

# Developing a Skilled Workforce by Addressing Technological Challenges Faced by States and Organizations

In the development of the economy, the emergence and role of skilled workers have been a forefront subject. We have witnessed in India, Vietnam, China, and Cambodia where labor at the manual level has accelerated its learning to achieve efficiency through the growth of their economies. This has led to increased exports, development in homegrown industries, and the widening of a knowledge-based economy. The knowledge-based economy is primarily driven by technology.

While Pakistan persistently faces a shortage of skilled labor, it has a huge influx of labor with very minimal skills; its inability to upgrade itself in the realm of production and technology is much desired. There may be many reasons for the state of affairs. One significant reason is the state's lack of investment in human resources and its inability to apprehend the ramifications of technological advancements. The state has not prioritized the training and upgrading of education for the masses.

The situation has reached a level of degeneration where it will take years to reconstruct and reform. For instance, the education sector at the primary level has been badly affected by the low caliber of teaching faculty, especially in rural areas. We are witnessing the outcome of a vicious circle—the present teachers are of the same cadre who were earlier taught by less skilled teachers.

In this aftermath, the workforce in Pakistan finds it difficult to qualify for quality enhancement certifications, compounded by the fact that a vast number of government skill enhancement institutions are in bad shape and led by poorly trained teachers. It can be further confirmed that friendly Gulf and Middle Eastern countries have persistently reminded us of the need for improvement in the quality of the workforce through training in technological fields.

In the adoption of technology and renovation, there are many issues and hurdles at both the state and organizational levels. Some of the key issues are highlighted below:

## State low priority

Human resource development has never been a top priority in Pakistan, as evidenced by the allocation of less than 2% of GDP to health and education—significantly lower than the 4% seen in fast-growing economies.

To bolster foreign exchange earnings, it is crucial to increase exports. A prime example is the establishment of the Gems and Jewellery Development Company under the Ministry of Industries and Production. This initiative aims to train and develop workers, including goldsmiths and entrepreneurs, to enhance the gems and gold ornament sector. With a substantial international market, the industry has historically struggled to convert raw materials into value-added

products, often exporting gold and gems in their original forms.

The Gems and Jewellery Development Company has established a modern training facility equipped with new technologies and gold design automation. Consultants from abroad were brought in to train a significant number of semi-skilled workers and to guide local businessmen on export documentation.



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Another critical issue is the lack of gold benchmarking in Pakistan. The gold and gems industry cannot thrive internationally without certification from an accredited body recognized globally. Unfortunately, efforts to implement benchmarking standards have been hampered by a reluctance among goldsmiths to adopt modern practices over traditional methods.

While the Gems and Jewellery Development Company has made strides, it still faces challenges. The export of value-added goods has yet to see significant growth. Establishing an international-level training center focused on value addition in the marble, furniture, food, and fruit sectors is essential. This center should prioritize developing benchmarking standards to meet the accreditation requirements of foreign buyers. Governance should be entrusted to independent, reputable individuals under the oversight of a Board of Governors. The state's role is crucial, as it can facilitate coordinated investments in technology, identify market segments, and provide tax concessions.

Moreover, public welfare initiatives, such as green bus projects, can enhance technology awareness among citizens, fostering a sense of dignity and personal development.

## Organizations issues with technology adoption

Local industries still have a long way to go to keep pace with technological advancements. Certain businesses have become more competitive by utilizing data science and artificial intelligence.

The fundamental question that needs to be addressed with the adoption of technology is whether a revamp of the organization has been undertaken. Most organizations take time to understand this factor, which also has a cultural dimension. Top executives are responsible for initiating change and removing impediments.

## The Core

Do the decision-makers in the organization understand that technological implementation, whether in the form of software adoption, system and infrastructure upgrades, mechanical enhancements, or data accessibility, requires time for analysis, accumulation, and interpretation?

This process may take years to yield full benefits, provided that the necessary human resources are trained and well-versed in the technology. The assessment should also ensure that working environments align with the technological framework.

As single-department functions evolve into cross-departmental interrelated activities, middle executives in different departments must ensure that specific outcomes align with the organization's overarching objectives.

In data-driven decision-making, competency at each management level becomes increasingly important. If analysis is restricted to a single frame, it will lead to a narrow vision; therefore, the emphasis should be on the department's ability to look one step ahead. The interpretation of data must be based on merit, not personal judgment or imagination. One must be aware of technological constraints and build trust in the accuracy of results.

When implementing technology, the organization must adopt a learning-oriented attitude. Fear of failure should be discouraged; it must be treated as part of the learning process. Feedback should be reviewed and reconciled.

## At the time of implementation of technology

Top executives must share and disseminate information at each management level in accordance with performance and upgrade requirements, including the need for technology, various implementation phases, gaps in the existing system, and the functionality of the new system. Barriers to change, such as fear of redundancy and competency issues, must be addressed, and staff need to be educated on the benefits of technology adoption. It is essential to communicate that their roles will be enhanced rather than limited, leading to improved operational efficiency.

Changing cultural factors cannot happen overnight, particularly in relationships such as worker-to-worker, manager-to-worker, and customer-to-sales department. In this context, personalized assurance from top executives that technology will foster a better understanding of issues is imperative. Executives who are aware of the nature of the barriers will know how to communicate effectively and where to invest. Budgetary allocations should also consider the costs associated with policy changes, technological integration, training, and documentation.

## In-House Capacity

Senior executives and department heads must be trained to use and interpret technological processes and data

offerings. Each department head should be well-versed in the technological processes and their outcomes. Ultimately, top decision-makers should have a clear understanding of data accumulation, presentation, and its physical arrangement on the ground. Executives should lead cultural change efforts to create a positive impact and encourage workers to adopt new production methods. Feedback should be solicited from employees.

Furthermore, before accepting the adoption of new technology, the old system should remain in place for a certain period to verify the accuracy of the outcomes. Department executives are likely to face challenges both internally and externally. There is a need for department executives to plan a timeframe to enhance efficiency and ensure equitable resource distribution. Key performance indicators can assist in monitoring assigned tasks.

Staff and workers should be involved in decision-making at the operational level, as they will carry forward the ultimate deliverables. Therefore, training and facilitation must go hand in hand. Since culture is a vital ingredient, it is equally important to amend policies to align with operational activities that lead to cultural change. Management must recognize that collaboration is more important than competition among workers in cross-department functionality during the implementation stage. An incentive scheme, tied to measurable actions and metrics, can help motivate acceptance of change, provided it does not foster internal competition. Recognition from top executives, in the form of certifications and role upgrades, can bring about positive cultural change without incurring financial ramifications.

## Two Teams

Senior executives can formulate two policies to effectively address the implementation and control of technology:

**Steering Group:** This group should consist of relevant top and middle executives drawn from technical, IT, and business sectors. Its responsibilities include fostering cross-board accountability, encouraging collaboration, reviewing and amending policies, and allocating resources effectively.

**Task-Based Mid-Level Executive Team:** This team is responsible for breaking down the strategy at the operational level. It serves as a conduit for information from front-line workers and reports on the various phases of implementation.

Technology introduces advanced functionality, and those closest to the action are often the first to develop diverse skills and perspectives. Their input, aligned with their capacity, is essential for successful implementation.

**About the Author:** The writer is a Chartered Management Accountant and a Fellow member of ICMA. With 20 years of experience, he has served various organizations in different capacities. His most recent position was Director of Finance at Dawood University of Engineering & Technology in Karachi.