



The Impact of Digital Learning on Private School from Perspective of Technology Acceptance Model

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Abstract

Despite the difficulties, risk and failures, higher education institutions are continuously replacing/implementing digital Systems to meet the demands of sector competition and expectation forming the stakeholders. Many literatures claim that the digital implementation is risky and challenging. Especially when HEIs are novice, it becomes important to mitigate the risk involved in digital implementation for a successful implementation. This paper proposes a new risk based framework for digital implementation in higher education.

Keywords: Digital systems, stake holders, HEI, digital implementation.

1. Introduction

Educational institutions are having traditionally been non-competitive. However, with the advent of technology they have become competitive in-order to survive [1]. A robust way to rationalize and enhance bottom line is implement process automation. Thus Digital's have become the main stay. Digital systems not only automate a given process and system, they bring transparency, manageability [2] and huge cost saving if implemented correctly. Digital systems are high capability software with complex algorithms with scope to service any vertical within or outside an organization. With the main role to support key administrative and academic services in an educational system [3]. Accuracy and accessibility of information are the hallmarks of a Digital system within any business organization and these are just some of the tangible benefits amongst a host of other advantages that come with it [4]. Primary focus of Digital system is to connect all the business functionalities into a single consolidated source that can help to meet the needs of the entire organization. This ubiquitous system is expected to bring quality, productivity efficiency and profitability [8]. Despite the presence of many commercial program packages that merely amalgamate data and business processes, they cannot be suitable for implementation in an educational organization such as universities [5]. The biggest threat to Digital systems, despite all their advantages, is their high levels of "failure proportion" [6]. An organization by all measures can consider a Digital implementation as its biggest project undertaking [7]. Risk mitigation and framework procedures adherence are of paramount importance for a successful DIGITAL implementation.

2. Higher Education and Digital Systems

The challenge of increased competition, regulatory demands from the government and rising customer expectations has added pressure to the higher education sector to improve their

operational efficiency. The continuous and major changes in the education sector demands all administrative processes to be managed efficiently [8,9]. Higher education DIGITAL systems address the basic administrative functions such as Admissions, Student Administration, Programmed and course management, Batch schedule management, Assessments, Student Services Facilities etc., which are traditionally not traditionally a part of DIGITAL systems. "Traditional DIGITAL systems address only administrative functions such as HR (Human Resource), Finance, Operations & Logistics and Sales and Marketing applications" [9]. Yet, the HE sector requires unique function as mentioned above. According to Fisher [10], "DIGITAL systems were initially introduced into HEIs in the US in response to the same drives that encouraged private sector adoption". American HEI's embraced the DIGITAL system as a mode to integrating and managing complex process deficiencies that we inherent in the existing setup [11]. Despite the numerous advantages that are related with the implementation of DIGITAL in higher education, they have far too often been described as unaffordable, un-necessarily complex and or hazardous and risky to the implement [3, 6, 12, 13, 14]; However, globally, more organizations are seeing DIGITAL as an efficient tool to develop, grow and sustain their organizations and have continued to embrace it [15]. Although liturgical resemblance of likeness between corporate and HEI's do exist however a "copy & paste" would prove disastrous [16, 17].

- complexity of purpose,
- limited measurability of outputs,
- both autonomy and dependency from wider society,
- Diffuse structure and authority, and internal fragmentation."

3. Digital Success and Failure Stories

Various literatures reveal that there are mixed results in the implementation of DIGITAL. According to a survey, almost 85% of DIGITAL system users have categorically stated their absolute satisfaction with the system. Additionally, some have even argued that it is impossible to continue without the system.

Umbel [18] said, “At Toro Co., DIGITAL, coupled with new warehousing and distribution methods, resulted in annual savings of \$10 million due to inventory reduction. Owens Corning claims DIGITAL software helped it save \$50 million in logistics, materials management, and sourcing”. According to Zaglago, Novotny and Sabati said that “The Earthgrains Company witnessed a net improvement in its operating margin from 2.4 to 3.3%. The company also improved its on-time delivery to 99% thereby improving its customer satisfaction metric” [19]. While these are some evidences for DIGITAL Implementation successes on the other hand the literatures also registered the failures in the DIGITAL implementation. Rasmy says “three quarters of DIGITAL projects are considered failures and many DIGITAL projects ended catastrophically”. Muscatello & Parente [20,21,22] reported that “failure rates estimated to be as high as 50 percent of all DIGITAL implementations”. Wang [23] said that, “70 percent of DIGITAL implementations fail to deliver anticipated benefits”. Malahat [24] reports that “more than 50 % of the projects were cost 189% of their original estimates” Panorama Consulting Solutions, an DIGITAL consulting firm had published a report in the DIGITAL 2015 magazine with the following information: [25]

- 58% implementation showed a cost overrun
- 65% had issued time overruns
- 53% of the implementations stated that the system met less than 50% of the set

4. Risk Involved in Digital Implementation

Research has indicated that there exists a high implementation failure rate of integrated information systems. A few instances have evolved in to “high risk category”. This is clearly due the way in which DIGITAL evolved historically. Success models of highly efficient companies were used as a benchmark reference for implementation. Complexities arising due to adaptation were not considered thus increasing the risk manifold. Contrary to expectations of improved organizational effectiveness due to a DIGITAL implementation, documented failure rate is high. The reasons for failure can be manifold. But the core reasons are due the evolution the DIGITAL system itself. The initial strategy was to capture “best practice” processes across successful industries and create a reference benchmark model. So, when a different industry embarked on adapting the best practice of completely different trade sector the challenges and complexities became evident and proved to be a huge deterrent to the exercise. Other causes can be:

- Unrealistic organizational objectives
- Undecided implementation methodology
- Poorly outlined goals
- Lack of management support and participation
- Miscalculated scope, size and complexity
- Organization change readiness
- Inconsistent project resource selection process
- Unqualified human resource with no relevant skills
- Questionable data accuracy
- Infrastructure issues of technical nature.

4. Proposed Framework

This proposed framework is based on the analysis of previous studies of scholars, the relevant research publications and considering the uniqueness of the higher education sector. There were few frameworks found in the literature for higher education however, there is no much importance given to risk management. This proposed framework has different stages and gives focus on risk management as well

The different phases are as follows

- Preparation Phase

- a. Accept stage
 - b. Selection stage
- Planning Phase
 - Implementation Phase
 - Go-live Phase
 - Integration and Upgrade Phase
 - Risk Management Phase

4.1 Preparation Phase

Preparation is the initial stage of the framework. There are two different stages in this phase they are Acceptance stage and Selection stage. Acceptance stage is focuses on the adoptive decisions of the DIGITAL systems. There are important activities in this stage. They are

1. Need analysis
2. Current environment
3. Decision making

The existing environment needs to be analyzed for a gap or need statement; the steps leading to defining the “need statement” should be documented. The “need statement document will highlight the draw backs and strengths of the current system. Based on this data a “need analysis” for a new DIGITAL system can be established. This initiative will help determine whether the current systems should be replaced with an DIGITAL system or to merely enhance the current system to include additional capabilities. A critical foresight of the challenges and risks involved in the implementation of an DIGITAL system should be made know at this nascent stage of decision making. Institutional readiness for a project of this magnitude in terms of time and mission criticalness should always be gauged across the business vertical. Rhetorical readiness questionnaires would try and validate answers to the following kind of questions:

- Is this initiative the only one of its kind in perusal at the moment across all business verticals?
- Does the top brass willing to commit to this project and back it to the hilt will support and resources?
- Does the institution need this system, in other words, is the environment, right?
- Are bottom line variants definitive and quantifiable in numbers?

A validation of the responses to this questionnaire may help in identifying and addressing any resistance that might arise. This entire step will help in making the decision whether the institution should really to implement DIGITAL system or the existing setup is enough to continue the operation with relevant possible enhancements in the current system. Selection stage is another important phase after the decision is made to move to DIGITAL Systems. The following selections to be done carefully

1. Product and vendor
2. Consultant
3. Steering committee
4. Project team
5. Risk management team

As shown in the table.1. In this step the existing technical infrastructure is analyzed. It is compared with proposed requirement of the vendor to implement DIGITAL system. It is important to procure the necessary technical components for the infrastructure to be ready for the implementation including the relevant licenses. The implementation need to address all issue logs and affirm that that have been corrected during simulation. All modifications are inspected for faults and documented if any. Staff and end user training is put into motion. Vendor and consultants are on “standby” on Go Live day as shown in the Figure.1.

6. End users are assisted and trained by vendors and implementers during this phase.

Table 1: DIGITAL Framework

Phases	Activities
Preparation	Acceptance stage:
	• Analysis and find the gap and missing capabilities in the existing System
	• Identify the need for a new DIGITAL system and readiness
	• Make the decision
	• Understanding the benefits and issues involved in DIGITAL Implementation
	Selection stage
	• Select the right product and vendor
	• Select the consultant
	• Select Steering committee
	• Select the project team
• Select Risk management team	
Planning	• Initiate and sign the contract with Deliverables
	• Interact and decide the clear BRD
	• Decide the Project Plan and Timeline
	• Decide the framework
	• Decide the implementation strategy
	• Decide the transition strategy (as applicable)
	• Analysis Technical infrastructure
Implementation	• Create necessary technical Environment
	• Develop, deploy and configuration
	• Data Migration (as applicable)
	• Test and Ensure
	• Documentation
Go Live	• Prepare for Go-live
	• Conduct the training
	• Provide all necessary documentation for the smoother running of DIGITAL at all levels
Integration and Upgrade	• Integration and upgrades
	• Repeat from step 3 to step 5
Risk Management	• Risk Identification
	• Risk Assessment
	• Risk Mitigation and control

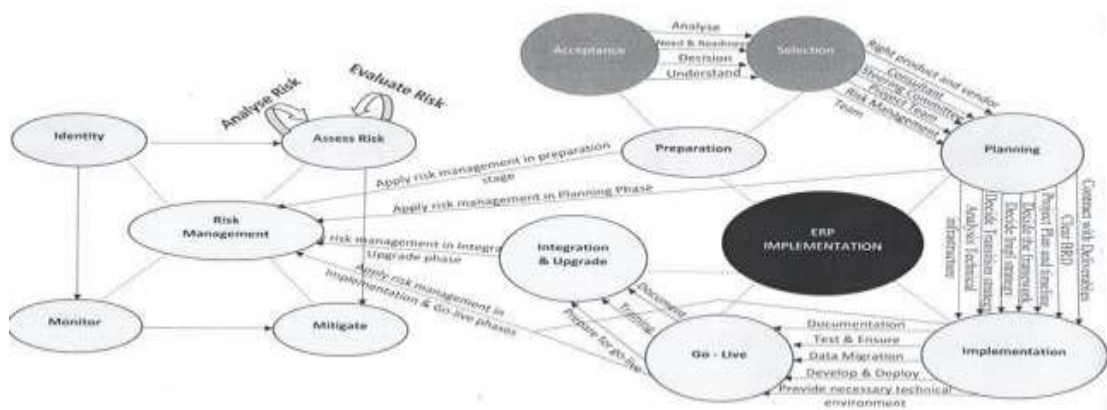


Figure.1: “standby” on Go Live day on digital implementation

5. Conclusion:

The purpose of this paper is to present a risk based DIGITAL implementation framework which has been proposed. This framework will help the higher education institutions to implement the DIGITAL systems with risk management and to engage and act on the risk that will arise during the implementation. This framework will also help to identify the risks at in the vital stages of the DIGITAL implementation. The key focus is given to the risk identification, Risk assessment and mitigation at in the early stage of the implementation to reduce or avoid implementation failures.

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