

When Digital Systems Become the Nervous System of Education

How ten weeks in Kenya showed us that digital administrative systems must be integrated into everyday workflows before they can create value

By Eric Roberts & Gustav Dyhre, June 2026

When functioning normally, a nervous system is rarely noticed. Signals are being transmitted, movement is coordinated and the body behaves as expected. However, if these signals are disturbed even the simplest tasks can become difficult to manage. In educational institutions, the administration behaves similarly. Registration, tuition, grading, attendance and reporting may not always be externally visible but are continuously present in order for the institution to function. Digital administrative systems are being introduced at a rapid pace across the globe, replacing their analogue counterparts. When implemented quickly, it can sometimes be difficult to identify the origin of disruptions, but also to understand the benefits of such a system. In order to study this further, we spent 10 weeks in Kenya, in a context that displayed significant institutional differences and extremes. Our fieldwork included visits to a wide range of institutions, from small vocational educational institutions in rural areas to major educational hubs in Nairobi's city centre.

During our visit, we saw firsthand how digital administrative systems could transform institutions, observing both benefits and symptoms. The fieldwork showed how these systems transferred information dynamically, similar to a nervous system, in institutions where information was no longer stuck in folders, Excel sheets or in individuals' memories. We also observed how the implementation of these systems could cause small problems at one end that would result in major consequences at the other end. Moreover, these issues could go undetected for quite some time and were often difficult to locate.

What we found is that implementation is not the same as adoption. A nervous system that is present but poorly connected does not improve movement. It may even disturb it. The same applies to administrative systems. We found that value is realised only when the administrative system is integrated into the daily workflows that organise the education. This difference, between a system being physically present and being properly connected, was what we examined during our stay in Kenya. Through interviews, field conversations and institutional visits we studied how digital administrative systems are used within Kenyan tertiary education, visiting both TVETs and universities. The fieldwork revealed something that would have been hard to discover from abroad: the same type of system can become a solution in one institution and a source of friction in another.

One of the most profound insights from the study was that Kenyan tertiary education must be understood as a heterogeneous context. Institutions vary in size, resource availability, governance, digital infrastructure and administrative capacity. Some institutions already possess advanced systems and internal IT-structures, while others displayed a greater need for digitalisation but less ideal conditions to manage the transformation. Similar to our bodies, institutions function differently and just because a system works in one body does not imply that it would work similarly in another.

But what does "normal body function" mean for an institution? In the scope of this study, that would be translated to the net outcome from the system after implementation. To understand why, we had to look below the institutional level and study the everyday workflows where

the systems were actually used. By analysing the institutions on a process-level, we could understand which processes drove value and which were likely to cause institutional friction.

We could also understand how different user groups perceived value differently and the importance of stakeholder alignment. We found that certain workflows were more recurring, easier to standardise and data-driven, such as registration, reporting and student records. These could provide tangible benefits relatively quickly through decreased manual workload, improved traceability and increased information accessibility. We also found certain processes to display an increasing complexity, such as fee management. Because these processes involved multiple stakeholders and depended on reliable outputs, errors could cause greater value loss by reducing trust in the system. In other words, some body parts were more easily integrated into the new nervous system.

The nervous system must not only receive signals but also send them. The same applies to administrative systems, which are dependent on their users. Decision makers may perceive value through reporting and gaining institutional overview. Administrators may value time savings and fewer duplicate checks. Technical users may worry about integration, support burden and data security. Students are affected by the system results and outputs, even when unaware of the work behind. When these different perspectives clash there is a significant risk of value loss if not handled with delicacy.

You may have heard someone say that 40 is the new 30. Behind the cliché lies a useful point: age is not always as simple as the number suggests. Biological age and chronological age can differ vastly. Something similar can be said

about institutions and their digital maturity. Our study suggests that digital maturity can be unevenly distributed within the same institution. Rather than evaluating maturity only at the institutional level, it should be considered at the process-level. One workflow may be highly digitalised, while another still relies on manual routines. An institution may have a strong IT infrastructure but still depend on informal workarounds every day. Like a body with firm neural pathways in some areas and weaker connections in others, institutions do not mature evenly.

So, what does this mean? Academically, the study aims to illustrate the complexity of digitalisation, especially in heterogeneous and rapidly changing contexts. This study was conducted as a qualitative explorative case study. Rather than generating statistically generalisable conclusions, this study produces analytically generalisable insights that may indicate which topics to study further and quantify in future studies. Such results could not only increase the effectiveness of education but also deepen our understanding of digitalisation in complex organisations anywhere in society. For system providers in the education context, the findings of this study suggest that institutions should not be segmented simply by institutional type, size or need. Instead, one should focus on where the system actually can be integrated and used in a way that realizes value. Adoption depends on identifying which workflows are ready, which stakeholders need to be aligned and where the signals of digitalisation are at risk of being interrupted. A digital administrative system can become the nervous system of an institution – but only if it fits the body it is meant to help move.

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