



RESEARCH ARTICLE

Guidelines for Employee Social Skill Development in the Manufacturing Industry

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ARTICLE INFO	ABSTRACT
<p>Received: Apr 30, 2024 Accepted: Aug 28, 2024</p>	<p>Social skills are crucial for individual adaptation and teamwork to compete in a dynamic and competitive business environment. However, Thailand's ranking in future competitiveness (Future Readiness) has been on a continuous decline, especially in the "Sub-Factor" of adaptive attitudes. By developing social skills among its workforce, Thailand can improve its future competitiveness and ensure that its businesses are Well-Equipped to develop further. This research aims to study the Guidelines for Employee Social Skill Development in the Manufacturing Industry and adapt them into a Structural Equation Model, using a mixed-methods technique. In the qualitative research section, In-Depth Interviews with nine experts were selected, and 11 successful businessmen were a focus group to approve this model. For quantitative research, a survey was conducted among 500 entrepreneurs or business leaders in industries that invest in workforce development to increase business competitiveness using questionnaires. The study used descriptive, multivariate, and inferential statistical analysis. The findings are composed of 4 aspects, the details of the most important items in each aspect are as follows: 1) Development Method ($\bar{X} = 4.18$) encouraging ethics, integrity, and honesty among employees, 2) Mindset Change ($\bar{X} = 4.09$), conducting performance evaluation criteria with social skills topics to make staff aware of the importance of development, 3) Learning and Growth ($\bar{X} = 4.05$) Exploring knowledge for social skills development to guide human resource development, and 4) Organization Support ($\bar{X} = 4.03$) Establishing a secure database for employee privacy and data protection. In addition, the hypothesis test indicated the difference in manufacturing enterprise sizes, overall, all aspects were significantly different at 0.05 level. The developed structural equation model analysis meets the evaluation criteria and demonstrates a good fit with the empirical data. The Chi-Square Probability value is 0.083, the Relative Chi-Square is at 1.140, the Goodness-of-Fit Index (GIF) is 0.959, and the Root Mean Square Error of Approximation (RMSEA) is 0.017.</p>
<p>Keywords Social Skills Manufacturing Industry Mindset Learning and Growth Structural Equation Model</p>	
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INTRODUCTION

The world around us has undergone a period of immense transformation. Digital advancements, the COVID-19 pandemic, international conflicts, energy and food price crises, and financial market volatility have converged to create not just challenging situations, but also a significant emotional impact on individuals, with anxiety, depression, and confusion taking hold. Despite the easing of the pandemic, the global and Thai economies face continued risks like slowing growth, inflation, supply chain disruptions, and geopolitical uncertainties. Organizations must develop by accepting automation, using new work methods, increasing workforce skills, and encouraging employee flexibility and well-being. To achieve sustainable growth and retain the next competitiveness, it is essential to respond proactively and use technological advancements. The World Economic Forum (2016) defined "Industry 4.0" as a digital revolution that changes the approach to work and interaction with machines. This transformation is run by data connectivity within and between organizations, powered by technology, like the internet, automation robots, and Big Data analytics. These interconnected systems make significant improvements in production, efficiency, supply chain integration, and quicker responses to market demands. In addition, Industry 4.0 supports a new era of human-machine collaboration, characterized by increased communication and real-time decision-making. This isn't just about technology; it's a cultural shift requiring organizations to adapt and leverage these tools for sustainable growth in the digital age. Organizational change can occur gradually or radically. Regardless of the form it takes, it often leads to Stress, Fear, Anxiety, and Resistance to change (Wattanakomol et al., 2022). Therefore, motivating employees to accept change by creating incentives and communicating the positive impacts can help reduce resistance to the change that may occur.

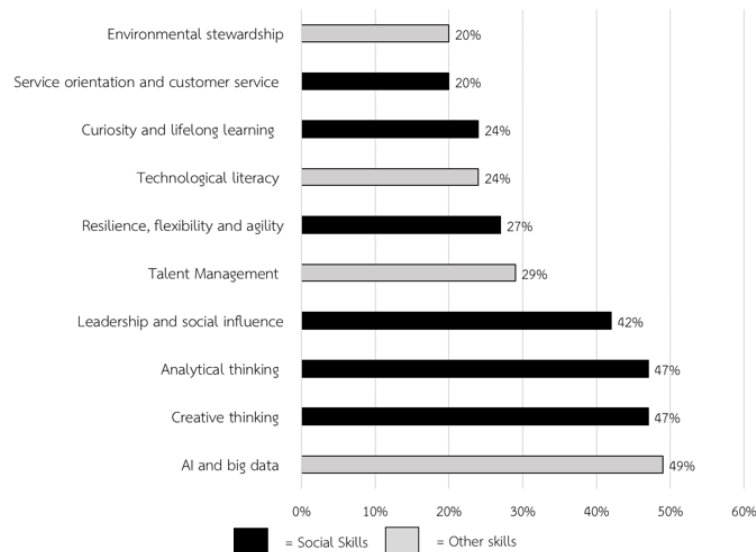


Figure 1. Skills most Prioritized for reskilling and upskilling for the next 5 years

Source: World Economic Forum, 2023.

As shown in Figure 1 Equipping individuals with the skills to adapt to change is crucial. According to the World Economic Forum (2023), survey on essential workforce skills in Thailand for the next five years, over 50% of the required skills will be social skills, such as creativity, analytical thinking, leadership, teamwork, adaptability, learning agility, and customer service. Without these skills, organizations will struggle to fully utilize technology. The 2022 IMD World Digital Competitiveness Ranking places Thailand at 40th out of 63 countries overall. While its Technology factor ranks a

respectable 20th, Thailand falls behind in Knowledge (45th) and Future Readiness (49th). This highlights the need for focused efforts to strengthen Future Readiness. However, its Future Readiness factor comprises three subfactors, as shown in Figure 2. Notably, Thailand's adaptive attitudes subfactor has consistently ranked lower than the others over the past five years, with its lowest ranking being 58th in 2019 and its most recent ranking being 52nd in 2022. This indicates a clear need for Thai business professionals to develop the social skills necessary to navigate future changes.

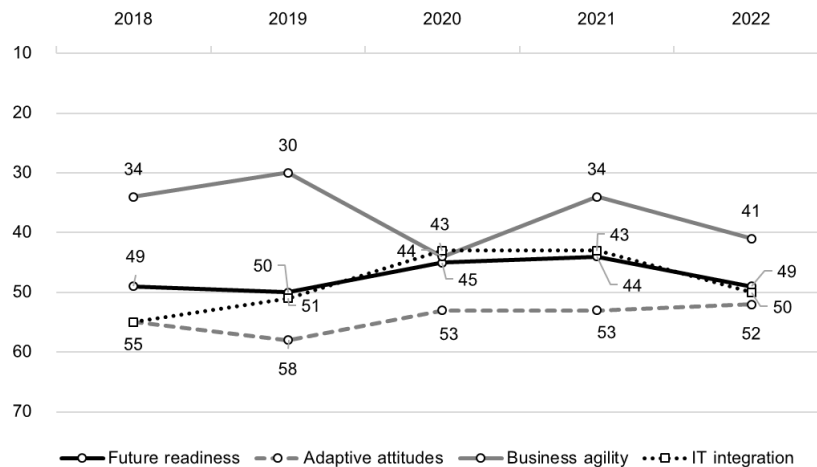


Figure 2. Thailand's Future Digital Competitiveness Ranking (IMD, 2023).

Objectives of the Research

1. To study the elements of Guidelines for Employee Social Skill Development in the Manufacturing Industry.
2. To develop a structural equation model of Guidelines for Employee Social Skill Development in the Manufacturing Industry.

LITERATURE REVIEW

The challenges were faced by organizations that fail to survive due to their inability to adapt to the rapidly changing and competitive business landscape. This failure stems from a lack of organizational learning awareness, particularly during periods of transition and change. Upgrading skills and new skills is therefore necessary for organizational development towards sustainability (Wattanakomol et al., 2022). Changing work patterns Work can be done from home and elsewhere. Additionally, workers in the 21st century are increasingly various across genders, backgrounds, ethnic, and backgrounds of cultures, ages, and lifestyles as stated by Holmes et al. (2021). There is still a diversity of thought that exists in invisible forms (Koellen, 2021), thus resulting in a struggle for rights and equality. and giving importance to every group of people. Organizations that fail to cultivate a supportive atmosphere where individuals, departments, and the entire organization can collectively learn and adapt are more likely to face stagnation and eventual decline (Al-Tarawneh, 2021), which can be concluded to be 4 elements for the Guidelines of Employee Social Skill Development in the Manufacturing Industry as follows:

1. Organization Support encompasses the structural, systemic, and cultural aspects of an organization that promote employee well-being, engagement, and productivity. By providing comprehensive organizational support, organizations can foster a thriving work environment that empowers workers to do their best while working, leading to improved organizational outcomes, and overall success. Consistent with Monday et al. (2023), identified four key drivers of product development, productivity, and organizational efficiency: 1) leaders sharing information

transparently, fostering collaboration; 2) establishing best practices to guide change and growth; 3) rotating team members to build empathy, patience, and teamwork; and 4) providing cross-functional tools and facilities to facilitate communication and knowledge sharing across departments. These strategies create an environment for continuous improvement and innovation, ultimately leading to organizational success.

2. **Mindset Change** refers to developing awareness, understanding, and acceptance of personality differences. This process encourages a shared organizational mindset that has higher personal values, beliefs, and backgrounds, such as economic status, educational level, and experiences from before. The transformation is driven by motivations, inspiration, and a perspective of the organization. This is in line with Rahmawati (2021), who said that motivation, characteristics, self-concept, knowledge, and skills significantly impact work behaviors, which in turn influence work performance and goal achievement.

3. **Development Methods** refer to the abilities of each person to perceive, process, react, respond, and communicate creatively. These competencies include leadership, teamwork, effective planning, systematic problem-solving, clear communication, positive personal relationships, flexibility to work together, and the space to fix each person's attitude and behavior to be consistent with the situation. Social skills are key for success in professions and accessible personal navigates and professional interactions effectively. This is consistent with Sally et al. (2021), who said that in nowadays fast-changing and globalized economy, businesses must identify and hire employees with both technical job skills and strong social competencies. It was found that employers prioritize social skills and attitudes, such as effective communication, teamwork, learning quickness, motivation, positive attitude, and probity when assessing potential candidates. These findings show the increasing importance of social competencies in the modern workforce alongside technical skills.

4. **Learning and Growth** focuses on selecting relevant training programs, designing engaging learning experiences, and using a variety of teaching methods to maximize employee skill accession and knowledge application. By combining traditional and innovation, organizations try to develop practical capabilities and real-world problem-solving, ensuring employees obtain the expertise necessary for their roles and the organization's success. This comprehensive strategy supported a culture of continuous learning within the company, encouraging employees to expand their skills and contribute to overall organizational development. This is in line with Muzam et al. (2023), who studied the significance of workplace learning in the modern environment and the methods organizations use to develop employees and improve efficiency. The research shows that informal learning tools, such as observation, questioning, feedback, practice, self-direction, and self-control, are more important performance of helping workplace learning compared to formal learning methods. In an informal learning, workers engage in self-directed learning at their own pace and according to their individual needs, often leading to more rapid knowledge acquisition compared to formal learning methods.

METHODS

This inductive study uses methodologies, regarding the Doctor of Business Administration Program Executive Committee Industrial Business Administration Faculty of Business Administration the King Mongkut's University of Technology North Bangkok. consists of 3 steps as follows:

Step 1. Qualitative Research with In-Depth Interview Techniques. The study population comprised 9 experts selected through purposive sampling. The experts were divided into three groups which are: 3 entrepreneurs or executives from business organizations, 3 officers from government and related agencies, and 3 academicians.

Step 2. Quantitative Research using exploratory data collection - The population of Industries that invest in workforce development to enhance business competitiveness totaling 3,034 cases. The

sample size was determined based on the criteria for elemental analysis research or structural equation model, and it was set at a high level with 500 samples (Comrey and Lee, 1992), and a Multi-Stage Sampling Method (Babbie, 2010), was used consisting of Representatives from small-medium business, a total of 250 samples and 250 samples of a large business. The sample selection was conducted using lottery probability sampling, and data were collected from a questionnaire that included checklist questions, and rating scales, with criteria set at 5 levels based on the Likert scale concepts. The Index of Item Objective Congruence (IOC) study found that the 100 observed variables had IOC values from 0.60 to 1.0. Checklist questions were analyzed using standard deviation, with values from 0.45 to 3.53, while rating scale items were evaluated using Corrected Item-Total Correlation, with values between 0.35 and 0.79. The questionnaire's reliability was confirmed with a Cronbach's alpha coefficient of 0.98.

Step 3. The qualitative research with focus group discussion technique. To collect in-depth insights and perspectives, a Purposive Random Sampling method was used to recruit a group of eleven experts. Subsequently, these experts participated in focus group discussions to validate the structural equation model.

The conceptual framework of the Guidelines for Employee Social Skill Development in the Manufacturing Industry is shown in Figure 3.

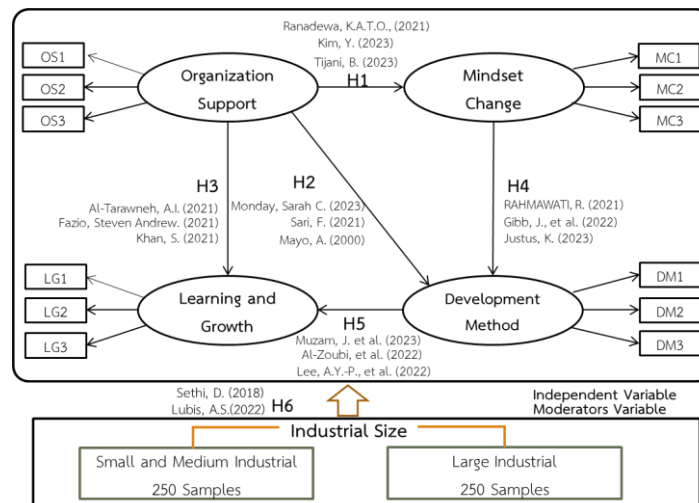


Figure 3. Conceptual framework for the Guidelines for Employee Social Skill Development in the Manufacturing Industry

RESULTS

1. The importance of causal factors influencing the Guidelines for Employee Social Skill Development in the Manufacturing Industry was rated as high, with an average score of 4.09, each aspect was also found as high importance. The Development Method had an average of 4.18. Mindset Change with an average of 4.09. Learning and Growth had an average of 4.05. Organization Support had an average of 4.03. When classified by item in each aspect according to the 3 highest levels of importance, it was found that under the Development Method aspect, the highest priority was encouraging personnel to have morality, ethics, and honesty, with an average score of 4.29. This was followed by promoting rightness in personnel and their responsibilities, with an average score of 4.28, and encouraging personnel to conduct themselves with respect for social norms and following the law, with an average score of 4.24.

Mindset change, the priority was conducting criteria for evaluating employee performance that include social skills topics to raise awareness of the importance of development with an average of

4.27, followed by Identifying topics and developing social skills development plans in the annual action plan with an average of 4.19 and align organizational goals with employee goals to ensure a shared mindset with an average of 4.14, respectively.

Learning and Growth, the highest priority was Conduct research to identify the knowledge needed to develop social skills to inform employee development with an average of 4.12, followed by Gather feedback from employees on which areas of social skills development they would like organizational support with an average of 4.12 and Pilot mandatory training courses from the central office starting with small teams before expanding to the entire organization to ensure effectiveness with an average of 4.11, respectively.

Organization Support, the highest priority was Establishing a database system that protects employee privacy and personal data with an average of 4.12, followed by Regularly updating social skills training programs and systems with an average of 4.11 and Utilizing data from the database system to generate reports and statistics to guide system improvement and development with an average of 4.10, respectively.

The analysis of the importance of causal factors leading to employees and their social skill development in the manufacturing industry found that small and medium-sized industries prioritized development methods the most, with an average score of 4.02. This was followed by mindset change, with an average score of 3.90, and learning and growth, with an average score of 3.87. However, large industrial businesses also placed the highest on the development method, with an average score of 4.34, followed by mindset change at 4.28 and organization support at 4.23 respectively. When comparing the importance of causal factors leading to failure in industrial businesses by size, a T-test was conducted to evaluate the difference between the means of the 2 independent populations. The results indicated a significant difference at the 0.05 level between small and medium-sized industrial businesses and large industrial businesses regarding the significance of the causal factors leading to overall industrial business failure, as presented in Table 1.

Table 1. Comparison of the perceived importance of a study of factors that lead to Employee Social Skill Development in the Manufacturing Industry.

Factors Leading Employee Social Skill Development in the Manufacturing Industry.	Small and Medium Sized Business		Large sized Business		T-Value	P-Value
	\bar{X}	S.D.	\bar{X}	S.D.		
Overall	3.91	0.43	4.27	0.33	-10.55	0.00*
1. Development Method	4.02	0.46	4.34	0.36	-8.67	0.00*
2. Mindset Change	3.90	0.43	4.28	0.33	-11.01	0.00*
3. Learning and Growth	3.87	0.47	4.23	0.36	-9.57	0.00*
4. Organization Support	3.83	0.50	4.23	0.35	-10.27	0.00*

** Significantly different at the 0.05 level*

2. The structural equation model was conducted to examine the causal factors influencing Employee Social Skill Development in the Manufacturing Industry. To refine and improve the model, modification indicators were used to remove inappropriate observational variables one by one. This process was repeated until the model met all four required statistical criteria. Moreover, the refined model was found to be complete and consistent with the empirical data, presented in Table 2. The structural equation model is shown in Figure 4, and the definition of the variables is shown in Table 2.

Table 2. Statistics received from harmonious assessment of the structural equation model before and after the improvement.

Index	Accepted Value	Before Improvement	After Improvement
1. Chi-square Probability Level (CMIN- ρ).	$\rho > 0.05$	0.000	0.083
2. Relative Chi-square (CMIN / df).	< 2.00	2.318	1.140
3. Goodness of Fit Index (GFI).	> 0.90	0.660	0.959
4. Root Mean Square Error of Approximation (RMSEA).	< 0.08	0.051	0.017

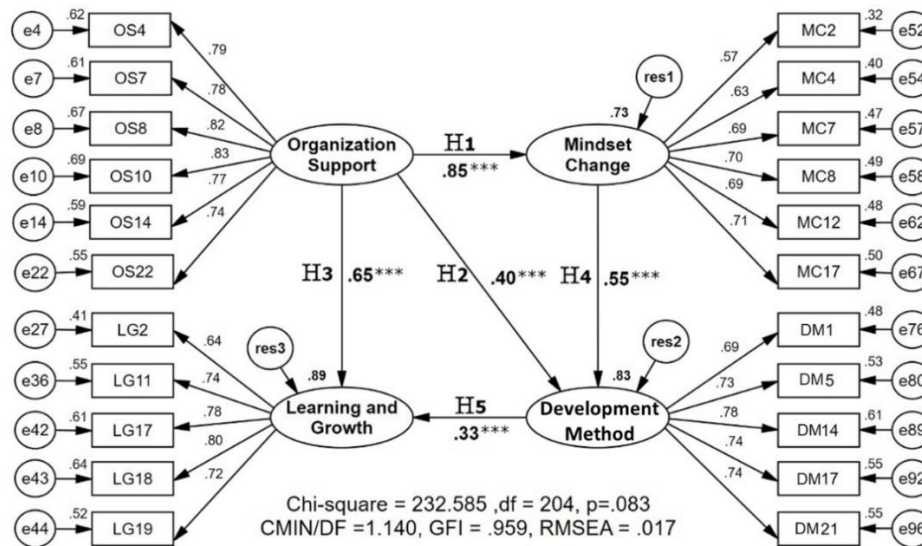


Figure 4. Structural equation model of the Guidelines for Employee Social Skill Development in the Manufacturing Industry in Standardized Estimates Mode after the improvement of the model.

Table 3. Definitions of abbreviation in the study of factors leading employees and their social skill development in the manufacturing industry.

Variables	Meaning	Variables	Meaning
OS4	Provide the workplace with standardized learning materials and resources to enable employees to learn social skills independently	MC2	Identify topics and set a plan for developing social skills in the annual action plan (Action Plan)
OS7	Design social skills development activities that are inclusive and to various needs of the employees, considering factors such as age and beliefs	MC4	Develop social skills on an individual basis (Individual Development Plan) to enhance areas of weakness.
OS8	establish a dedicated space for disseminating information about the organization's history, traditions, and culture, ensuring that employees at all levels have a shared understanding	MC7	Instill in employees the mindset of developing social skills that align with the organization's policies.

Variables	Meaning	Variables	Meaning
OS10	Cultivate a workplace environment that encourages employees to confidently apply the social skills they have learned and developed through organizational initiatives	MC8	Organize a Townhall Meeting for senior executives and staff to share experiences and emphasize the need for continuous change in attitudes and social behaviors
OS14	Establish a dedicated role or team responsible for social skills development, providing support and guidance to employees facing challenges in this area	MC12	Reward and recognize employees who help drive or demonstrate social behaviors that align with the organization's expectations to boost employee morale
OS22	Develop engaging digital content to raise awareness and educate employees about the significance and methods of social skills development	MC17	Identify role models within the organization who have achieved success through social skills development to inspire others to pursue their development
LG2	Conduct a thorough assessment of relevant knowledge for social skills development to guide HR development efforts	DM1	Encourage employees to be creative, think boldly, and make decisions
LG11	Design a 10:20:70 social skills learning model, allocating 10% for learning principles in a classroom setting, 20% for learning through mentoring, and 70% for learning through hands-on experience.	DM5	Encourage employees to be approachable, friendly, and have a positive attitude
LG17	Regularly organize social skills development activities for employees, such as sports skills, etc.	DM14	Encourage employees to be committed to continuous self-improvement and personal development
LG18	Facilitate group learning sessions to share best practices for improving social interaction behaviors regularly	DM17	Encourage employees to be proficient in English or other foreign languages for effective communication
LG19	Assign or ask employees to identify project work topics (Project Base Learning) to allow them to apply their social skills in real-world work settings	DM21	Encourage employees to have a strong sense of public service, prioritizing the benefit of society over personal gain

DISCUSSION

The study focuses on the critical importance of social skills in the industrial business sector, with the Development Method being identified as the most significant component, averaging 4.18. Social skills like communication, teamwork, and emotional intelligence are essential for effective collaboration and problem solving, especially in remote work settings (Sari et al., 2021; Rahmawati et al., 2021). Organizations that support an open culture characterized by trust, communication, and adaptability encourage innovation and creativity among personnel (Putra et al., 2020). The influence of Industry 4.0, which concentrates on advanced technologies like big data and automation, further underscores the need for key competencies, such as resilience, adaptability, and entrepreneurial thinking in the workforce (Low et al., 2021). In addition, the study also emphasizes the importance of supporting morality, ethics, and honesty within the industrial business sector, consistent with Wattanakomol (2024), who stated these values as crucial for both business integrity and social responsibility. These values are especially important in times of crisis, such as the COVID-19 pandemic, where they support strong decision-making and quick responses (Maria et al., 2022).

CONCLUSION

The research findings confirm that Organizational Support plays a key role in influencing Mindset Change, the Development Method, and Learning and Growth within the manufacturing industry. Hypothesis testing showed that 5 out of 6 hypotheses were supported, demonstrating that Organizational Support significantly impacts these factors at the 0.001 level. The overall influence of Organizational Support on Learning and Growth, with a Standardized Regression Weight of 0.93, shows its important role in supporting a culture of continuous improvement and adaptability within organizations. Consistent with Al-Tarawneh et al. (2021) and Fazio et al. (2021), is the need for supportive organizational cultures, effective resource management, and strategic planning to ensure organizational resilience and survival in a quickly changing industrial environment.

Recommendations

Based on research on the Guidelines for Employee Social Skill Development in the Manufacturing Industry, the researcher proposes two recommendations as guidelines for both the Public, and the Private sectors in preparing their organizations in various aspects, Development Method, Mindset Change, Learning and Growth, and Organization Support. This comprehensive approach ensures that organizations in the manufacturing sector can effectively equip their employees with the necessary social skills.

Policy recommendations focus on increasing Thailand's digital competitiveness by integrating social skills development into tax relief measures, managed by the Digital Economy Development Agency (DEPA). The Office of Small and Medium Enterprises Promotion (OSMEP) should allocate budgets for social skill-building activities, while the National Skill Development Institute (NSDI) should introduce all training programs with mentoring and effective evaluation. On an operational level, organizations should prioritize Development Methods by helping ethics, responsibility, and legal compliance, and emphasize Mindset Change by consisting of personnel goals with organizational objectives. Learning and Growth should concentrate on collecting feedback and testing centralized curricula, while Organizational Support should update systems and protect data privacy. Moreover, organizations are encouraged to evaluate social skills development needs, set consistency goals, and encourage a collaborative culture through exemplary leadership and clear communication.

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