- “So they can ask me to provide feedback. What do you think? Or I just can do this by myself. So after the call I can say that, you know, you did this but I'm not agree with you. I guess we should do this not in such way”
- “I have one-on-one meetings every two weeks with my manager. And she always asks me about any feedback”
- “people who have an absolutely different opinion and who can explain this opinion and who can prove their ideas they can change the way the process goes because we see that it really makes more sense”
- “we understand that it is not like we are saying something just for sake of expressing ourselves, but that our thoughts matter”
- “this is something that would motivate everybody because we understand that our voice matters and we can actually influence the work we are doing”
- “she can listen to everyone and recognize the problems and needs and help to resolve some cases if needed”

Interviewees value open direct communication and their leaders have good communication skills and can communicate with clients. Also, some of them mentioned that they like having informal communication with leaders. Interviewees value regular feedback. This aspect is supported by the following parts of interview:

- “A manager built direct communication. All team members sit together, and he explains what he would like, how he sees we can work together.”
- “he's not only interested in you as a professional, but he's also interested in you as a person”
- “He came to the meeting already just with question how we can fix it and what we need to do for it without any water and panic that always can be on the project”
- “I satisfied with this communication inside team and with leader too”

They like that their leaders provide regular, constructive, immediate, and honest feedback. They also like that leaders provide positive feedback or appreciation, especially after some challenging tasks. Feedback-related competence can be characterized by the following answers from interview:

- “when I work and I did something, they provide feedback after this”
- “So my leader said that, you know, it's not good, but it's a good first step. So we will do this better next time. But it's provided with respect and with some meaningful notes”

Interviewees value leaders helping them with creating a development plan, creating learning opportunities by giving variable tasks and ensuring professional growth by having the ability to work with something new for them. They also like that their leader constantly are their knowledge with the team. This competence is supported by the following parts of interview:

- “my leader created a list of courses that can be useful for me”
- “tasks are also assigned in a way that each team member has an opportunity to every time learn something new and expand his proficiency in this or that product”
- “my managers proposed me to obtain first my certification about Scrum Master's role and these classes with certification helped me to apprehend what does it mean to be Scrum Master”

Interviewees also value bidirectional trust inside the team as leaders trust team members and they trust in their leader which is supported by following answers from the interview:

- “he trust you and he provides you small some tasks which allow you to grow during the time and you don't feel this pressure”
- “I can say that, you know, it's not so easy to do due to some reasons, and it's not possible to finalize it till the end of the quarter. And she says that, okay, you know this area better, and I trust you.”

Interviewees also value that the leader motivates them rather by creating such atmosphere inside the team that motivates team members or by leading by example so teammates just follow the leader. Motivation is described by the following citations from interview:

- “the ability and willing to motivate others and people in the team”
- “he managed to build such a relationship in the team that we are eager to help him no matter what”
- “this is something that would motivate everybody because we understand that our voice matters and we can actually influence the work we are doing”

The interviewees particularly appreciated their leaders' capacity for solving complex problems that arise within the team or in relation to other teams. Furthermore, they valued the leaders' ability to address solve work-related challenges effectively. Problem-solving is highlighted in the following parts of interview:

- “she helped us to solve some problem on a project”
- “As a result, he organized a meeting for architects from each team. They sit together and before the meeting we explain to them what the purpose of the meeting will be and what they should bring to us.”

Additionally, a majority of the interviewees expressed a high regard for receiving rewards from their leaders including financial bonuses or material rewards which is highlighted in the following parts of interview:

- “My manager provided me a gift after overtime. So I suppose it was like support, individual support of team members.”
- “it was a bonus to my salary for the excellent delivery on the project”

Other important aspects are organizational skills, delegation skills, and giving rewards and many interviewees characterized leadership style as democratic.

The analysis revealed that the interviewees identified a diverse range of 30 distinct negative traits in their leaders. However, it is noteworthy that none of these traits were uniformly mentioned across all interviews. This observation suggests that the cited negative qualities are more likely to be distinctive to individual leaders rather than prevalent across the IT industry in Ukraine.

Despite this diversity, there were two particular issues that were recurrently mentioned by a majority of the interviewees. Firstly, various forms of communication challenges were highlighted, including lack of communication, communication gaps, issues in conveying messages, miscommunication, and unclear communication. Secondly, several concerns were raised regarding feedback mechanisms. These included the practice of giving public negative feedback, the use of anonymous or indirect feedback methods, the delay in providing feedback, reliance on feedback forms which were perceived as ineffective, neglecting feedback, and giving feedback that is overly personal or focused on personality traits.

CHAPTER 4. DISCUSSION

Based on the interview results the common competencies and qualities of leaders highlighted in interviews are support, listening to and considering team feedback, communication skills, providing feedback, fostering professional growth, trust, reward, knowledge sharing, and motivation. These competencies and qualities can be summarized as following:

1. Support and Trust: The interviews underscored the importance of support and trust in leadership. Interviewees valued leaders who provided not only task-related support but also personal and professional development assistance
2. Listening to and Considering Team Feedback: Based on interviews, it's evident that Ukrainian IT professionals highly value leaders who actively listen to and consider their team's feedback. This trait is not just appreciated but seen as a critical component of effective leadership. The interviewees underscored that leaders who not only welcome feedback but also act on it, signify that team members' opinions are not only heard but are influential. This practice fosters a sense of mutual respect and collaboration, where team members feel their contributions are meaningful and valued.
3. Communication Skills: The interviews underscored the importance of leaders possessing strong communication abilities, both in formal and informal settings. Interviewees appreciated leaders who could articulate their thoughts clearly and engage in direct communication, facilitating a transparent and open dialogue within the team.
4. Providing Feedback: Based on the interview data, the competency of providing feedback emerged as a significant leadership quality. Interviewees expressed a preference for leaders who offer regular, constructive, immediate, and honest feedback. They particularly appreciated feedback that was respectful and accompanied by meaningful notes, which not only guided them in their tasks but also contributed to their professional growth.
5. Fostering Professional Growth: The interviews place a significant emphasis on the role of leadership in fostering professional growth. Interviewees highly valued leaders who assist in creating development plans, provide learning opportunities through varied tasks, and ensure professional growth by enabling work with new technologies or methodologies.
6. Reward: The interviews conducted with Ukrainian IT professionals underscored the significance of rewards as a critical element of effective leadership. Participants frequently mentioned the

value they placed on receiving rewards from their leaders, which included financial bonuses or material rewards.

7. Knowledge Sharing in Interview Results: From the data obtained through interviews, it is evident that knowledge sharing is a valued competency among leaders in the Ukrainian IT industry. The interviewees emphasized the importance of leaders who actively disseminate their knowledge within the team.
8. Motivation: The interviews underscore the pivotal role of leaders in fostering motivation within their teams. The interviewees particularly valued leaders who could create an environment conducive to motivation, either through direct encouragement or by setting an example that others are inspired to follow.

The interview findings from Ukrainian IT professionals largely corroborate the insights from studies in other countries. The literature review extensively discusses the impact of transformational leadership, which aligns with the interview findings emphasizing support, motivation, and communication. Studies by Rashdi et al. (2021), Thite (2000), and Sherman (2020) validate the importance of transformational leadership traits in enhancing employee performance and project success, resonating with the appreciation for support and motivation in the interviews. Also, transformational leadership, as discussed in various studies like Rashdi et al. (2021) and Aydogmus et al. (2017), encompasses qualities such as inspirational motivation and individualized consideration, which can be linked to valuing team feedback. The findings from Ukrainian IT professionals also resonate with the concept of participative and democratic leadership styles, as highlighted by Grootboom et al. (2011). These styles, preferred by certain technical designations within IT organizations, inherently involve listening to and incorporating feedback from team members. The emphasis on leaders listening to and considering team feedback in Ukrainian IT companies is consistent with the broader principles of transformational, participative, and democratic leadership styles discussed in the literature.

Drawing from the common competencies and qualities, it can be assumed that the qualities and characteristics of leaders, as identified in this study, align closely with the principles of democratic and transformational leadership styles.

Democratic Leadership, as conceptualized by Lewin et al. (1939), is a participatory style of leadership that emphasizes group decision-making and active member involvement. This leadership approach is characterized by the leader's role as a facilitator rather than an authoritarian figure, where leadership functions are shared among the group. Leaders practicing this style actively encourage

discussion, feedback, and collective decision-making, thereby fostering a sense of autonomy and collaboration within the group.

In the analysis of interviews, the emergence of similar themes among Ukrainian IT leaders suggests a strong alignment with these democratic principles. Leaders outlined in interviews are frequently described as fostering open dialogue, actively seeking and incorporating team feedback, and encouraging collective decision-making, echoing Lewin et al. (1939) conceptualization of democratic leadership. This correlation indicates that the leadership style prevalent in the Ukrainian IT industry can indeed be described as democratic.

This result resonates with the study by Grootboom et al. (2011) which focused on leadership dynamics, similarly underscored the prominence of democratic leadership style. Like the Ukrainian context, Grootboom et al. (2011) study highlighted the importance of participatory decision-making, open communication, and the empowerment of team members as key facets of effective leadership. The emphasis in the conducted interviews is also on leaders who foster a collaborative and inclusive environment, actively engage in listening and feedback processes, and prioritize the professional growth of their team members, suggests a universal applicability of these leadership qualities across different organizational contexts. This parallel not only reinforces the relevance of democratic leadership style but also illustrates their adaptability and effectiveness in diverse settings, including the IT industry in Ukraine.

The leadership style highlighted in the interviews can also be characterized as Transformational leadership style and this correlation is evident in several aspects:

- Individualized Consideration: This aspect is reflected in the interviews where leaders' abilities and willingness to listen to team members, solicit their feedback, and consider it in decision-making were highlighted. This approach demonstrates a leader's commitment to valuing and respecting each team member's input.
- Inspirational Motivation: The ability of leaders to motivate and inspire their teams was frequently mentioned in the interviews. This includes creating a motivating atmosphere and leading by example, which are essential components of inspirational motivation. The provision of positive feedback and rewards also plays a significant role in motivating the interviewees.
- Idealized Influence: This trait is partially manifested in the high level of trust that team members place in their leaders, as observed in the interviews. Such trust is a cornerstone of idealized influence, where leaders are admired and respected for their integrity and actions.

- Intellectual Stimulation: The leaders' initiatives aimed at promoting professional growth, as mentioned in the interviews, correspond with this element. Activities like creating development plans, recommending courses or literature for improvement, and providing opportunities to work with new technologies or project components are indicative of intellectual stimulation.

These findings focusing on leadership styles in the Ukrainian IT industry, display considerable alignment with the studies conducted by other countries, particularly in the context of transformational leadership. In Rashdi et al. (2021) study, a significant emphasis was placed on transformational leadership, which resonates with the findings from the Ukrainian IT industry particularly in the following aspects:

1. Emphasis on Inspirational Motivation and Idealized Influence: Interviews in Ukrainian IT industry highlight the significance of leaders who inspire and motivate their teams, a fundamental aspect of transformational leadership. Leaders who create a positive, motivating atmosphere and lead by example, as identified in both studies, are instrumental in fostering a productive and innovative work environment.
2. Focus on Intellectual Stimulation: Rashdi et al. (2021) study, much like the findings from Ukrainian IT industry, places a strong emphasis on leaders' roles in encouraging professional growth and intellectual development. The importance of leaders facilitating opportunities for learning and exposure to new challenges is a recurring theme in both studies.
3. Value of Individualized Consideration: The aspect of leaders attentively listening to and valuing team feedback, an integral part of individualized consideration, is a common finding. This trait demonstrates a respect for each team member's contribution and is pivotal in building a supportive and inclusive team culture.

Continuing from the analysis of leadership styles in the Ukrainian IT industry, the findings of this study exhibit noteworthy parallels with the studies conducted by Thite (2000), Lei et al. (2022), Hetland et al. (2007), and Hickman and Akdere (2018), while also presenting some distinct differences. Thite (2000) also highlighted leadership dynamics within the IT sector, primarily underscored the significance of transformational and democratic leadership styles, which align closely with the leaders described in interviews` tendency to inspire and motivate their teams. Leaders who encourage professional growth, innovation, and challenge conventional thinking, as well as those who inspire and motivate their teams towards a collective vision, were key in both studies. It also resonates with Lei et al. (2022) observations of leaders who motivate their teams through a compelling vision and a positive

work environment. Leaders in the Ukrainian IT industry, much like those in Thite's (2000) study, were not only focused on achieving organizational goals but also on uplifting their teams, creating a motivating atmosphere, and leading by example. However, there are subtle differences that emerge when comparing the two studies. Thite's (2000) research placed a slightly greater emphasis on the traditional aspects of leadership, such as hierarchical decision-making and a more top-down approach, reflective of the IT industry's culture at that time. In contrast, the Ukrainian IT industry, as depicted in the capstone project, leans more towards a democratic style, with a stronger focus on participatory decision-making and collective input.

Lei et al. (2022) study emphasized transformational leadership qualities such as individualized consideration and inspirational motivation, aligning with the Ukrainian IT industry's findings. Both studies recognized leaders as role models and innovators, fostering environments of learning and professional growth. Hetland et al. (2007) study, like the Ukrainian project, underscored the importance of transformational leadership traits. Both studies observed leaders who exhibit inspirational motivation, intellectual stimulation, individualized consideration, and idealized influence as highly effective. Hickman's and Akdere's (2018) study also aligns with the Ukrainian findings in highlighting the significance of transformational and democratic leadership styles. Both studies emphasize the value of feedback and communication, with the Ukrainian study placing a more significant emphasis on individualized consideration and personal development plans.

Data analysis results demonstrate significant parallels with the studies conducted by Patrick (2018) and Aydogmus et al. (2017) which underscores the prevalence of transformational leadership qualities in effective IT leadership. In Patrick's (2018) research, the emphasis on transformational leadership is characterized by leaders who are not only visionaries but also capable of inspiring and motivating their team toward achieving collective goals. This aligns with the Ukrainian leaders' tendency to motivate and inspire their teams, as evidenced in the interviews. Moreover, Patrick's (2018) study highlights the importance of leaders who value and respect individual team member contributions, a trait similarly observed in the Ukrainian IT sector. The high level of trust and respect for leaders observed in the Ukrainian IT industry mirrors this concept. Leaders mentioned in the interviews are also admired for their integrity and actions, creating an environment where trust is a foundational element of the team dynamics. However, the Ukrainian leaders in IT industry adds a dimension to this by highlighting how leaders balance their professional responsibilities with a more personal approach, indicating a culturally specific leadership style that blends professional rigor with personal empathy.

However, there are subtle differences in the application of these leadership styles. Patrick's (2018) study suggests a slightly higher emphasis on the visionary aspects of leadership, with a strong focus on guiding teams towards innovative and transformative goals. In contrast, the Ukrainian IT industry leaders, as identified in this study, seem to place a slightly greater emphasis on practical aspects such as problem-solving, direct communication, and feedback mechanisms. This difference could be attributed to the specific challenges and cultural nuances of the IT industry in Ukraine.

Furthermore, the in interviews importance of trust and the role of personalized feedback in leadership—a theme that, while present, is not as pronounced in Patrick's (2018) research. The Ukrainian context also uniquely highlights the role of leaders in directly facilitating professional development, such as through the recommendation of specific courses or learning opportunities, which indicates a more hands-on approach in leadership.

In addition to common findings there are several unique insights. These unique findings highlight specific nuances and contextual factors pertinent to the Ukrainian IT sector, which may not be as prominently featured or may diverge from broader trends identified in the existing studies:

1. Emphasis on Personalized Support: Interviewees highlighted a strong emphasis on leaders providing personalized support, extending beyond professional guidance to personal and individualized assistance. This focus on individualized support, while resonating with the concept of Individualized Consideration in transformational leadership (Bass, 1985), appears more pronounced and multifaceted in the Ukrainian context compared to the general findings in the literature.
2. Bidirectional Trust: The interviews uniquely underscored the importance of bidirectional trust within teams. This mutual trust between leaders and team members, while acknowledged in leadership theory, was particularly emphasized in the Ukrainian IT sector, suggesting a more pronounced reliance on trust in these work environments.
3. Specific Communication Styles: The Ukrainian IT professionals placed a high value on informal communication styles alongside formal communication. This preference for a blend of communication styles, particularly the emphasis on informal communication, may be a unique cultural or sector-specific trait not extensively covered in other studies.
4. Direct and Immediate Feedback: The desire for direct and immediate feedback, as expressed in the interviews, suggests a specific need within the Ukrainian IT sector for real-time, actionable feedback, possibly reflecting the dynamic and fast-paced nature of the industry or culture-specific aspects.

5. Technical Skills: The Ukrainian IT professionals' preference for leadership coupled with strong technical expertise appears to be a distinct requirement, placing an emphasis on practical aspects such as problem-solving.

CONCLUSIONS

The significance of this study lies in its detailed exploration of leadership qualities in the Ukrainian IT industry. By identifying the most valued and the least appreciated leadership traits, the study provides companies with a deeper understanding of the attributes employees seek in their leaders. This insight can guide companies in their hiring processes, as well as in developing and refining the leadership skills of their current leaders. The study also opens up avenues for companies to examine the correlation between specific leadership styles or qualities and team performance. Understanding the impact of leadership styles not only on team satisfaction but also on performance adds an extra layer to leadership dynamics. For leaders themselves, the study offers a roadmap for self-improvement, highlighting beneficial leadership styles and qualities that need enhancement, enhancing both their effectiveness and their teams' performance.

The portrait of a Ukrainian IT leader, as derived from interview analyses, showcases a composite of leadership qualities that align closely with democratic and transformational styles. The leaders are characterized by their strong inclination towards knowledge sharing, providing comprehensive support (including handling personal issues), and displaying a range of effective communication skills. These skills encompass open, direct, and informal communication, along with adeptness in client interactions.

Feedback is a critical aspect of their leadership, with an emphasis on immediate, honest, constructive, and regular feedback, while also valuing private channels for negative feedback. These leaders are attentive to and considerate of team feedback, demonstrating a democratic leadership style that values and incorporates team input in decision-making.

Their problem-solving skills and motivational strategies are also highly regarded, along with their propensity to acknowledge team efforts through various rewards. Additional leadership qualities include fostering professional development through tailored development plans and learning opportunities and establishing bidirectional trust within the team.

However, some common negative traits identified include challenges with public negative feedback, anonymous and indirect feedback methods, delayed feedback responses, reliance on impersonal feedback forms, and issues in communication, such as gaps, miscommunication, and unclear communication. These traits suggest areas for improvement in communication efficacy and feedback mechanisms.

Ukrainian IT industry leaders are distinct in their emphasis on personalized support, bidirectional trust, informal communication styles, providing direct and immediate feedback, practical skills like problem-solving, reflecting the unique challenges and cultural context of Ukraine's IT sector. These leaders stand out for balancing professional responsibilities with a personal touch, fostering an environment where trust is integral to team dynamics. This approach, blending professional rigor with personal empathy, marks a culturally specific leadership style unique to the Ukrainian IT industry, differentiating these leaders from those in other global studies. The desire for direct and immediate feedback emphasized in the interviews, points to a specific need within the Ukrainian IT sector for real-time, actionable feedback. A strong emphasis on technical expertise was identified, underscoring the specific requirements of the demands of having hands-on expertise.

The future research on the topic of leadership styles in IT companies in Ukraine must use quantitative methods. This would involve statistical analysis of larger datasets to validate and expand upon the qualitative findings from this study. Future research should focus on a broader sample of IT professionals across various companies to ensure a more generalized understanding of leadership styles. Additionally, it could explore how these leadership styles impact specific organizational outcomes, such as employee satisfaction, team productivity, and project success. Such study will allow to make a cultural comparative analysis between Ukrainian IT leadership styles and those in other countries. This approach would enable a more robust understanding of leadership dynamics in the evolving IT landscape.

APPENDIX A. LIST OF INTERVIEW QUESTIONS

1. In your opinion what qualities helped your leader to be effective?
2. Could you reflect on your leader's approach to leading the team?
3. Share a story that showcases your leader's role in supporting team members' growth and development. How has their guidance impacted your professional journey?
4. Are there any qualities of your leader that have influenced your perception of your leader? Positively or negatively.
5. Can you provide an example of a time when your leader’s qualities significantly influenced a decision-making process?
6. Can you share an experience where your leader’s leadership style directly impacted the team’s performance either in a positive or negative way?
7. Can you describe a situation where your leader went above and beyond to support the team or an individual team member? What did he/she do?
8. Can you share a memorable experience involving your leader’s interactions with the team, one that left an impression on you?
9. Tell me about a time when there was tension or disagreement within the team. How did your leader handle the situation, and what was the outcome?
10. What challenges have you experienced with your leader?

REFERENCES

How Ukrainian women in it leadership navigate the challenges of war. HackerNoon. (2023, May 13). https://hackernoon.com/how-ukrainian-women-in-it-leadership-navigate-the-challenges-of-war

Araújo, N., Massoni, T., Sarmento, C., Santos, F., & Oliveira, R. (2022). Investigating the relationship between software team leadership styles and turnover intention. *Proceedings of the XXXVI Brazilian Symposium on Software Engineering*. https://doi.org/10.1145/3555228.3555263

Aydogmus, C., Metin Camgoz, S., Ergeneli, A., & Tayfur Ekmekci, O. (2016). Perceptions of transformational leadership and job satisfaction: The roles of personality traits and psychological empowerment. *Journal of Management & Organization*, *24*(1), 81–107. https://doi.org/10.1017/jmo.2016.59

Bandura, R., Staguhn, J., & McLean, M. (2023, October 2). *Rebuilding and modernizing Ukraine's ICT infrastructure will be essential to attract private investment*. Rebuilding and Modernizing Ukraine's ICT Infrastructure Will Be Essential to Attract Private Investment. https://www.csis.org/analysis/rebuilding-and-modernizing-ukraines-ict-infrastructure-will-be-essential-attract-private

Bass, B. M. (1985). *Leadership and performance beyond expectations*. Free Press.

Collin, K., Herranen, S., Paloniemi, S., Auvinen, T., Riivari, E., Sintonen, T., & Lemmertty, S. (2018). Leadership as an enabler of professional agency and creativity: Case studies from the Finnish Information Technology Sector. *International Journal of Training and Development*, *22*(3), 222–232. https://doi.org/10.1111/ijtd.12130

Giorgi, A. (2015). *The Descriptive Phenomenological Method in psychology: A modified Husserlian Approach*. Duquesne University Press.

Godson, S. (2019). *The Impact of Leadership Styles of Project Managers on Information Technology (IT) Project Success. A case of National Information Technology Agency* (dissertation). Kwame Nkrumah University of Science and Technology.

Grootboom, F.A., Pretorius, J.C., & Pretorius, L. (2011). A case study of leadership in consulting engineering. *2011 Proceedings of PICMET '11: Technology Management in the Energy Smart World (PICMET)*, 1-6.

Hetland, H., Sandal, G. M., & Johnsen, T. B. (2007). Burnout in the Information Technology Sector: Does leadership matter? *European Journal of Work and Organizational Psychology*, *16*(1), 58–75. https://doi.org/10.1080/13594320601084558

Hickman, L., & Akdere, M. (2018). Effective leadership development in information technology: Building transformational and emergent leaders. *Industrial and Commercial Training*, *50*(1), 1–9. https://doi.org/10.1108/ict-06-2017-0039

Lei, H., Fang, X., Rajkumar, T. M., & Holsapple, C. (2020). Recovering troubled it projects: The roles of Transformational Leadership and Project Complexity. *Information Systems Frontiers*, *24*(1), 233–245. https://doi.org/10.1007/s10796-020-10068-7

Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of aggressive behavior in experimentally created "social climates." *The Journal of Social Psychology, 10,* 271–299. https://doi.org/10.1080/00224545.1939.9713366

Manen, M. V. (2021). *Researching lived experience: Human science for an action sensitive pedagogy*. Langara College.

Mtsweni, S. (2019). *Leadership styles appropriate for leading millennials in the software industry* (dissertation). University of Pretoria.

Patrick, H.A. (2018). Impact of Leadership Strategies of Managers on Employees in Information Technology Organizations. *Contemporary Management Research, 12(*1), 1-13.

Rani, P., Jeyakkumaran, S., & Reddy, B. (2013). Situational Leadership –An Emergingtrend of Leadership Style - A Case of Software Industry. Internationa Journal of Emerging Research in Management & Technology, 2 (3), 1-10.

Rashdi, S. O., Gilal, A. R., Gilal, M. Y., Abro, R. A., Soomro, H. A., Waqas, A., & Yuting, Y. (2021). INFLUENCE OF LEADERSHIP STYLES ON MOTIVATION AND PRODUCTIVITY OF EMPLOYEES: A STUDY ON CHINESE IT FIRMS. *University of Sindh Journal of Information and Communication Technology* , *5*(1), 35-44.

Rimsky, Y., & Sasic, F. (2020, September 23). *Ukraine's booming it sector can drive positive change*. Ukraine's booming IT sector can drive positive change. https://www.atlanticcouncil.org/blogs/ukrainealert/ukraines-booming-it-sector-can-drive-positive-change/

Sherman, B. (2020). *Impact of transformational leadership on execution of information technology projects in the Western Cape* (dissertation). Cape Peninsula University of Technology.

Shim, D., & Lee, M. (2001). Upward influence styles of R&D project leaders. *IEEE Transactions on Engineering Management*, *48*(4), 394–413. https://doi.org/10.1109/17.969420

Siji, J. (2022). *A Study on Leadership Styles towards Job Performance of Selected IT Professionals in Chennai City* (dissertation). Saveetha University, Chennai.

Sinha, S., & Sengupta, K. (2020). Role of leadership in enhancing the effectiveness of training practices: Case of Indian Information Technology Sector Organizations. *Paradigm*, *24*(2), 208–225. https://doi.org/10.1177/0971890720959538

Thite, M. (2000). Leadership styles in information technology projects. *International Journal of Project Management*, *18*(4), 235–241. https://doi.org/10.1016/s0263-7863(99)00021-6