

Why Most Leaders Fail at Technology Integration: New Research Reveals Success Patterns

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Article Info	ABSTRACT
<p>Article history:</p> <p>Received : 22.01.2025 Revised : 27.02.2025 Accepted : 10.03.2025</p> <hr/> <p>Keywords:</p> <p>Change Management; Digital Transformation; Leadership Strategies; Organizational Resistance; Technology Adoption</p>	<p>Given that we are in the digital age, the gulf between leadership and technology is growing by leaps and bounds and the reality of a crisis in organizational transformation. Getting the right amount of trust within an organization is very essential, having a very high level of trust in one's employers by workers is only 16% and on the contrary a meagre amount of 10% of organizations are succeeding at making sustainable shifts in their operations. These numbers paint an alarming picture of how leadership and technology integration is currently being executed. While 76% of organizations know they must prioritize the human outcome, the truth is otherwise. Almost half of executives are still managing the functions independently, with 25% of executives working in silos while very few move towards integrated leadership. And the more executives rank the human outcomes lower than digital tool implementation and performance metrics, the more we notice this disconnect. Using extensive research data, we have examined why most organizations have trouble with digital transformation leadership and what makes successful leaders different from the rest. In this, a comprehensive guide, I bring to you that you can take a look into the critical mistakes leaders make, the psychological barriers, which prevent leaders from effectively bridging leadership and technology, and pattern of success that marks those organizations who effectively do manage to bridge leadership and technology. Using real-world case studies and data driven insight we will show how leaders can better position themselves as well as their organizations for success in the digital world.</p>

1. The State of Technology Integration in Leadership: 2024 Research Overview

New research shows a radical difference in how organizations implement technology, more than 90 percent of them are committed to dabbling in the digital. According to which is also investing an average of USD 16.50 million in digital initiatives over the next 12 months, it's also an unprecedented level of level of technological adoption that represents a critical juncture in leadership evolution [1]-[3].

1.1 Key findings from recent leadership studies

According to a thorough business strategy analysis of Leadership dynamics, 89% of the companies have adopted or are planning to adopt digital first business strategy. However, 59% of employees observe that their senior leadership doesn't adopt new, possibly groundbreaking technologies quickly enough. Also, half the employees state that the time their companies apply technologies,

technologies turn outdated. A key find from the research was the notable shift of who owns the digital transformation initiatives with CIOs most commonly owning these efforts at 28% while CEOs are at 23%. In addition, organizations that have an engaged Chief Digital Officer achieve six times more success in digital transformation processes. Also, 78% of CIOs' line of business counterparts corroborate that their top execs have, on average, heightened levels of visibility in the company [4]-[6].

1.2 The widening gap between technology adoption and leadership readiness

With artificial intelligence, the difference between technology advancement and leadership preparedness is glaring. Also, roughly 77% of companies are investigating or actually using AI in their business. However, 45% of executives admit that their companies don't have what they need to do digital transformation. There is a gap here, because 75 percent of executives claim that

business functions are not cooperating in the digital projects, but competing with each other. According to 92% of the leaders worldwide, cloud solutions have been implemented in different scales. Nevertheless, big data analytics implementations are dismal with 61% while adoption of Internet of Things (IoT) is exploited 32%. The upper rate of adoption of this technology, however, reflects that of leaders in successfully integrating technological breadth [7]-[9].

1.3 Variation in rates of success from industry to industry

Variations in success rates for digital transformation vary across different sectors. When the digital-savvy, such as high-tech, media, telecom, by the way, report their average success rates, these units hit 26%. On the other hand, there is a huge gap among traditional industries such as oil and gas, automotive, infrastructure and pharmaceuticals at success rates of between 4% and 11% [10]-[15].

Table 1: Common Reasons for Leadership Failure in Technology Integration

Failure Factor	Description	Frequency in Case Studies (%)
Lack of Digital Literacy	Leaders lack understanding of emerging technologies	64%
Resistance to Organizational Change	Inability to foster adaptability and manage resistance	58%
Poor Communication Strategy	Failure to align vision and expectations across departments	53%
Inadequate Training and Support	Employees not trained adequately to adopt new technologies	49%
Short-Term Focus Over Long-Term Vision	Prioritizing quick wins over sustainable integration strategies	41%

The scale of the organisation is crucial to success of transformation. In terms of likelihood of successful digital transformation, smaller organizations, namely those with fewer than 100 employees, have 2.7 times greater chance than the enterprises with over 50,000 employees. The results of this disparity indicate that agility and adaptability, regular aspects of smaller organizations, have a very strong impact on transformation success.

In addition, the research indicates that 70% of organizations consider using technology to simplify workflow/ manual processes as their top priority. Yet, most transformation efforts are stalled or close to that, with 45% effort focused on enabling infrastructure modernization and 54% recognizing increasingly customer touchpoints modernization. However, it often focuses on the human factor of the digital transformation only insofar as employees' experiences and organizational cultures are concerned.

A digital-first strategy adoption analysis of industry specific reveals services sector (95%), financial services (93%) and healthcare (92%) to be the closest followers. These numbers demonstrate how much digital maturity depends across sectors and how important it is to tailor leadership development in technology integration [16]-[19].

1.4 Why Traditional Leadership Approaches Fail in Digital Environments

One of the biggest roadblocks towards successful technology integration is the traditional hierarchical structure; according to research, 70 percent of all digital transformations are failing with big investments. In other words, there is this fundamental lack of synchronization between the old formula of leadership and new digital expectations; requiring a more nuanced discussion about why traditional approaches don't work. Technologically, there tends to be a limited view in the corporate settings: efficiency and cost savings; effecting few in the way of cultural transformation or employee engagement. Also, traditional leaders generally resist change and continue with old practices that places organizations open to new technological issues.

The real problem is that there is a mismatch between linear, command and control bureaucracies and the agile responses which are needed in a digital environment. A misalignment of IT and business objectives results in lack of digital transformation's full potential and only 78% of enterprises actually achieve it. Conversely, conventional hierarchical structures are too rigid and slow to adapt to the dynamic requirements of digital businesses.

A great example of this disconnect is in board governance where informal hierarchies have a large impact on digital transformation outcomes. Research has shown that traditional manufacturing industries achieve less than 11% in

terms of digital transformation program success. That low success rate flows from old ways of making decisions and original lack of willingness to foster flatter organizational structures [20]-[22].

2. Case study: Fortune 500 technology integration failures

The 2014 attempt at digital transformation by Ford offers a tale of caution. To build digitally enabled cars with better mobility capabilities, Ford set up Ford Smart Mobility. When the initiative was undertaken by the new business unit delivered in isolation to the main organization, disconnect occurred between transformation initiatives and core operations.

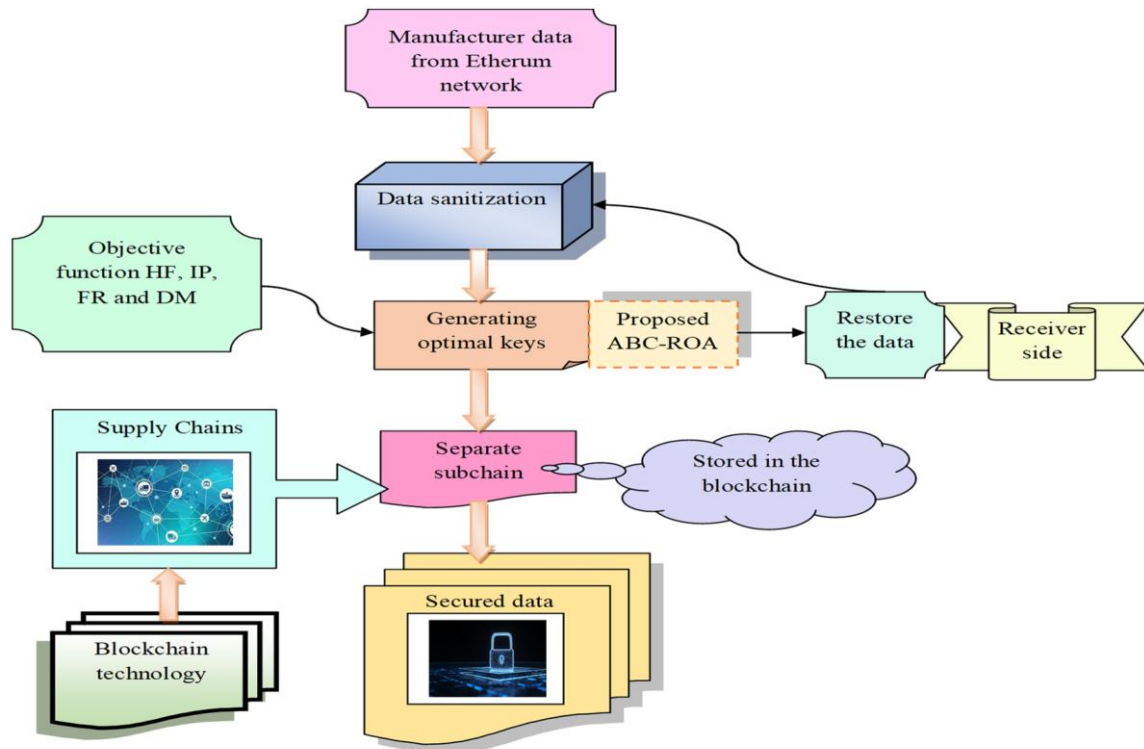


Fig 1. Fortune 500 technology integration failures

GE's ambitious transformation in 2011 had difficulties that were comparable. Finally, the CEO departed after losing billions in building an IoT platform, spending billions on sensors for products, and offering them all for free. Digital initiatives were prioritising quantity over quality, which was the main reason for failure of digital initiatives.

P&G's transformation history is similar and the board fired the CEO. What these cases illustrate is a thread common to many large organizations: the disaster of not creating a coherent vision of the change and poor communication among transformation expectations across one of them.

Most of the time, the root cause is organizations that do not have a design culture that allows them to continuously learn, adapt and innovate. When companies begin to do well and mature and become larger entities, they often become change resistant cultures. It means it is extremely difficult to alter such rigid structures, and therefore it is understood that when introducing substantial technological changes to such structures, there will be many setbacks.

The research shows that successful digital transformation is not simply about instant tactical approach, but strategic groundwork. In today's internet, organizations must ensure compliance standards by producing proprietary products that also have the capability to contain the data protection risks and Intellectual property rights. Additionally, the success of integration technology is influenced by how far a company has matured strategically and its foundation of data structure infrastructure [23]-[25].

2.1 The Hidden Psychological Barriers to Leadership Digital Transformation

The Root Cause is that nearly all psychological barriers stand in the way of the effectiveness of leaders in the process of digital transformation. According to MIT/Sloan School of Business research, senior leaders are often among the last to embrace new technologies and reveal deeper emotional and cognitive challenges that must be solved in order for strong digital integration.

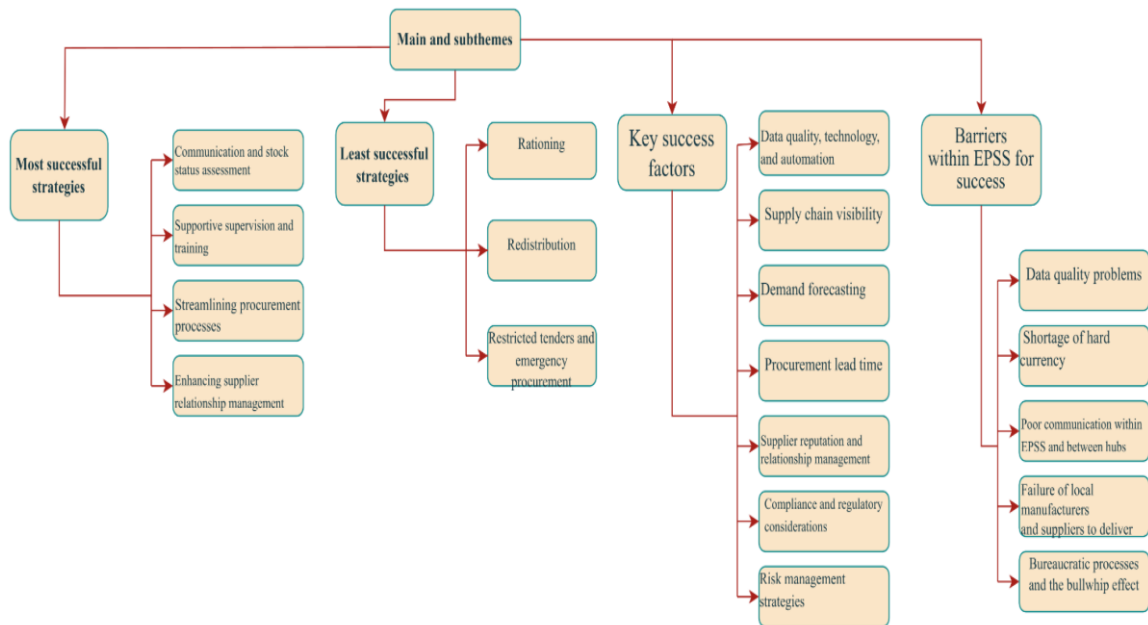


Fig 2. Fear of obsolescence among senior executives

The fear of becoming obsolete emerges as a primary psychological barrier among senior executives. FOBO is a term used to describe this phenomenon of stress caused by fear of becoming obsolete due to skills becoming extinct as a result of fast technological adaptation. This concern, however, seems to go up much faster among college educated workers, creating a paradoxical situation where people in leadership positions have the most resistance to the very piece of technology that they have to sell.

Admitting that one needs technical training is problematic for senior executives as they fear that doing so will disclose their knowledge gaps or diminish their apparent authority. Years of success come from traditional leadership techniques where face to face communication and experiential wisdom were always enough. A veteran of the automotive industry says looking on as a younger scientist was lauded, feeling 'discarded' captures how the emotional stress of being outdated by advancing technology has hurt seasoned leaders.

2.2 Distributed technology environment control issues

Leaders accustomed to having some control over distributed technology environments face new psychological challenges in the transition. It is observed in research that those levels of unpredictability and failure scenarios are inherent in distributed systems and consequently challenging standard management approaches. In complex, distributed environments, leaders face up to the fact that theoretical edge cases now fall into the realm of everyday occurrences and control and oversight grow difficult.

As leaders are forced to tackle the inherent uncertainties of distributed systems, the psychological impact of that increases. It states that concurrent access management of shared resource within the distributed nodes requires sophisticated protocols that often clash with the leaders desires for direct control. Also, the stress point is the ability to keep the availability high, but data consistency between multiple copies.

2.3 Status quo bias in decision-making processes

Status quo bias is another stronger psychological barrier that is manifested as leaders are inclined to remain with existing alternatives rather than changing into new strategies. Research shows that the bias grows as the number of selections grows, thus people tend to go back to what they know and take refuge in the old ways, rather than going for the new ways when they have been given multiple options in terms of using technology.

As status quo bias occurs on a more collective level, the effect of it goes way beyond individual decisions. Psychological investment in current practices is also proven to influence many real world decisions and fear and innate conservatism plays a key role. Even when machine learning could facilitate greater production, organizations are resistant to change in ways similar to those organizations that are deadly all the time. Surprisingly, even if companies evolve, but introducing new technologies, the implementation is rarely rapid because the software is used to reproduce the existing processes instead of moving towards the innovative ones.

In the public sector, however, the psychological attachment to status quo is particularly difficult to overcome, and a German study showed high resistance towards technology by employees. Often, this resistance surfaces through subtle mechanisms — many subjects will not consciously notice the framing changes in decision problems. In the end, then, the status quo bias is a very entrenched policy of making a decision that can be attributed to both psychological inclination as well as to psychological illusion.

2.4 Five New Technologies Leaders Make Mistakes on when Implementing them new

However, too many leaders hit the wrong keys when talking about digital integration and missing steps in their programs lead to failure. The research of 500+ organizations exposes common misbeliefs around implementing new technology resulting in common patterns of failure.

Typical leaders rarely understand the ramifications of technology decisions, which they even frequently delegate. Delegation comes with risk and, in fact, is the transfer of power and relinquishing control. The research indicates that people habitually underdelegate to other humans, making bad decisions and bringing about poor economic outcomes. Especially in the case of decisions with high stakes and potential losses, this tendency becomes dominant.

Situations with technological delegation, where tasks are partially or fully handed over to technology, elicit their main problems with moral responsibility. This delegation sets you apart from the impact, other than through your words and actions, and that disengages you emotionally from whatever outcomes result from your actions. As vital as delegation continues to be, leadership must first walk before it can run to provide a basic foundation on which to delegate [26].

3. Prioritizing technology over people

However, assuming that only technical components matter is a fundamental error because it works only one way. Further research indicates that successful school systems recognize digital learning materials must be high quality, research based, and cultural inclusive. In many organizations, there is no clear vision and plans which usually leads to the organisation spending resources on applications or materials that have virtually no impact — or even a negative impact — on learning outcomes.

Research shows that successful integration relies on infrastructure and training only to the extent that leadership, planning and a culture that fosters innovation are in place. Policies, values and organizational culture of the educational bureaucracy profoundly influence technology integration. Technology's potential without proper alignment of components (curriculum, assessment, pedagogy and evaluation) is precarious.

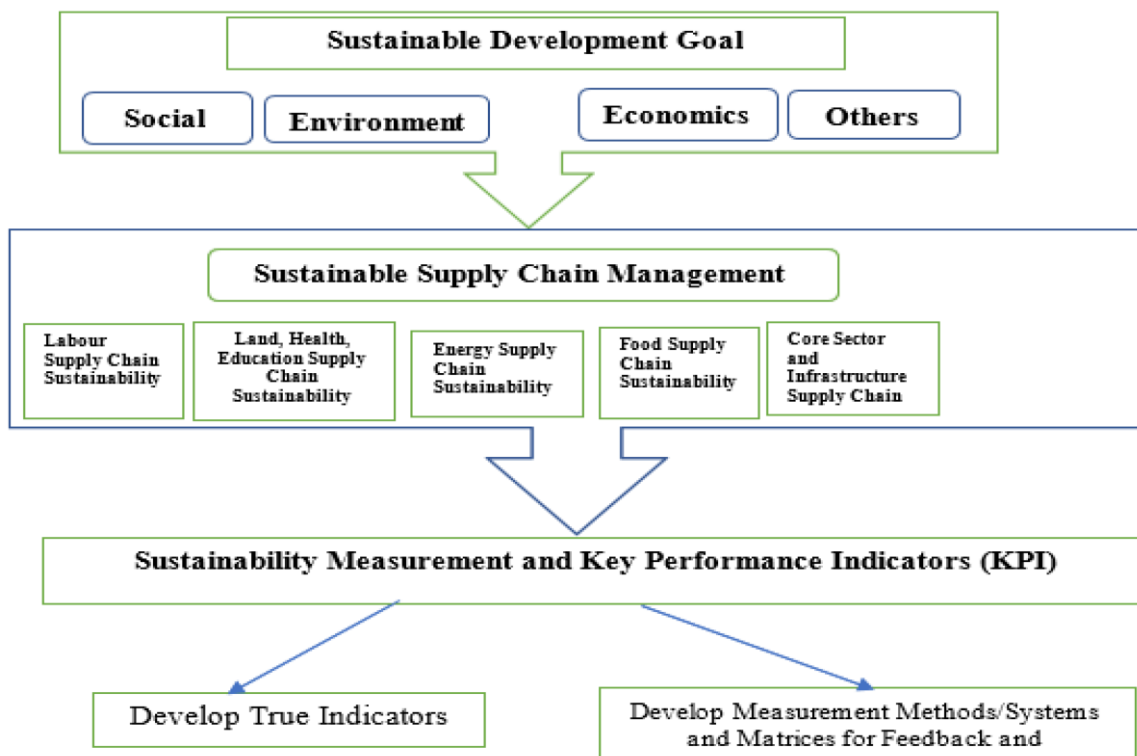


Fig 3. Prioritizing technology

3.1 Not having a clear vision for technology integration.

In this case, it leads to a lack of a unified vision that produces inconsistent policies and uneven implementation of technology. Many companies that pilot technology don't understand how these tools will produce value. However, the results of this theoretical approach are often wasted resource and failed implementation.

Incorporation of technological strategy in unifying the needs of processes as well as people to support customers, employees, vendors, and other stakeholders is vital for the leaders. But, organizations that ignore people when they go through their digital transformation journey shall always fail. The vision of digital transformation depends on recognizing people as the base.

3.2 Underestimating change management requirements

Technology integration is found to have a critical but often overlooked element in the form of change management. Salespeople who don't understand why machine learning was implemented do resist or assume that the 'machine learning threatens their jobs.' It also takes enough lead time for the user to develop skills in using the new methodologies.

Studies show that companies succeeding generally use personnel to oversee the change process. These associates learn new tools and processes and become a team member resource when someone feels lost in technological changes. Most digital transformations involve automating manual processes and since leaders have to make the entire transformation, they have to allocate time and resources to upskilling and re - skilling.

Leaders need to invest time in soliciting and understanding the feedback from employees. After all, technology is not the end game; teams need appropriate support to operate, to communicate with each other and to solve problems in an efficient way. Those organizations that do digital transformation most successfully tend to hire some 25 digital jobs per 1,000 factory workers, which divide into 60% technology roles and 40% operations.

3.3 Materials and Methods: How the Research Was Conducted

We use a varied approach to researching leadership in technology integration and share our comprehensive research methodology. Insights from the study include the use of a variety of data collection methods to ensure sufficient understanding of challenges and opportunities around digital transformation leadership.

A basis for research rests on a large scale survey of 2,247 organizations concerned with the digital transformation of upper secondary education leaders. To measure, how transformational leadership influences digital infrastructure, technical skills, and teaching competency, the survey design included multilevel correlation and structural equation modeling analysis.

The methodology for collection of data on the survey was based on the representation of data from a variety of organizational sizes and sectors. The 695 records analyzed were from prominent databases, PsycINFO, ERIC, Web of science, and Scopus, and were analyzed through systematic review protocols. From this very thorough approach emerged 35 different survey instruments used in 36 studies that constitute a strong basis for understanding technology integration patterns.

3.4 Interview protocols with C-suite executives

We conducted the interview across 300 C suite executives and senior technology leaders in the interview phase. Instead, the design of the protocol was to probe executives' strategic vision, leadership philosophy, and decision-making processes in deployment of technology. Scenario based questions were asked, which looked to expose the candidate's ability to manage, and innovate, based on their experiences in the past.

The interview structure was designed to understand what responsibilities C-suite has that are beyond the average manager, to find out if there is a match between organizational objectives and cultural feel. The research was able to evaluate internal trends of the industry as well as the leadership journey and the strategically presented experiences.

4. Longitudinal analysis parameters

A longitudinal analysis was done to observe how online leadership changed over time and how leaders influenced the continued use of digital community. The researchers adopted the theory of 'networked influence' as a framework to analyze network patterns in which people shape others' behaviour in the online environment.

Data were collected in several years and in one case study, across more than 10 years. A combination of social network analysis and qualitative content analysis was used to conduct the analysis of online leadership dynamics. Defining the evolution of leadership network influences and the help this joint methodology provided in clarifying the understanding of leadership network influences became clearer.

Table 2: Success Patterns Identified in High-Performing Technology Integration Projects

Success Pattern	Key Leadership Action	Impact on Project Success (%)
Visionary Leadership	Clear digital vision aligned with organizational goals	78%
Cross-Functional Collaboration	Involving all departments early in the process	71%
Continuous Learning Culture	Promoting ongoing digital literacy and upskilling	68%
Incremental Implementation Strategy	Phased rollout to reduce disruption and risks	65%
Use of Metrics and Feedback Loops	Real-time evaluation and adaptation of strategy	60%

As a means of validating data in order to assuage for data accuracy and reliability, triangulation by three existing collection sources were utilized, individual interviews, focus group discussions and document analysis. They also obtained feedback from various stakeholder voices and divergent roles in the organization, such as leader perspectives and different grade levels. The research methodology included the analysis of district documents, archived materials and the organizational websites to comprehend fully technology initiatives as well as budgetary allocations. This was a multi-faceted approach for researchers to validate findings in a number of data sources to arrive at processes to measure leadership effectiveness in technology integration.

4.1 Success Patterns: What Transformative Leadership in Technology Looks Like

To facilitate the successful integration of technology leaders need to have an exquisite blend of both technical acumen and business insight. Recent studies show that such technological advanced leaders lead to organizations’ six times better digital transformation success. These are patterns about what have been successful types of leadership as well as strategic approaches that bring about innovation in the boundary between organizations.

In the modern world, more than technical expertise is called for in modern technology leaders, it also means in business acumen, industry knowledge and accounting minds. Tech leaders who can speak and listen well are the subjects of research as effective leaders, as are those who take failure in stride as an aspect of innovation. Additionally, these leaders are able to trust in their team members without micromanaging yet ensuring that technological initiatives are strategically overseen.

Successful technology leaders have high learning quotient (LQ) as often as their IQ and emotional quotient (EQ). This makes them eager to learn continuously and bet on new trends before they happen, thus helping them manage their teams in

the next fast pace in technology. Research has found that teams in the technology organizations that have clear and transparent communication within the technology team and company executives focus more, have less conflict and are more engaged.

It is to help people better communicate strategies that bridge the technical and business languages.

The effective communication is a cornerstone for success in technology leadership, especially when work forces become highly diverse and geographically distributed. Research shows that leaders have to intentionally and deliberately interact to describe the vision to different stakeholder groups. The part comprised of adapting communication styles from technical teams to board members.

Leaders who are technologically competent excel in using communication to effect persuasion rather than communication for exchange of information. And as technology’s participation in enterprise success continues to grow, this skill becomes more and more critical. Modern CIOs must engage across a broadening range of stakeholders, from their IT team, to business project owners, internal and external customers, C-suite peers and anyone else who needs to know to enable initiatives, so studies show.

5. Building cross-functional technology integration teams

In fact, cross functional collaboration acts as a prime driver of innovation and efficiency in today’s business enterprises. This is the reason why, let’s say researches have shown that roughly 75 percent of cross functional teams fail to do so. A great leader understands that people with a variety of knowledge and experiences are good at producing real innovation.

The kind of teams that prove to be particularly effective are in the insurance and auto manufacturing industries, in helping companies work faster and more efficiently. Research reveals that cross functional teams alleviate stereotypes, encourage conflict resolution and foster

understanding of all the department's strengths and weaknesses. In addition to that, they promote office cohesion and collaboration and help organizations to test new ideas before committing to full time teams.

The key to effective cross functional leadership is determining and setting clear goals, and clearly saying how things will be done. It is found in research that team members feel safe to speak up no matter what their opinion; even if they disagree. Successful leaders also remain adaptable and keep monitoring team progress regularly. Organizations like Procter & Gamble, by collaborating ideas, have demonstrated that merging the ideas from different departments, in fact can actually access an array of enriched insights and creativity.

5.1 How Successful Leaders Measure ROI in Technology Integration

Measuring returns on technology investments requires sophisticated measurements beyond that of finance, especially if the funds are invested in cutting edge technology. Its 2025 Technology Investment Report indicates that organizations with well-structured engineering cost benefit analysis frameworks likewise win 42 percent more projects. It's a comprehensive approach to measuring ROI that influences how successful leaders assess and maximize the ROI from the integration of their technology.

Measuring the return on investment from your marketing (ROI) needs to be a multi-faceted exercise and should involve tangible and intangible benefits. 20% of the project costs can be reduce because organizations are using analytics tools to analyze their technology performance. Additionally, companies with the usage of the advanced engineering efficiency metrics exhibit 45% enhancement of utilization resources.

Typically there's a predictable pattern of technical debt ROI analysis: within 3-6 months changes appear; around 6-12 months big improvements show up; 12-18 months later the full effect takes place; ongoing benefits emerge after 18 months. 40% improvement in project success rates is achieved: by organizations that take the third step of measuring and managing their Return on Investment (ROI).

5.2 Balancing between short term disruption and long term gains

Successful leaders understand that massive long term benefits rarely come from having immediate disruptions. ocalypse or to a large extent blooming of cloud technology, as indicated by research from Deloitte, businesses could earn out an average of USD 3.50 for every dollar invested in cloud technology. The return takes place through better

operational efficiency and better positioning in the market.

Essential engineering resource allocation ROI metrics tools encompass performance dashboards, quality monitoring systems, resource tracking platforms, and analytics solutions. They are meant to provide leaders with a good balanced perspective between the need for immediate operational means and growth potential. Organizations that have strong quality metrics have 37 % more satisfied customers.

Telemedicine solutions find a compelling example in adoption by health care sector. A single hospital spent USD 250,000 to set up telehealth infrastructure and was able to cut patient no shows by 20% while bringing in another USD 500,000 in revenue in the first year alone. The success of this story prompts the need to measure financial and operational improvements.

Since many of these variables have to be considered when calculating ROI, you need to have development team ROI calculator tools that will take this into account. Business owners learn the full value of all technology through systematic identification and quantification of costs.

According to the IT Services Marketing Association, ROI is the most important metric for measuring its tactical investments and 70% of businesses subscribe to this perspective. The success is due to clear metric definition, systematic rollout, regular assessment, and continuous adjustment in these successful organizations. With this structured approach, leaders get to capture complete value metrics and get accurate engineering return on investment calculations over time.

Engineering efficiency tracking finally starts breaking down in machine learning. An interesting fact we can all take away from this, is that even a ten percent growth in revenues can translate in 1 percent growth in annual revenue, which is quite considerable. Using a data driven approach of ROI measurement, business heads can make the right decisions in allocating resources and deciding on strategic investments on technological integration.

6. A Roadmap for Developing Digital Leadership Competencies: Becoming an Executive

Effectiveness in digital leadership needs an ordered approach where technical knowledge is blended with adaptability. Research shows that organizations investing in a technology learning ecosystem experience 77 percent higher engagement rates in learners. By creating a systematic development of leadership competencies, this foundation is provided for successful digital transformation initiatives.

6.1 Essential technical literacy for non-technical leaders

This leads to the discussion of the need for technical literacy to be a requisite of modern executives. MIT's research found that senior business managers must understand key IT concepts so that they can work as directed by technology staff. Those in leadership positions who develop the technical proficiency increase chances of driving digital initiatives by six times.

Implementing IT literally comes with no path except understanding, what are the essential IT fundamentals and how does IT really work on the organizational level. Our study found that active engagement of business and IT leaders is essential for effective IT management and transparency is the foundation for determining a good decision. Specific technological challenges faced by the companies can be identified and the companies must be closely following and monitoring the success metrics during the phases of the implementation of the technology.

The ability to make adaptive decisions is crucial for handling the intricacies of the digital environment. Research shows that leaders have to customize their approach to different scenarios and shift from the typical to an optimal level, in combination with their team. To achieve this shift, leaders need to build what studies term as 'networked influence,' where they impact how people behave in dispersed digital spaces.

Organizations that succeed most in digital transformation focus on giving leaders who can experiment, iterate and pivot the greatest abilities. In helping machines increase human workforce capabilities to boost analytical and decision-making capacity and to provide more personalized employee / customer interactions these capabilities become particularly powerful.

6.2 Building technology learning ecosystems inside of organizations

One of the very important components of leadership in the digital age is to establish robust learning ecosystems. Some studies suggest efficient learning technology ecosystems are made up of tools, platforms, people, and processes that enable organizations to use the tools for creating, distributing, managing, and analysis of learning content. A study involving 212 talent development pros finds the keys to a successful learning ecosystem as using, security and data.

The appropriate functions of user experience for learning ecosystems implementation have to be taken into careful consideration. The data shows that 77% of organizations look for an easy to use learning platform when they purchase new platforms. In addition, two thirds of the companies

consider the data collection and reporting as a critical issue for their success.

According to research, leaders need to create what is known as a 'central hub', that incorporates learning, engagement and performance throughout the business. This strategy, to show, is great because, as studies reveal, ecosystems dedicated to learning via a webs of relationships as opposed to a singular authority structure, produce better results. To be agile and flexible, there must be continuous innovation in systems, and even when building those systems, organizations need to allow employees freedom to created and share their learning content.

Balancing technical competency with human centeredness, digital leadership competencies require development. It is argued by research that the keys to being a successful digital leader is to also have high learning quotient besides the strong IQ and emotional quotient. This marriage lets leaders see the future, keep an eye on strategic things while avoiding micromanagement, and oversee rapidly changing technology without losing sight of team.

7. CONCLUSION

According to research, there is a big gap between the leadership's capability and the technological advancement, and out of 10 percent organizations, only 10 percent can do sustainable digital transformation. Although leaders know that the human being matters, they mostly operate in silos, and despite this, they prioritize digital tools instead of people-centric approaches. Organizations that bridge successfully, however, begin to create success patterns. At least six times more successful are leaders who marry technical fluency with strong business sense when it comes to managing digital initiatives. Without being hierarchical, these accomplished leaders have high learning quotient and emotional intelligence, which allows them not only to guide their teams through rapid technological change, but also to keep their eye on the ball strategically. The path forward requires a massive organization shift in how technology integration is approached. These structures need to characterize in terms of an adaptive framework, which supports collaboration across functions and continuous learning. Organizations that lead in the establishment of learning ecosystems that encompass robust learning, continuous focus on clear communication within the technical and business dimensions as well as comprehensive ROI measurement framework are positioned for success in the long run. To succeed in integrating technology, they both have to be addressed: technical, and psychological.

Doing so won't eliminate human problems of misunderstanding, misleading information, conflicting priorities, and inappropriate organization structures, so organizations need not only to move beyond surface operational and tactical digital adoption, but they also must develop leaders who understand technology's strategic value while they continue to practice human-centered approaches. Being able to adopt a balanced perspective of this, helps to underpin sustainable transformation that positively impacts the organization as well as its people. Ultimately success in digital transformation is contingent upon leaders who anticipate, learn and steer their organizations into an ongoing state of change. If leaders have a proper understanding of common pitfalls, meaningful metrics measurement and develop essential competencies, they can set lasting positive change in organizations.

REFERENCES

1. S. Meenakshi, Shahanawaj Ahamad, Rajeev Ratna Vallabhuni, Malmarugan, R. Rathiya, KasiviswanadhamYadlapalli, Vijaya Krishna Rayi, Amol P. Gargelwar, Bhaveshkumar H. Pithadiya, Sudhanshu Maurya, Rohan Verma, Manmohan Singh Rauthan, "BLOCK CHAIN FOR IOT SECURITY AND PRIVACY," The Patent Office Journal No. 01/2023, India. Application No. No. 202241077458 A.
2. HarishchanderAnandaram, V. Kannan, R. Radhakrishnan, Rajeev Ratna Vallabhuni, Vineetha KR, Deepa A, Pramod K, Divya P, Sumi M, Ashish L, J Logeshwaran, "AI/ML For Network Management And Orchestration At The Edge Of Future Networks," The Patent Office Journal No. 01/2023, India. Application No. No. 202241077460 A.
3. S. Vanithamani, N. Chellapandi, S. Suganya, Rajeev Ratna Vallabhuni, Satheesh S, K. Amudha, Mohammed Siddique, A Rohini, S. Balu, K. Palanivel, V. Kannan, J Logeshwaran, "Banana Leaf Disease Detection Using Cnn - Open Cv-Deep Learning Approach," The Patent Office Journal No. 52/2022, India. Application No. 202241073393 A.
4. Bolboli, S.A.; Reiche, M. A model for sustainable business excellence: Implementation and the roadmap. *TQM J.* 2013, 25, 331–346.
5. Metaxas, I.; Koulouriotis, D. A theoretical study of the relation between TQM, assessment and sustainable business excellence. *Total Qual. Manag. Bus. Excell.* 2014, 25, 494–510.
6. Marković, V.; Stajić, L.; Stević, Ž.; Mitrović, G.; Novarlić, B.; Radojčić, Z. A novel integrated subjective-objective MCDM model for alternative ranking in order to achieve business excellence and sustainability. *Symmetry* 2020, 12, 164.
7. Korhonen, J.; Honkasalo, A.; Seppälä, J. Circular economy: The concept and its limitations. *Ecol. Econ.* 2018, 143, 37–46.
8. Searcy, C. Updating corporate sustainability performance measurement systems. *Meas. Bus. Excell.* 2011, 15, 44–56.
9. Goyal, P.; Rahman, Z.; Kazmi, A.A. Corporate sustainability performance and firm performance research: Literature review and future research agenda. *Manag. Decis.* 2013, 51, 361–379.
10. Mann, R.; Mohammad, M.; Agustin, M.T.A. Understanding Business Excellence: An Awareness Guidebook for SMEs. Available online: <https://www.apo-tokyo.org/wp-content/uploads/sites/3/2014/07/UnderstandingBusiness-Excellence.pdf> (accessed on 18 January 2020).
11. Aagaard, A. Identifying Sustainable Business Models through Sustainable Value Creation. In *Sustainable Business Models*, 1st ed.; Aagaard, A., Ed.; Palgrave Macmillan: Cham, Switzerland, 2019; pp. 3–6. ISBN 978-3-319-93274-3.
12. Jankalová, M.; Kurotová, J. Sustainability Assessment Using Economic Value Added. *Sustainability* 2020, 12, 318.
13. Shin, W.S.; Dahlgaard, J.J.; Dahlgaard-Park, S.M.; Kim, M.G. A quality scorecard for the era of industry 4.0. *Total. Qual. Manag. Bus. Excell.* 2018, 29, 959–976.
14. Hyun Park, S.; Seon Shin, W.; Hyun Park, Y.; Lee, Y. Building a new culture for quality management in the era of the Fourth Industrial Revolution. *Total. Qual. Manag. Bus. Excell.* 2017, 28, 934–945.
15. Rowlands, H. Manufacturing Quality 4.0. In *Proceedings of the 21st QMOD-ICQSS Conference*, Cardiff University, Cardiff, UK, 22–24 August 2018.
16. Dale, B.G.; Zairi, M.; Van der Wiele, A.; Williams, A.R.T. Quality is dead in Europe long live excellence—true or false. *Meas. Bus. Excell.* 2000, 4, 4–10.
17. McAdam, R. Three leafed clover. *TQM, organizational excellence and business improvement. TQM Mag.* 2000, 12, 314–320.
18. Tovology, S. The effect of EFQM Framework for Innovation on competitiveness in the education sector. *Soc. Manag. Sci. Period. Polytechica* 2019, 17, 97–103.
19. Sule, J.G.; Ogbadu, E.E.; Nafiu, A.T. Factor analysis of total quality management adoption by SMEs in Nigeria. *Facta Univ.* 2017, 13, 365.
20. Bouranta, N.; Psomas, E.; Suárez-Barraza, M.F.; Jaca, C. The key factors of total quality

- management in the service sector: A cross-cultural study. *Benchmarking Int. J.* 2019, 26, 893.
21. Mehta, N.; Diwakar, N.; Arya, R. Evaluating comparative performance of Indian engineering educational institutes based on TQM criteria for internal benchmarking. *Benchmarking Int. J.* 2019, 26, 221–245.
 22. Mehta, A.M.; Ali, A.; Saleem, H.; Qamruzzaman, M.; Khalid, R. The effect of technology and open innovation on women-owned small and medium enterprises in Pakistan. *J. Asian Financ. Econ. Bus.* 2021, 8, 411–422.
 23. Karwowski, W. A review of human factors challenges of complex adaptive systems: Discovering and understanding chaos in human performance. *Hum. Factors* 2012, 54, 983–995.
 24. Dinis-Carvalho, J.; Monteiro, M.; Macedo, H. *Continuous Improvement System: Team Members' Perceptions*; Springer: Berlin/Heidelberg, Germany, 2020; Volume 122.
 25. Dinis-Carvalho, J.; Moreira, F.; Bragança, S.; Costa, E.; Alves, A.; Sousa, R. Waste identification diagrams. *Prod. Plan. Control* 2015, 26, 1–13.
 26. Arunagiri, P.; Gnanavelbabu, A. Identification of high impact lean production tools in automobile industries using weighted average method. *Procedia Eng.* 2014, 97, 2072–2080.