DIGITAL TRANSFORMATION OF NATIONAL TVET SYSTEM

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Introduction

Digital transformation is necessary for all actors involved in the education, higher education, technical education, vocational training systems, in short, all creators of talent. How can the digital transformation be achieved while facing the technological, cultural, and even more so the challenges of user security and data protection?

The concept of digital transformation refers to how technology can be used to optimize work processes so that they become more efficient or effective. It is not just about transforming an existing service into a digital version, but about improving it. It is very important to note that this transformation includes changing the way those who will have to use it daily think, act and interact. If the implementation of digital culture is not accompanied by support in managing change, it will be difficult for any organization to instill new ways of operating and to make a successful transition to a digital work environment. The transition from a traditional organization to a digitally transformed organization often involves breaking down current operating modes and establishing different relationships with all stakeholders.

Digital transformation is the adoption of digital technologies to transform business (or work) processes to improve products and services. The value of information, the ability to process and analyze it for political decision-making, to steer and govern an education and training system has become invaluable and will have a very great influence on all performance and impact indicators of any training or education system, whether at local, national, regional or international level. This is no longer a trend, but a reality which, if it is not considered by decision-makers and managers, is in danger of being overlooked.

The digital transformation is breaking down the silos that existed between the different actors in the education and TVET sectors and education systems. Electronic cooperation platforms, information management systems, digital work environments, web-based applications, interactive collaboration tools and artificial intelligence are

changing the way people work, collaborate, and communicate. A digital transformation is about digitizing all aspects of business processes. However, the players are not always aware of this.

My personal experience

The problem I encountered during consulting mission aiming at providing technical assistance in the development of TVET policies, Strategic development plan, or technical audits. The lack of reliable data and information based on evidence

It all points to the lack of a management information system, Many experiments have been conducted in different countries, in West Africa, but they remain isolated projects or initiatives and did not have a broad national or regional impact on the performance of the TVET system. Some of them were not sustainable enough to remain after the end of the project.

Is there a solution to this problem which is common to many TVET organizations in Africa?

Many experiments have been conducted in different countries, in West Africa, but they remain isolated projects or initiatives and did not have a broad national or regional impact on the performance of the TVET system. Some of them were not sustainable enough to remain after the end of the project.

How to address this specific problem of lack of reliable data and information at all level of the TVET system

How to implement a working solution, while facing many challenges and avoiding pitfalls. Let us explore how TVET organizations (agencies) can effectively address this matter.

Pragmatic approach to TVET digital transformation

The proposed methodology recommends allocating more than 50% of the resources to supervision, support for stakeholders over a period of at least 3 years and if possible 5 years, training of stakeholders, and communication and information on this digital transformation process.

It is a fundamental work, based on **3 essential pillars**:

- The first and most important is **the human factor**, breaking down fears through adequate communication, person-to-person (no e-mails, not too many documents to read, but information meetings, consultations face to face, exchanges on issues, etc.). While written forms of

communication such as memos and letters can help promote awareness, it is best to combine them with regular round tables, stakeholders' meetings and training sessions to keep all parties truly engaged in the process. The goal is to communicate a clear vision and strategy for digital transformation to as many stakeholders as possible. To facilitate the adoption of the strategy, it must consider users, their experiences, and the expectations of those who will implement it. For an organization to produce real and tangible results, the employees will need to be constantly involved in the strategy and vision. Their adherence to the strategy combined with the right tools are the key to meeting the challenges. Awareness of potential problems by the stakeholders will facilitate the design of a solid strategy to achieve objectives and improve business processes.

- The second factor is **still the human factor**. The aim is to reduce fears and resistance to change through **gradual skills upgrading**, targeted training, coaching in the form of coaching over time, until users themselves can measure the positive impact that the digital transformation is having on their efficiency, performance and improved work results. It is crucial to multiply and diversify learning methods to support people's different learning styles. It is also necessary to allow sufficient time and an adapted learning pace to learn new technologies properly. Training must begin with managers so that they can offer support to employees when they have difficulties with a new technology. By making your managers experts first and foremost, they will be able to provide support to employees not only on a personal level, but also on a technical level. A technical support team may also be needed for orientation.
- The third factor is **still the human factor**. Yes, again!!! In a digital transformation, people will have **new roles and responsibilities**, with some jobs lost and others added. People don't have digital literacy to begin with, they have to acquire it as they go through this digital transformation, which is really a **cultural and social transformation** in the ways people interact and do their jobs on a daily basis. Africa has a predominantly oral culture and although administrations are based on the written word, most social and work interactions are oral. The digital culture imposes a written traceability and requires interaction through the written word. Culture is therefore one of the greatest challenges to be overcome in any digital transformation.

  The key to the success of the digital transformation is to listen to users. The digital transformation does not

need to be radical; rather, it is a continuous innovation over the long term.

Where should an organization start with digital transformation?

It is difficult to know where to start when it comes to implementing a digital strategy. Overcoming initial inertia is the key to getting on the path of digital change.

Strong digital leadership

If employees in the digital transformation team divide their time between digital initiatives and their regular work, they are less likely to be successful in both cases. Having a dedicated leader responsible for the digital transition is the most effective way to overcome this challenge.

It is essential to create a new organizational digital culture among all the actors of the system, by bringing them to tame the exchanges of information between the different components of the system, breaking down the siloed workings. Human beings are not digital objects. They do not think digitally. It takes time to learn and transform mentalities, but most organizations underestimate the real challenges of transformation efforts. It is easy to get distracted by the possibilities of exploring new technologies and dreams of a better future. But getting there will take hard work, determination, tough decisions and, above all, realism in the digital transformation project.

Resistance to change is, in fact, resistance to actions that are not in people's own interest. As leaders and employees of organizations, we generally act in ways that we believe will preserve our status, position, and employment opportunities in the long term. Without being explicitly stated, in most cases, transformation efforts will affect all these areas and often challenge practices that leaders have built their entire careers on. As a result, many people in the organization may either ignore or actively oppose a transformation effort because it goes against their individual instincts.

Try to link the transformational efforts to key points in the organization's culture. Be aware of how the culture will help and hinder the efforts, and act to leverage the former and mitigate the latter.

When implementing digital applications, present to the people concerned all the beneficial reasons for using them. Then, think about how it makes their professional and even personal life easier. We need to convince our team that this technology is beneficial to them. Examples of the adoption of mobile phones and applications such as mobile payment, communication applications or video

sharing applications could help convince people to try new technologies.

As transformation efforts progress, regularly take the time to assess the key players in the organization and determine whether they are supportive, neutral or potential detractors of our efforts. Successful and rewarding transformations are not easy to execute. However, listening carefully to users and their concerns can increase our chances of success.

Demonstrate what can be done with real results

It is recommended that we start with a step-by-step approach, especially if some of the technologies are unfamiliar or not commonly used in our organization. The knowledge and experience we gain will tell you what to do next. The knowledge gained from the first project can be applied to the next project. As the technologies are implemented, there will be a time when it becomes apparent that the technologies could be used to accomplish a task differently. The objective of the strategy is to provoke in the employee an incremental learning approach.

Actors learn by doing. To succeed in the digital transformation, organizations must focus on deploying solutions that can be adopted gradually at all levels of the organization. Successful digital transformations must make work both easier and better. Unfortunately, many initiatives do not target specific improvements. Teams get excited about terms such as big data, predictive analytics, and artificial intelligence, but remain too focused on technology instead of solving real-world problems.

Who should lead digital transformation projects?

One of the greatest challenges to digital transformation is the lack of digital talent capable of fully contributing to the organization's goals. For digital transformation efforts to be successful, it is important to have a competent digital transformation team. The digital transformation should be led by a multidisciplinary team with an up-to-date understanding of the problems of education systems and what information technology can do to solve them.

The team of experts assembled brings together a wealth of talent with practical and proven experience in digital technology, but also specialists in education, vocational training with good experience in the implementation of sectoral reform policies and strategic development plans in education, technical education and vocational training.

Adopt an inclusive and participatory approach for all stakeholders

Be aware of and understand the threats and concerns that people will express in relation to organizational change and how it might affect their work. Effective communication, especially at the beginning of the project, should enable all stakeholders to understand their role in the digital transformation and how they can contribute to it.

Equipment Policy

The choice of equipment adapted to the economic context and the technical environment (availability of electricity and Internet access, technical assistance to users and maintenance facilities) is very important. To be effective, the installation of equipment requires planning and teamwork between organizations. Choosing an appropriate installation site is a good step to ensure optimal equipment operation.

Good practices in the implementation of digital transition projects and which will be contributed to its results

Match the duration of the project to the pace of implementation and the nature of the expected results.

Implementing management information systems takes very long time. For complex TVET system it may take 3 to five years before the system is fully operational. Delays always occurs, even if the work plan has been carefully crafted. To extend duration or to postpone activities or groups of activities for which the conditions for success are not yet in place may be beneficial to the achievement of results.

Given the complexity of the project, which involved target audiences with sometimes different interests and objectives, and the breadth of the results expectations, which focused on organizational and management changes, and in light of changes in policies and strategies digital transformation requires, extension of time frame make possible to adaptation of the pace of MIS project implementation to the changing context and to the stakeholder's' absorption capacity. It is also good to test several tools in real-life application situations, which demonstrate their relevance and ensure their sustainable integration into the management practices of vocational training.

Demonstrate flexibility in implementation while staying focused on results to be achieved

During the life of a project, many unforeseen events can occur institutional changes, departmental changes, changes in policy or strategy. The project was able to adapt to these changes in a consensus-based manner and adjust priorities and activities while ensuring that it remained focused on its objectives and expected results at the end of the project. A good communication scheme and a climate of openness and respect prevalence should be promoted by the project management bodies, the technical committee and the steering committee, in the spirit of ensuring participatory management that respected the roles and responsibilities of each party.

Avoid silo approaches = Seek complementarity and interactivity between the different dimensions of the project

The implementation plan, the results in the logic framework and the operational working plan components of the digital transformation project should be defined according to the different institutional partners of the project: Government officials in charge of VET for the first chain of results, TVET centers management staff (public and privates) and the private sector partners. The activities of the project must be organized in such a way as to seek complementarity and interactivity between groups of beneficiaries. Regardless of the structure in which they intervene in the vocational training system, all the stakeholders should be collectively involved in the activities of interest to them. This had the advantage of encouraging networking, sharing of information, tools and skills and thus contributing to the development of a common vision for the digital transition.

Anticipate the challenges of appropriation and generalization by designing applications that are easy to setup in different implementation contexts

When the applications functionalities and configuration tools are determined collectively by the project partners with a view to being implemented in the specific contexts of the various training operators and TVET systems, it allows the development of generic application, easily configurable for a various number of components in the entire vocational training system, while being able to

respond to the specific contexts of different actors. This facilitates their appropriation and generalization.

Coaching and mentoring by relying on "get things done" and collaborative work

In general, digital transition projects relay heavily on know-how transfer in the improvement of the governance of the vocational training system. The support approach should always be based "on co-development, collaborative know-how building, action training and support for all partners in the development and implementation process. This coaching and "get things done" and collaborative work approach must be applied throughout the implementation of the project. It is an effective way for ensuring real acquisition of skills and a better appropriation.

Involve all key actors in both the management and implementation of the project

Involving all key actors in both the management and implementation of the project, both at the level of the implementation of main project activities and at the level of its management contributes to increase ownership of the projects, facilitate dialogue between the parties and mitigates potential risks and sources of blockage.

Integrate gender equality and equity at the root of the development process

It is deeming important that gender equality and equity is considered in all the cores framework of the management information system with dedicated sexospecified fields in the data base. This will be a good way to promote equality and gender equity measures and in vocational training.

Regroup actors in clusters or community of practice

When key players are grouped in clusters or community of practice, it is a promising way to reinforce generalization and sustainability. by training operators is a promising mechanism for the generalization of vocational training in APC in the institutions. It empowers most active managers as role models or champions. They play a pivotal role in the deployment of the applications and contribute to the consolidation of good management practices. They can also facilitate the appropriation of training practices.

The sharing of good practice between vocational training institutions reinforces interest and motivation to implement digital transition.

Meetings between the heads of vocational training institutions help to increase interest and motivation to implement digital transition. These meetings make it possible to collectively find solutions to the difficulties encountered and to exchange good practices.

Implementation of a TVET MIS is a powerful tool to promote quality of training, accountability and result based management in vocational training institutions.

In the 21st century, it is recognized by the whole community of practice that the development of a management information system for TVET provision is no longer a luxury, but a strategic priority for the development of citizens' capacities. All governments have, or are planning to develop, an information management system dedicated to education, technical and vocational education, and higher education. However, the systems currently in place are not easily interoperable and standardized against international standards.

Provide a clear roadmap on how to implement a working solution, while facing many challenges and avoiding pitfalls. to provides to user's reliable data, scoreboards presented in appropriate format, understandable, comprehensive enough to be used for planning, pilot

Key features of a TVET MIS

- TVET management information system, unified, simple to use, not expensive to operate and work even in condition where the Internet and electricity are not easily accessible, addressing different stakeholders' interest.
- TVET MIS should enable government institutions and, in particular, those responsible for managing the TVET system to pilot the TVET system using management dashboards that are informative in real time, with data collection instruments from technical and vocational education and training institutions, staff and learners, and TVET partners in order to maximize its effectiveness and efficiency
- An electronic platform for monitoring national skills, statistics on TVET institutions, relevant indicators on the state of development and performance of national

TVET systems made available to partners and the target audience

- Users should be able to monitor in real time the employment integration rate of graduates
- Users should be able to update reliable, and valid information on all TVET system components in a timely and cost-effective manner?

Q&A

- The digital transformation of business processes and the deployment of digital work environments and new IT applications in the TVET sector generate many hopes and at the same time not unfounded fears. What type of fears? How can we overcome those fears?
- What are the most critical results you expect from implementing a TVET management information system to produce?
- What do you believe DIGITAL transition in TVET management would bring?
- Would you please share with us your experience in implementing TVET MIS? Give us a brief description of the application you are using and how it has changed the way the TVET system is managed and what benefit is it providing to users.
- What advice would you give someone who is looking forward to implementing such a system?
- What best practice would you recommend?