

PHD BY PORTFOLIO MODULE 3: CAPSTONE

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PhD by Portfolio Module 3

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1. Introduction

Economic growth is deemed as a rectifier to the plight of critical social, economic, and environmental challenges countries across the globe are facing. As a matter of fact, experts directly relate the economic growth to the development of Human Capital, and this assesses the value of education and training as one of the most powerful agents of improving productivity and prosperity for a long-term and sustainable development (Mincer 1974).

Scaffolding on the work presented in Modules 1 & 11, centered around the strategic vision of Digital Transformation of the University of Management and Technology (UMT) through the implementation of online & digital educational initiatives, this paper introduces a comprehensive ‘Online and Distance Learning Regulatory Policy Framework’ referred to as ODLRPF, formulated by Mr. Ahmad, Director of Center for Instructional Design and Online Education (CIDOE) at UMT, to address the inevitable demand of developing and scaling up open and distance learning strategies and technology-enhanced pedagogical innovations within the sphere of higher education.

UMT is a premier institution of higher learning in Pakistan. It is recognized by the Higher Education Commission (HEC) as a 'W4' category (highest rank) university. For more than two years, UMT was also at the top as per HEC ranking in General Category (medium-sized) of private sector institutions in the province of Punjab. It was placed among the top 600 Higher Education Institutions (HEIs) of the world for societal impact in the Times Higher Education (THE) impact rankings 2020 and has been named among the top 500 in QS Asia University Rankings 2021. UMT also received a nomination for the Award Asia 2020 in the Workplace of the year category (UMT, 2023).

As referenced in Module I (L01 – Part A), Mr. Ahmad bears multifaceted and extensive expertise in digital learning methodologies, which have led him to facilitate digital transformation at the academic institutions through the formulation of innovative policies and implementation of effective change mechanisms.

The proposed ODLRPF shall serve as a way forward for UMT as well as any HEI considering transformative adoption of digitalization.

2. Higher Education – The Industry in Pakistan

The education sector in Pakistan has been in need of modernization for quite some time.

Government and private institutions have been reluctant to adopt the new, digital ways of education as the general belief has been that why fix if nothing is broken. The COVID-19 pandemic however, proved to the entire education sector that a major overhaul was needed and if Pakistani students are to compete and survive in the post digital world than they must be provided with the necessary tools.

UMT is currently at the 11th place in the list of top universities in the country as ranked by UniRank (2021). According to the Punjab Higher Education Commission (PHEC), there are 21 private sector HEIs in Lahore out of which at least thirteen HEIs are direct competitors to UMT. This market includes 3 tiers: Top, Middle, and Lower, and UMT holds a steady position at the top end of middle tier of the traditional on-campus student market.

With the introduction of online education and the institution's commitment to cater to the distinct requirements of contemporary learners in this digital era, UMT is on route to becoming one of the top tier online universities with local and international partnerships.

3. Challenges at UMT

Ever since the pandemic, HEIs have been working round the clock to create and adopt digitization strategies. These HEIs have seen varied levels of success. Although UMT was far ahead of other universities in realizing the need of the hour and came forth with its mission of digitization in 2016, the development and implementation of digitization has been slow to roll out due to outdated methods of decision-making, problem solving and change management.

To achieve the goal of digital transformation of UMT, a specialized unit, UMT-CONNECTED, also known as CIDOE, was established under the leadership of Mr. Ahmad. The mission of UMT-CONNECTED was to support, develop and implement digitization strategies and help UMT emerge as a leader in the eLearning space.

As detailed in Module II summary, Mr. Ahmad's notable qualities of inventiveness, astuteness, and originality played an instrumental role in steering the transformative pedagogical endeavor required in the context of UMT. In pursuit of uplifting the standards, Mr. Ahmad sought consultation from esteemed organizations, including Quality Matters (QM), Online Learning Consortium (OLC) and European Federation of Management Development (EFMD). Additionally, he engaged with the POD Network Google Group (PNGG), an online platform where network members collaborate, exchange ideas, and contribute to educational development initiatives supporting teaching and learning in higher education, fostering meaningful interactions beyond conferences, workshops, and newsletters (Module II, L03). UMT-CONNECTED stood successful in accomplishing its directives; however, the overall authoritative culture, fixed mindsets, and hierarchical decision-making processes at UMT were deleterious to the process throughout the journey.

"Vision without execution is hallucination", said, Thomas Edison and so despite achieving great success in being the country's first university to develop digital transformational strategy, having strategic implementation roadmap, acclimated Course Selection and Development Process, Evaluation Criteria and Prioritization Framework and other significant initiatives, the university could not attain its goals and targets of digital transformation due to several governance, operational, leadership, and credibility challenges (Module II, L04). Having plans and designs is not enough. Ghavifekr & Sufean (2011) emphasize that managing the process of change is a crucial and important task for improving the speed and sophistication of teaching-learning delivery system in universities.

The recent attention to change management can be attributed to the belief that managing change particularly in the education system is challenging and it is therefore necessary to perform strategic planning (Senge, 1999; Uys and Siverts, 2001; Fullan, 2001).

The interplay of organizational culture, leadership style, and individual personalities holds significant weight in discerning and selecting the appropriate process (Smet, Hewes, & Weiss, 2020). In the present complex and challenging landscape, educational planners and management teams confront a critical hurdle in formulating a comprehensive and far-reaching vision, mission, and strategies. To effectively address the evolving dynamics, they must adeptly employ strategic management techniques, ensuring a systemic approach to navigate through these changes successfully.

Figure 1 below provides a clear process for campus planning, prioritization and decision making that reflects UMT's core as an academic enterprise.

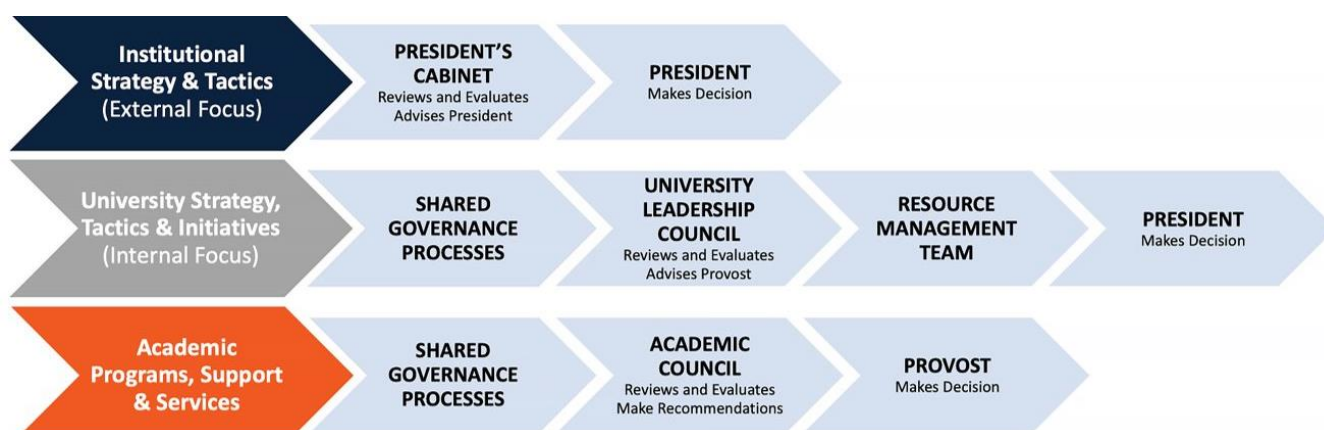


Figure 1: Executive Decision-Making Structure

Responding to the call of time and to support the stakeholders of higher education to envision the revolution in the education system, by employing the transformative power of online and distance learning (ODL) and debunking the myths and stigmas in the arena, Mr. Ahmad brought together a comprehensive and vibrant, 'Regulatory Policy Framework (RPF)'.

ODLRPF signifies the institutes' commitment and aspirations to streamline and regulate ODL programming through an overarching operational system. This framework aims to effectively address and mitigate the complex issues related to access, equity, and educational quality within a well-defined contextual framework. In essence, ODLRPF serves as a strategic tool for higher education institutions to proactively navigate and manage the multifaceted challenges associated with ODL while upholding their commitment to excellence in education

The ODLRPF and the regulations within, expect to transform higher education institutes (HEIs) and degree awarding institutes (DAIs) so that they may deliver ODL programs with unwavering excellent quality complying with the international academic benchmarks established by the globally respected organizations. Not just limited to the ODL, but the impacts of these regulations will evolve the HEIs and DAIs standards of teaching and learning, helping them accomplish the goal of providing a quality higher education beyond the barriers of time, space, and pace.

4. Open and Distance Learning Regulatory Policy Framework (ODLRPF)

This section presents a holistic 'Open and Distance Learning Regulatory Policy Framework (ODLRPF)', in alignment with the global benchmarks as a ground stone, to assist higher education and corporate entities to play the influential role as centers of innovation and discovery, as well as of cultural, technological, and economic development. ODLRPF aims to facilitate the education sector to adapt to external drivers, including societal and technological changes, quality standards, and financial constraints (Stepanyan, Littlejohn and Margaryan, 2013). MacKeogh (2003) asserts that universities will have to introduce strategies and policies, which implement flexible academic frameworks, innovative pedagogical approaches, new forms of assessments, cross-institutional accreditation and credit transfer agreements, institutional collaboration in development and delivery, and, most crucially, commitment to the provision of equal access to students on and off-campus.

ODLRPF serves as a meticulous and comprehensive blueprint, offering a well-structured roadmap to be adhered to in a deliberate, methodical, and closely supervised manner. From its initial implementation and progression, this systematic framework ensures that all key aspects of ODL are thoughtfully considered and seamlessly integrated. It methodically outlines the necessary steps to be taken, meticulously organizes the various components involved, expertly guides the stakeholders through the process, and keeps a watchful eye on the progress, ensuring that each stage is effectively monitored and evaluated. With its emphasis on careful planning, systematic organization, expert guidance, and vigilant monitoring, the proposed ODLRPF aims to guarantee a smooth and efficient transition towards achieving the goals and objectives of ODL initiatives.

The process of formulating ODLRPF began with reviewing several existing frameworks e.g. the ADDIE (Analysis, Design, Development, Implementation and Evaluation), Merrill's Principles of Instruction, Gagne's Nine Events of Instruction, ARCS (Attention, Relevance, Confidence, Satisfaction) Model, Dick and Carey, ASSURE, KEMP, Dynamic Instructional Design (DID), Kirkpatrick Model, Gerlach and Ely Design Model, TPACK, Successive Approximation Model (SAM) and Substitution Augmentation Modification Redefinition (SAMR) Model etc. (Education Library, n.d.).

Other than the prevalent instructional design theories mentioned above, a few world-renowned organizations have also attempted to tackle this issue, such as Quality Matters (QM), Online Learning Consortium (OLC) and EFMD Global Network's Online Course Certification System (EOCCS):

- QM membership is available on a subscription basis to organizations involved in higher education, K-12 education, publishing, and continuing and professional education. The subscription provides access to continually updated tools, information, services, and resources related to quality in online learning and course design.

- OLC is a not-for-profit collaborative community of higher education leaders and innovators, that generates ideas to improve products, services, and standards for the online learning industry and assists members in collaborative initiatives. The platform is based on the five pillars of quality online education:

- Learning Effectiveness,
- Faculty Satisfaction,
- Student Satisfaction,
- Scale, and
- Access

OLC asserts these pillars, essentially, as the building blocks for providing the support for successful online learning.

- EFMD is a global, non-profit, membership-driven organization dedicated to management development. It is recognized globally as an accreditation body for business schools, business school programs, and corporate universities. EOCCS is an international course certification system operated by EFMD Global Network. It aims to evaluate the quality of any online business and/or management course that has a contemporary perspective and, where of an appropriately high quality, to certify it.

There was a rapid realization that while these models and organizations share certain features, but they have failed to offer a comprehensive, end-to-end bespoke solution that is sustainable and at the same time capable of employing principles of good practice, as it pertains to the academia, in particular. Either these models and/or organizations offer solutions at a micro-level (course development) or at a macro-level (institutional) but without a holistic approach. For instance, the QM Program Certification process consists of four individual certifications that online Higher Education Programs may seek:

- Online Program Design

- Online Teaching Support
- Online Learner Support
- Online Learner Success

Each certification program spans a duration of 20 weeks, excluding the time required for course preparation. The cost for each program certification is substantial, amounting to \$6,500.00, and this is in addition to the annual membership fees. However, it is worth noting that the certification does not provide comprehensive coverage of all elements, such as "program/course delivery."

Another example is EFMD's EOCCS. It provides an international quality benchmark in diverse educational landscapes in which digital technology is applied to teaching and learning. The general philosophy of EFMD accreditations -internationalization, practical relevance, and quality improvement is firmly embedded in EOCCS, which is open to any institution, including higher education, corporate learning organizations and public agencies. EOCCS provides a thorough review of individual courses through self and peer assessment, and benchmarking. One drawback of EOCCS is that it functions exclusively as an international online course certification system aimed at assessing the quality of standalone online business and/or management courses or those integrated into a certificate or program. Moreover, it involves a substantial fee of 6,000 EUR per course, rendering these excessively costly high and lacking scalability.

From the perspective of the above, alongside financial prudence, Mr. Ahmad adopted a comprehensive approach when designing ODLRPF. This approach involved a careful consideration of various factors, including technical, legal, cultural, religious, and political aspects, as well as adherence to branding guidelines, to ensure a thorough and well-rounded solution.

The Table 1 below includes the key success factors (Rajkumar, 2023) identified to ensure completeness, conciseness, and comprehensiveness of ODLRPF (Module II, L04):

#	Key Success Factor	Brief Description
1	Usable	It is described as how the user is utilizing a system effectively and the ease of which users can learn to operate or control the system.
2	Reliable	It is the ability of a system to continue to keep operating over time
3	Available	It is the ratio of the available system time to the total working time it is required or expected to function.
4	Portable	It is the ability of a software application to run on numerous platforms such as data portability, hosting, viewing, etc.,
5	Testable	It shows how well the system or component facilitates to perform tests to determine whether the predefined test criteria have been met.
6	Scalable	It is the ability of a system to handle the demand for stress caused by increased usage without decreasing performance.
7	Flexible	It is the ability of a system to adapt to future changes
8	Reusable	It is the use of existing software or more than one software with small or no change. It is a cost-efficient and time-saving quality attribute.
9	Maintainable	It is the ability of a software application to maintain easily and support changes cost-effectively.
10	Supportable	It is the ability of a system that satisfies necessary requirements and needs to identify and solve problems.
11	Interoperable	It is the ability of two or more systems to communicate or exchange data easily and to use the data that has been exchanged.
12	Performance	It is the ability of a system in the form of responsiveness to various actions within a certain period of time.
13	Secure	It is the ability of a system to resist or block malicious or unauthorized attempts that destroy the system and at the same time provide access to legitimate users.

Table 1: Key Success Factors

5. Guiding Principles of ODLRPF

The driving force in the development of the regulations for ODLRPF are the guiding principles mentioned below:



Figure 2: Guiding Principles of ODLRPF

6. Key Components of ODLRPF

More specifically, ODLRPF is designed for the HEIs/DAIs that are interested in launching ODL programs, nationally and/or internationally. The successful implementation of ODLRPF calls for the establishment of the following nine essential components, as a minimum requirement:

1. ODL Board of Academic Studies (ODLBAS)
2. ODL Management Office (ODLMO)
3. ODL Framework (ODLF)
4. ODL Infrastructure and Technology (ODLIT)
5. ODL Program Proposal (ODLPP)
6. ODL Course Development Process (ODLCDP)
7. ODL Quality Assurance Mechanism (ODLQAM)
8. ODL Self-Authorization Process (ODLAP)
9. ODL Implementation Road Map (ODLIRM)

Each of these elements assumes a pivotal role in the successful implementation of ODL programs at HEIs and/or DAIs. The sections below delve into distinct challenges and offer viable solutions to ensure the scalability, effectiveness, and sustainability of online learning initiatives, which were implemented at UMT. The elements described below offer valuable insights into the seamless integration of the 21st Century Distance Education Guidelines into institutional teaching methods and policies, all while maintaining a steadfast commitment to student success. By delving into the significance of these guidelines, it enables institutions to recognize their importance in the evolving educational landscape.

Furthermore, it equips institutions to identify the inherent challenges and opportunities associated with their implementation, providing a roadmap for navigating these aspects effectively.

The guide also delves into the analysis of best practices in distance education, emphasizing the critical roles of fostering student engagement and creating inclusive, accessible learning environments. Lastly, it examines strategies for fostering collaboration and communication among faculty, administrators, and staff, ensuring that the guidelines are not only met but integrated harmoniously into the fabric of the institution's educational mission.

6.1 ODL Board of Academic Studies (ODLBAS)

A profound issue that UMT encountered during the implementation of ODL initiatives was the absence of formal, authoritative governance structure. This gaping void emerged as a critical issue, casting a deep shadow of concern over the university's capacity to validate and legitimize these initiatives in line with the rigorous standards and principles upheld by the academic council. This deficiency not only threatened the credibility of the ODL programs but also raised serious questions about the institution's ability to maintain academic integrity and uphold its educational mission. ODLRPF guides that:

The HEI must constitute an ODL Board of Academic Studies (ODLBAS) to support ODL initiatives. The ODLBAS shall have all the prominent members of the institute responsible for policy making, strategy devising and effective implementation. This is imperative to establish the desired importance and leverage the smooth functioning of the ODL operations. The ODLBAS shall be responsible for the authorization of all programs and courses to be offered through online and distance means.

Without prejudice to the generality of this provision, the ODLBAS shall be responsible for the following:

- Academic merit
- Overseeing policies and procedures
- Capacity building

- Advocacy and provision of technological solutions
- Data analysis and reporting
- Financial prudence
- Quality Assurance
- Self-Certification

6.2 ODL Management Office (ODLMO)

A formidable challenge that loomed large throughout the implementation of the digitization strategy was the absence of official recognition and autonomous status for UMT-CONNECTED. While this informal unit played an indispensable role in advancing the university's digital initiatives, the glaring deficiency of formal acknowledgment and autonomy posed a grave threat. This glaring gap raised serious concerns about the sustainability and effectiveness of the digitization efforts, as the unit lacked the necessary authority and autonomy to fully harness its potential and drive the strategy forward with the required momentum and impact. ODLRPF asserts that:

The HEI shall have a Directorate of Distance Education (DDE) to manage, scale and advocate online and distance learning. The Directorate of Distance Education shall be administered by a regular faculty member at the level of a professor designated as dean. ODLMO staffing must be planned as per the size, scope, and scale of the ODL projects. In addition to ODLMO, the HEI must ensure that every ODL program is supported by specially trained, administrative, academic, technical and support staff.

6.3 ODL Framework (ODLF)

The journey of networking with stakeholders of UMT to advocate and scale digital transformation was a learning experience for Mr. Ahmad, making him realize that the first-hand barrier to this transformation is the cultural mindset and misconceptions about quality, process, and outcomes of digital initiatives. ODLRPF addresses this issue by educating the stakeholders with the required information. It states that:

To ensure quality and provision of best services to all stakeholders, the following section presents the prerequisites of ODL framework, which involves, the curriculum & instructional designing strategies necessary for content development & selection, the rules, which govern the information sharing and delivery mechanism, and the expected standards for evaluation and assessment. This overarching framework acts as a guideline to a wide range of aspects as shown in Figure 3 below:



Figure 3: ODL Framework

6.4 ODL Infrastructure and Technology (ODLIT)

Having a diverse experience of working with various prestigious institutions across different continents and being a witness of rapidly evolving technology over past decades, Mr. Ahmad is well aware of the response and understanding of educational stakeholders when it comes to adapting and adopting latest technological solutions. Most organizations operate on this delusion of only making latest gadgets, software and hardware available at the institute to cater to the requirements of ODL infrastructure and technology, however, the intervention and scaling of technology in formal education shall aim to expand the accessibility of knowledge and skills regardless of time, place, and pace. ODLRPF guides the organizations:

The purpose of introducing new age teaching and learning techniques - by incorporating latest software, programs, applications, and hosting portals - in the mainstream is to upgrade the effectiveness of delivery method of content to support and enhance student learning. The HEI which offers program(s) in the ODL mode shall follow such actions as are essential to merge Information Communication Technologies (ICT) for increasing usefulness of teaching-learning pedagogies, assessment mechanisms, administrative procedures, and maintenance of record. It must ubiquitously facilitate the enrolment, registration, handling teaching-learning online events, supporting the use of Open Educational Resources, evaluation and authorization processes in synchronous, asynchronous, and blended instructional modes.

6.5 ODL Program Proposal (ODLPP)

The process of launching an ODL program is manifold. Psycharis (2005) proposed a framework for eLearning that consists of 8 factors of readiness: technology, human resource, economic, content, educational, entrepreneurial, culture and leadership. Whereas Engholm

(2001) also developed a model consisting of five dimensions: organizational & industry, learning content, individual learner, organization culture and ICT.

Even with the advocacy and groundwork done, stakeholders at UMT lacked confidence enough to initiate ODL programs due to the absence of sequential and comprehensive guidelines to launch an ODL program. Taking into account the learning context, ODLRPF covers the institution from analyzing the frame of reference to managing the academic administration, as well as the key components for formulating the program proposal. ODLRPF suggests:

The program proposal is the key document to be initiated by the HEI along with any other relevant documents to be approved by the relevant authority of the HEI (ref: 6.8). HEI shall prepare a Program Proposal for each program, which shall include the following:



Figure 4: ODL Program Proposal

6.6 ODL Course Development Process (ODLCDP)

Similar to the complexity of developing ODL programs, the creation of ODL courses is a multifaceted undertaking. As referred in Module II -summary, despite the fact that Mr. Ahmad laid a strong foundation through by establishing an Online Course Selection and Development (OCSD) multi-step process and designing a six-step process (DDDAEL) consisting of “defining”, “designing”, “developing”, “assessing”, “evaluating” and “launching” to guide the course development effort with specific time and resource allocation, the relevant authorities at UMT struggled with the quest of blueprint of designing and launching an ODL course. This section of ODLRPF is to support entities, with recommendations and regulations, who wish to develop new ODL based courses as an independent or as a part of certificate/diploma/degree program or to improve the quality of running ODL courses. ODLRPF states:

The course development process is initiated either by a faculty member/subject matter expert (SME), interested in making a new course or transforming an existing traditional course to ODL mode. The HEI may also request the faculty members/subject matter experts to do so. This request must be formally submitted using the course development proforma, which must be signed and approved by all key personnel in academic and administrative departments.

As depicted in Figure 5, a course development contract must be drafted along with the intellectual property and ownership proof. The contract must clearly indicate project timelines, human and material resources required, expected compensation, quality standards, critical milestones, and training requirements. Once the contract is signed and approved, the related team is ready to begin with the course development process.



Figure 5: Stages of Course Development Process

6.7 ODL Quality Assurance Mechanisms (ODLQAM)

The quality is one of the major concerns of stakeholders, especially the audience when it comes to acceptance and adoption of ODL. To cope with competitive industry and expeditiously evolving technology and academic research. It is inevitable for entities to establish a vigorous quality assurance mechanism. ODLRPF backs the entities with thorough guidelines. It explains:

A directorate of quality assurance (DQA) shall be functional at HEIs. It shall be ensured that ODLBAS must have a prominent representation from DQA to deal with the ODL initiatives. Following the given mechanism, ODLBAS is responsible to ensure the authenticity and credibility of the proposed ODL programs and courses in alignment with international standards and regulations established by ODLRPF, as illustrated in Figure 6 below:



Figure 6: ODL Quality Assurance Mechanism

6.8 ODL Self-Authorization Process (ODLAP)

ODLRPF proposes a self-authorization process for the entity to be autonomously led by a dedicated section in ODLBAS to assure the conformation of standards and guidelines presented in ODLRPF. Additionally, ODLAP stakes off any chance of unethical practice, favoritism or group thinking in choosing the appropriate course(s) and/or program(s) from the nominations submitted by the colleges/departments for their online and blended course and/or program development.

The framework offers three levels of certification:

- a) ODL *Institutional* Certification (OIC)
- b) ODL *Program* Certification (OPC)
- c) ODL *Course* Certification (OCC)

Any entity planning to launch programs/courses in ODL mode shall be liable to apply for seeking a) OIC and b) OPC from ODLBAS before starting the relevant academic year.

The key timings and details for the certification are explained in the following diagram:



Figure 7: ODL Self-Authorization Sequence

a. ODL Institute Certification (OIC)

The HEI must make an application to ODLBAS for the issuance of OIC. It is authorized to establish and ensure that HEI fulfills the essential conditions and permissions to proceed for the development of infrastructure, ICT resources and academic groundwork as required for ODL initiatives.

Application received from HEI will be reviewed by ODLBAS panel of experts within 30 days.

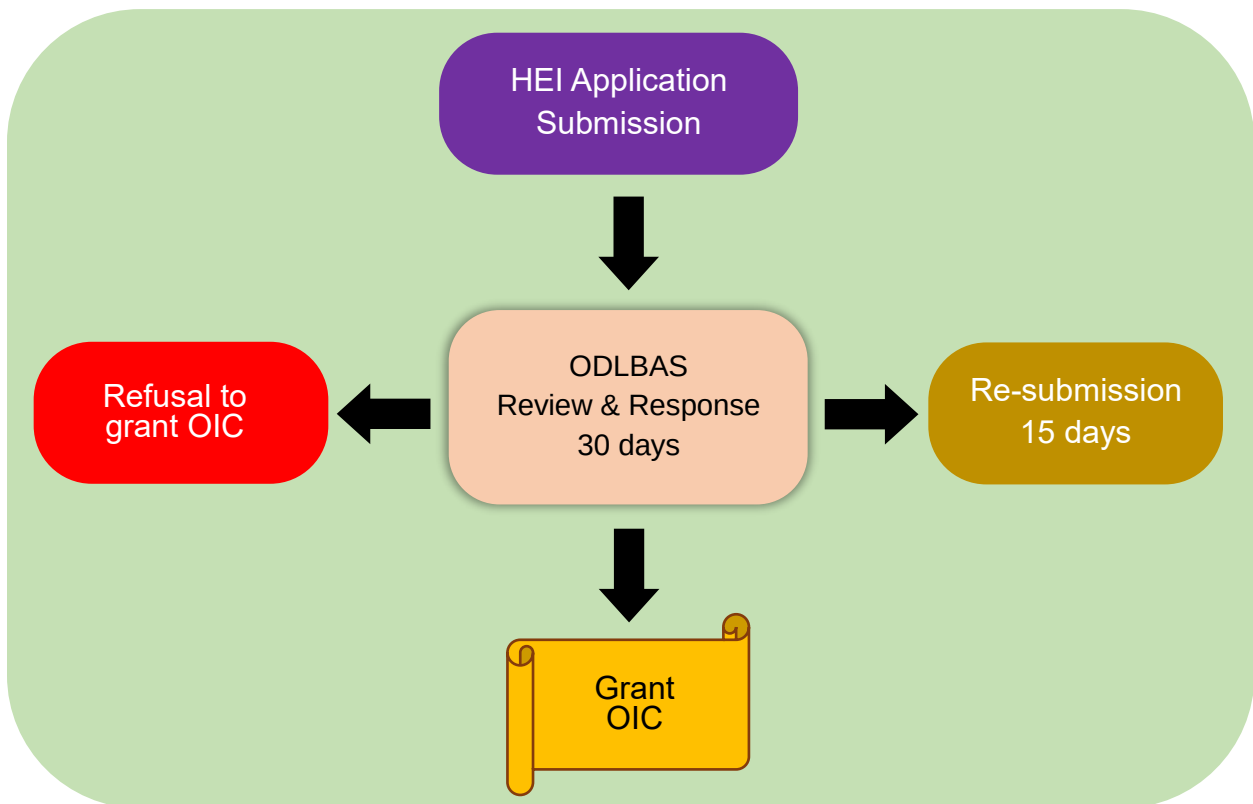


Figure 8: OIC Application Approval Process and Timelines

Upon receiving the application for OIC, the ODLBAS shall evaluate the application, based on the provided documentation, for any deficiencies and communicate this to the HEI within thirty (30) days. The HEI shall be required to remove deficiencies by providing the requisite documents and/or information, if any, within fifteen (15) days of receiving the call for

resubmission. If the HEI fulfills the prescribed conditions and the quality parameters stated under prescribed conditions & regulations in ODLRPF, ODLBAS may grant OIC to the HEI.

b. ODL Program Certification (OPC)

Self-Authorization of HEIs for OIC is planned to be a two-tiered process: provisional and confirmation. Once granted with OIC, the HEI only requires repeating the process for related OPC as and when required.

The HEIs may apply for provisional OPC through an application to ODLBAS. They can establish and ensure that HEI fulfills the essential conditions and permissions to proceed for the development of ICT resources, curriculum, and human resources as per the requirement of the ODL Program.

Application received from HEI will be reviewed by ODLBAS within 30 days:

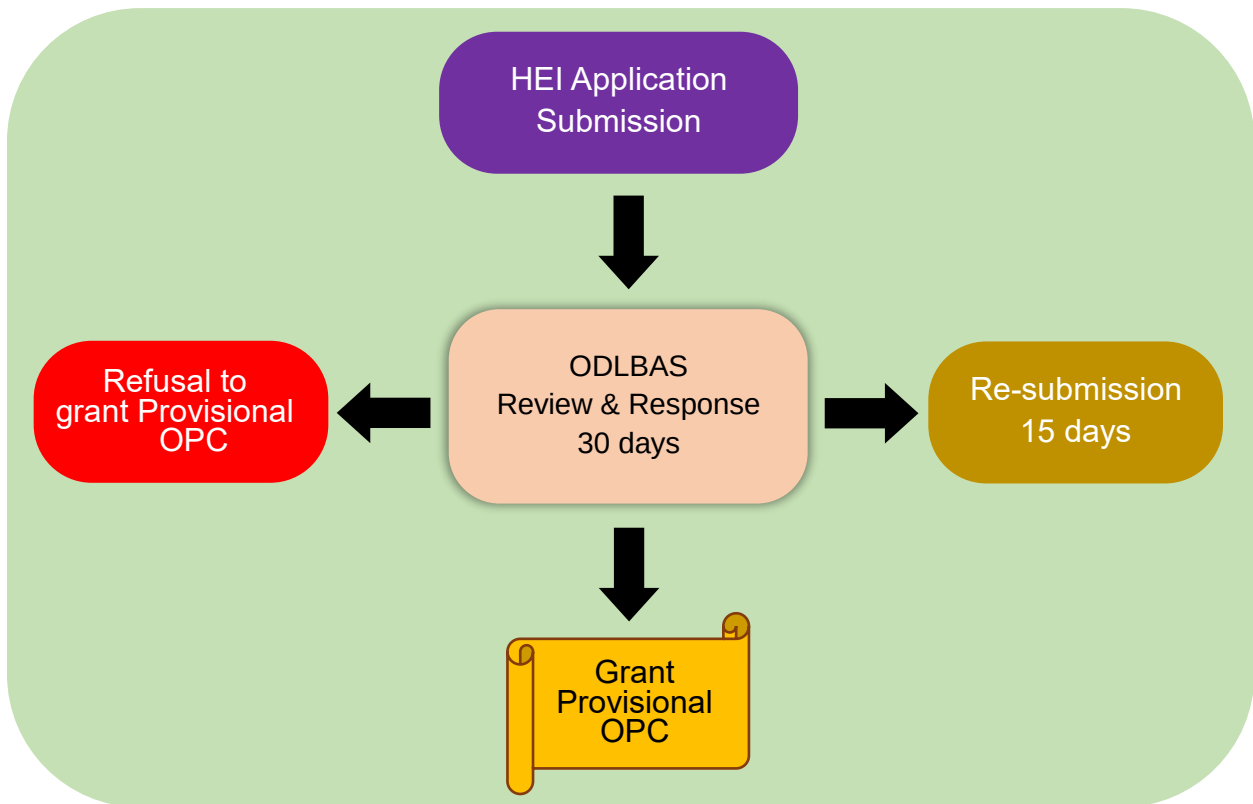


Figure 9: OPC Application Approval Process and Timelines

If the HEI fulfills the regulations and conditions stated under ODLRPF, ODLBAS may grant OPC to the HEI. This will allow the HEI to begin the process of ODL Program Development.

HEIs, after receiving Provisional OPC, can proceed with applying for QOPC Confirmation for the relevant program. The HEI must submit the application for the issuance of OPC Confirmation within six months from the date of the issuance of provisional OPC. In case of delay, provisional QOPC will be considered invalid. However, the ODLBAS may extend the time on the basis of valid reasons. The confirmation application will complete the Program Proposal requirements mentioned in 6.6 – OLDPP in alignment with standards established in ODLRPF.

If the presented Program Proposal meets the required criteria, ODLBAS may grant OPC to the HEI allowing it to complete the process of Program Development and Launch.

c. ODL Course Certification (OCC)

Entities who intend to get self-authorization on any ODL courses that are independent/autonomous or a part of a certificate/diploma/degree program, may apply for OCC, meeting the provided standards and criteria by ODLRPF.

OCC is granted for a period of 3 years and the process requires the same two-step procedure to be followed as that of OPC, with different relevant and additional information to be provided. Courses are evaluated by ODLBAS on international standards and benchmarks scoping institutional frame of reference, course composition (purpose, content, design, structure, and applied technology), course delivery mechanism, academic administration and quality assurance practices as stated in ODLRPF.

6.9 ODL Implementation Road Map (ODLIRM)

To realize the objectives, Mr. Ahmad devised an implementation roadmap for the ODLRPF as depicted below:



Figure 10: ODL Implementation Road Map

7. Benefits of ODLRPF

Based on authentic and rigorous global educational standards, ODLRPF commits to excellence and aims to add value to students' investment of time and money, providing them with life & career transforming education across modern instructional modalities.

- National Quality Standards
 - Demonstrate highest quality standards for ODL programs with persistent benchmarks and professional evaluations.
 - Amplify HEIs proficiency and efficiency with reference to cultural, financial and technological preparedness.
 - Serve as an essential component for enhancing the reputation of ODL programs to encourage future students.
- Continuous Improvement
 - Provide an opportunity for HEIs to deliberate on advanced approaches and come up with the solutions to future problems in educational domains.
 - Render HEIs as a proactive response system and dispense recommendations for future development and growth.
 - Analyze the strengths of the HEIs' planning for administering ODL programs.
- Community and Peer-to-Peer Learning
 - Engage in communication with industry professionals during the panel of experts' review.
 - Establish a vast range of capacities and capabilities for national and international ventures and partnerships.

- Promote collaborative learning opportunities to the HEIs in order to inculcate the highest levels of “best practices”.

ODLRPF aims to ensure that students, educators, and institutions are able to deliver high quality, accessible, and inclusive digital learning and online education.

- For students, ODLRPF aims to provide them with engaging and inclusive digital learning experiences that enhance their overall learning journeys. This includes ensuring that all digital learning resources are accessible and of high quality, promoting active and personalized learning, and providing support for students to develop digital literacy skills.
- For educators, ODLRPF aims to ensure that faculty members have the required pedagogies, EdTech competencies, and educational technologies to deliver effective online education. This includes providing training and support for educators to develop their digital teaching skills and ensuring that they have access to the necessary technology and resources to deliver engaging and effective online education.
- For infrastructure, ODLRPF aims to ensure that the infrastructure at the institution is reliable and able to deliver digital learning and online education efficiently. This includes investing in technology and infrastructure that supports delivering online education and ensuring that students and educators have access to the necessary resources to support their digital learning needs.
- For the institution, ODLRPF aims to ensure that the institution has a diversity of teaching and learning methods that enable learner engagement and interaction and enhance their overall learning experiences. This includes promoting a range of digital teaching and learning methods that are inclusive and accessible to all learners, providing support for the development of innovative teaching and learning practices, and continuously evaluating and improving the overall effectiveness of digital learning and online education at the institution.

8. Conclusion

In conclusion, this paper underscores the critical interdependence and correlation between human capital development and sustainable economic growth, supported by both qualitative and quantitative research findings. Higher education institutions play a pivotal role in nurturing qualitative human capital, stimulating innovation, and driving economic prosperity. Digital innovation has demonstrated powers to complement, enrich and transform education, and has the potential to speed up progress towards Sustainable Development Goal 4 (SDG 4) for education and transform modes of provision of universal access to learning (UNESCO, n.d.).

The post-pandemic era has ushered in an era of digital transformation in higher education worldwide. The process of innovation is a complex, company-wide endeavor, it requires a set of crosscutting practices and processes to structure, organize, and encourage it (McKinsey principal Nathan Marston, 2015). The ever-changing demands and rapid evolution in technology leaves stakeholders with a minimum margin of shooting in dark and being unprecedented, entities are also facing numerous challenges of effective design, delivery, management, and quality assurance of ODL, as happened in the case of UMT.

Combining extensive research, market analysis and diverse experience, the proposed ODLRPF by Mr. Ahmad serves as a foundation to assist higher education entities in digital transformation as per their unique requirements and achieve organizational-wide objectives. It aims to integrate and institutionalize fully online, blended, and web-enhanced courses within the educational system and to overcome the potential obstacles that could impede the implementation efforts. Other than focusing on the core vision of quality, equity, accessibility, well-being, and inclusivity for a more vibrant and resilient higher education, ODLRPF comprehensively addresses the academic, technological, technical, legal, cultural, religious, political as well as the branding guidelines. Furthermore, it serves as a living document to support continuous growth and improvement.

As referred in Module II – summary, a Harvard Business Review article cites digital transformation as an ongoing process. Scaling the leadership, decision-making and problem-solving strategies, blending top-down and bottoms-up approaches to code a “Digital DNA” as proposed by Frode R. Heglesen (2018), and demonstrated by Mr. Ahmad by implementing ODLRPF, UMT may successfully achieve its vision of digital transformation and prominently lead the region.

Digital transformation is an ongoing process, and scaling leadership, decision-making, and innovative problem-solving strategies are integral components of this journey. UMT's experience with implementing ODLRPF demonstrates the potential for regional leadership and transformation in higher education. A testament to ODLRPF's effectiveness is the swift implementation of a strategic action plan and detailed ODL policy at Qatar University, Doha, Qatar, within a record timeframe of 7 months. Mr. Ahmad is actively extending the offer of ODLRPF to public and private universities worldwide for further studies and effectiveness verification.

ODLRPF's impact extends beyond online and distance learning; it has the potential to revolutionize institutions, making quality higher education accessible beyond the confines of time, space, and pace. As we stand on the cusp of a new era in education, embracing ODLRPF represents a proactive step toward the future of learning, innovation, and sustainable development. The integration of digital innovation in higher education, exemplified by the comprehensive ODLRPF introduced by Mr. Ahmad, signifies a critical step forward in the pursuit of sustainable economic growth and the advancement of educational standards.

Embracing the full potential of ODLRPF can transcend the boundaries of traditional education, enabling institutions to provide quality higher education that transcends limitations of time, space, and pace. In conclusion, The ODLRPF, formulated with a culmination of in-depth research, market analysis, and diverse experiences, serves as a cornerstone for facilitating digital transformation tailored to the unique needs of higher education institutions.

9. Recommendations for Future Research

The paper has made significant strides in introducing the Online and Distance Learning Regulatory Policy Framework (ODLRPF) as a strategic tool for higher education institutions embarking on digital transformation. However, there remain several avenues for future research and improvement that can enhance the paper's depth and practical applicability.

First and foremost, the paper would greatly benefit from the incorporation of more empirical data and case studies. While it establishes the theoretical foundation for ODLRPF, the inclusion of specific examples from institutions that have implemented the framework would provide concrete evidence of its effectiveness. This would make the paper more compelling and offer a real-world perspective on how ODLRPF can drive digital transformation in higher education.

Additionally, a comparative analysis with existing frameworks and models in the field of digital transformation within higher education would be invaluable. This would allow readers to understand the unique advantages of ODLRPF in contrast to other approaches. Furthermore, addressing the challenges faced by institutions in greater detail and proposing practical solutions would offer a more comprehensive view of the framework's applicability.

To strengthen the paper's credibility, it is essential to engage with potential counterarguments and criticisms of ODLRPF and provide compelling rebuttals. This not only demonstrates a thorough understanding of the subject but also helps in refining the framework based on constructive feedback.

As the paper primarily focuses on UMT and its experience with ODLRPF, it should explore how the framework can be adapted and scaled to suit various types of institutions, including public universities, smaller colleges, and international universities. Scalability and flexibility in implementation are key considerations in the field of digital transformation.

Moreover, assessing the long-term outcomes of ODLRPF, both at UMT and in other institutions, should be a priority. Understanding the sustained impact and continuous improvement of the framework is essential for its long-term success.

Engaging with a broader range of stakeholders, such as faculty, students, and policymakers, can provide a more holistic perspective on the framework's impact and acceptability. Their insights and feedback can shape the framework's development and enhance its effectiveness.

Considering the importance of legal, ethical, cultural, and religious considerations in digital transformation, the paper should delve deeper into how ODLRPF addresses these complex issues. Providing insights into how the framework navigates these challenges can serve as a valuable resource for institutions operating in diverse cultural and legal contexts.

The international perspective is another area that warrants attention. Including case studies and examples from a global context can demonstrate the applicability and relevance of ODLRPF beyond UMT and Pakistan. This international outlook is crucial in an increasingly interconnected world.

Furthermore, the paper should provide a clear and practical implementation guide for other institutions interested in adopting ODLRPF. This guide should outline the steps, resources required, and potential challenges to anticipate during implementation. A well-structured guide can make it easier for institutions to embrace the framework.

Emphasizing the importance of continuous updates and monitoring of ODLRPF is essential. The digital landscape and educational needs are continually evolving, and the framework must adapt to remain effective. This focus on flexibility and adaptability is key to its long-term success.

Lastly, the paper should encourage further research and collaboration with other institutions to validate the effectiveness and adaptability of ODLRPF in diverse educational settings. Collaborative research can help refine the framework and establish it as a global standard for digital transformation in higher education.

Incorporating these future recommendations will not only strengthen the paper but also contribute to the practicality and applicability of ODLRPF in a broader educational context, enabling institutions worldwide to leverage digital innovation for sustainable growth and development.

10. Appendix A

10.1 Module I Summary

The course of our professional career often keeps us so occupied with innumerable challenges, tight deadlines, and pressure of day-to-day management that we hardly get a chance to slow down and observe reflection on the journey.

Module I of this program of study, turned out to be an opportunity to review personal professional profile, learn in detail about the industry and reflect on practices as a leader of the department. Understanding different models of leadership and analyzing them in the context of the work and role as leader helped in gaining different perspectives to cope with future work challenges.

To compete with the trending market, disruptive and ever-changing needs of the world, it is imperative for an organization to embrace and adapt latest perspectives of leadership, strategic management, as well as human resource management. However, University of Management and Technology (UMT) under an authoritarian leadership ideology and lack of openness towards new opportunities faced great hindrance in achieving its goal to position herself as a ‘premier digital university in the country’.

UMT, an independent, not-for-profit, private institution of higher learning is recognized by the Higher Education Commission (HEC) as a 'W4' category (highest rank) university. Overall leadership at UMT is broken down into two tiers. Foremost, there is general hierarchy starting from the president of the university and going down to departments. It operates on inflexible authoritarian leadership principles, where majority of the decisions are dropped down from the top and at time without consultations with those they affect. The second tier is inter-departmental hierarchy, starting from the Director or Head of Department and ending at the staff members in the respective departments, all

reporting to Rector UMT. Departments in individual vary in following different leadership styles. The university lacks the culture of sharing and thus face challenges to increase productivity, implement policies, take timely decisions, and improve efficiency.

Roland Bardy in his book, 'Rethinking Leadership: A Human Centered Approach to Management Ethics' suggests that management is a systemic framework that combines 'ethics, social relations, economic effects and institutional conceptions' and only through by embracing all four of the perspectives can we hope to achieve a leadership model that boosts productivity (Bardy, 2018, p 02). UMT is an organization that keeps in mind economic effects and institutional conceptions but at times falls short in understanding the effects of the other two.

The PESTLE analysis of the digital transformation roadmap indicates a prosperous future for the university, however, UMT faces quite a bit of challenges as the top management chose to actively resist change especially when a shift from traditional to digital modes of learning was needed.

To realize the vision of the President of UMT to digitally transform the university, a new department UMT-CONNECTED was established with dedicated team including Mr. Ahmad as the director of the initiative.

With over twenty-five years of specialized experience, wide-ranging expertise, and unparalleled enthusiasm from the fields of media, online learning and instructional technology, Mr. Ahmad is dedicated to creating a positive team environment and making a difference in a consultative, collegial, and constructive fashion. He believes greatly in the concept of having diversified human resources in his departments that are specialized in their respective fields.

As Tim Leberecht in is TED talk, explains that to create a happy, productive, and loyal work force we need to do the unnecessary, create intimacy, be ugly and be incomplete. As the Director of Instructional Design and Online Education (IDOE) and UMT- CONNECTED, Mr. Ahmad incorporated similar techniques into his leadership. His recent work on the All Pakistan Online

Education Summit (APOES) in UMT-CONNECTED (APOES, 2021), was a first of its kind digital summit aimed at joining the Pakistani education and technology industries when the pandemic first hit the country, is a vivid example of himself as a democratic leader, following the distributed leadership model.

A Harvard Business Review article mentions digital transformation as an ongoing process. Beginning the journey from his own department, Mr. Ahmad implemented a strategy where a blend of top-down and bottoms-up approaches combine to code a “Digital DNA” as proposed by Frode R. Heglesen (2018). The approach included: Change Agents, Digital KPIs, Making Digital Culture Change Tangible, Collaboration Tools, Digital Skills that Matter, Systems Thinking Approach to Culture Change and Setting a Clear Vision & Visible Leadership Involvement.

Although the policies and techniques that Mr. Ahmad introduced in his department created a positive impact to foster a progressive and result oriented environment, lack of innovation in overall leadership, hinders productivity, promotes red tape, elevates office politics, and make the progress incredibly slow and cumbersome.

To realize its goal of establishing itself as a ‘premier digital university in the country’, Mr. Ahmad devised a 5-year comprehensive strategic plan for integrating and institutionalizing digital learning, online education, and skill-based learning. It is referred as the Digital, Online and Skill-based Learning Strategy (DOSLS). It aims to enable UMT to offer stackable and industry-oriented degrees that could be accelerated through accredited and online nanodegrees and micro-specializations. The strategic framework looks to help the four main stakeholders i.e., Students, Educators, Infrastructure, and Institution. The DOSLS follows the six elements of a strategic plan and will be in the form of a flow chart rather than a traditional roadmap. Following are the highlights of the plan:

- Vision Statement
 - To provide “high-quality, inclusive and accessible digital learning for all”.

- Values
 - Quality
 - Inclusion
 - Integration
 - Modularity
 - Research
 - Innovation
 - Focus Areas

The focus areas for the DOSLS include:

- Learning Spaces and Tech Platforms
- Student-first Learning
- Teaching and Learning Technology
- Strategic Objectives and Projects
- Boost Student Engagement through Technology
- Improve Digital Competency of Faculty Members
- Enhance Computer and Digital Literacy of Students and Facilitate Learning/Research
- Deploy Digital Platforms to Promote Educational Innovation
- Change Culture to Make Educational Innovation a Norm Rather Than An Exception
- Key Performance Indicators (KPIs)

Mr. Ahmad also suggested an Open and Distance Learning Regulatory Policy Framework (ODLRPF) for the implementation of DOSLS, which provides a comprehensive set of dimensions and related operations that should be done to achieve the desired goals of DOSLS.

The framework covers six dimensions that include the following:

- Governance
- Building Digital Skills and Training
- Redesigning Pedagogy, Curriculum and Assessment
- Infrastructure, Connectivity and Technology
- Quality Assurance
- Finance and Sustainability Development

The transformational strategy provided by Mr. Ahmad is a continuous strategy model where clear accountabilities and milestones have been set. These allow for much faster strategic decision-making, which not only makes the progress more efficient but also allows better value growth.

Kolb's Learning Cycle proposes that opportunities to observe and reflect on our experiences are vital to the learning process. Module 1 of this PhD. was one of such experiences that elevated the learning journey to another level.

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11. Appendix B

11.1 Module II Summary

Module II of this program was a journey from knowing to understanding to achieving expertise in two of the most critical skills of 21st Century i.e., problem solving and decision making. It allowed in-depth exploration of the subject and encouraged to critically analyze previous and current practices as a leader and widened horizons to cater future work challenges.

The Merriam-Webster dictionary defines problem solving as “the process or act of finding a solution to a problem”. The process involves multiple steps i.e., identifying and defining a problem, determining the nature & root cause of the problem, developing possible solutions and taking relevant series of actions to cater to the problem.

A key factor that impacts problem solving is decision making. Every decision making process is unique. The decisions made by the leadership are directly connected to the well-being of the organization, impacting broad and narrow ways. An efficient decision-making process is paramount to yielding quality and quick results (Cuesta, n.d.).

Operating in the post-digital era, the organizations must be able to efficiently make decisions and develop implementation plans for solutions. However, being led authoritatively throughout its existence, the University of Management and Technology (UMT) hosts a culture where most processes of decision-making are broken, deliberations are slow, and the decisions are of uneven quality. This affects many time-sensitive initiatives, demotivates employees and hinders growth in both numbers and progression. On the contrary, employing thoughtful strategic practices, an independent department of the university, UMT-CONNECTED, reporting only to the Rector, implements successful decision making and problem-solving processes, leading to better results as compared to rest of the university.

The establishment and successful journey of UMT-CONNECTED led by Mr. Ahmad, and the impact over overall decision making in university on the department, is the presented case to study the impact of decision making and problem solving in an organization.

UMT-CONNECTED as a Directorate of Distance Learning (DDL) was established in 2017 to develop and implement a digitalization strategy to ensure UMT emerges as a leader in the eLearning space.

The directives were to develop:

- Convert for-credit academic courses across the University into online courses.
- Build skill-based Massive Open Online Courses (MOOCs)
- Create digital training manuals for all university portals and desktop applications.
- Design staff professional development digital courses
- Roll out faculty development digital courses.
- Produce teacher training digital courses.
- Integrate edX, Coursera, Udemy, Udacity etc. into the current curriculum.

Following a consultative and supportive leadership style, as the director, Mr. Ahmad oversaw both operational and strategic decisions at UMT-CONNECTED. The department adapted both formal and informal decision-making processes based on the collection of the right data and information. Strategies like, collaborations with academic leadership at UMT, intra-department regular staff meetings, capacity building, open communication, data collection & management, converting raw data into actionable data were put into place to meet the targets and accelerate growth. Some of the successful initiatives are developing a strategic digitization plan, strategic collaborations with Quality Matters, 3rd party MOOC developers and POD Network Google Group (PNGG), University Digitalization Scorecard (UDS), Digital Health Indicator (DHI), a Student, Technological and Instructional Resources Service (S.T.A.I.R.S), development of a dedicated studio etc.

Whereby, the vision, leadership and exceptional problem solving and decision-making skills of Mr. Ahmad were supporting UMT-CONNECTED achieve the aims and targets to successfully implement digitalization strategy, overall authoritative culture, and hierarchical decision-making processes at UMT were delaying the progression. One of the examples is the approval of Digital, Online and Skill-based Learning Strategy (DOSLS) from Rector.

UMT was one of the first universities in the country to develop a digital transformational strategy and begin its shift towards digital education when the pandemic hit the education. The university hierarchy, which showed great promise initially, reverted to its traditional mindset and decision-making frameworks and due to delays in decision making UMT lost its lead to other competitors. The DOSLS was greatly time sensitive and a big bet for the university. It demanded strategic decision-making, however the Rector took an informal decision based on his own understanding and intuition and put it on hold for a long time. The decision was later reversed but the delays meant that the strategy dynamics had to change, and compromises had to be made to keep the strategy on track.

Once the strategy was approved and UMT-CONNECTED was given autonomy to move forward, Mr. Ahmad used multivariable decision-making techniques such as multi-criteria decision analysis (MCDA) to help UMT identify the optimal course of action that meets multiple objectives such as student engagement, faculty development, and global recognition. He designed a strategic implementation roadmap and took on board all relevant stakeholders in the process of policymaking.

Rather than imposing the top-down targets, Mr. Ahmad used multifaceted decision-making matrix to help individual colleges establish departmental targets to participate in the development of fully online and blended courses. The matrix encompassed various factors such as organizational preparedness, discipline-specific considerations, potential faculty resistance, technological infrastructure readiness, digital library resources, student support services, mechanisms for evaluation, and the availability of virtual laboratory resources.

Mr. Ahmad also displayed his ingenuity, resourcefulness, and creativity by providing additional options to departments in terms of course digitization by not only limiting it to online and blended modalities but by providing additional course digitization options to departments, including web-enhanced, hyflex, self-paced, live synchronous, massive open online courses, and the integration of third-party MOOCs and Open Education Resources (OERs) into the curriculum.

Mr. Ahmad also promoted collaborative problem solving and decision making in the institution through an Online Course Selection and Development (OCSD) multi-step process. The OCSD process is intended to manage the selection, design and development of digital learning and online education within the university system in a collaborative fashion. He further designed a six-step process (DDDAEL) “defining”, “designing”, “developing”, “assessing”, “evaluating” and “launching” to guide the course development effort with specific time and resource allocation. For each phase, two components named as “our deliverable” and “your deliverable” were provided to set clear expectations along with a toolkit which includes job aids, resources, samples of exemplary work and additional guidelines etc. Each of the six phases (DDDAEL) were further divided into specific tasks, related resources, and expected outcomes for each activity.

Backed up with a strategic evaluation criteria and prioritization framework, Mr. Ahmad enabled departments to participate in the digitization effort at their respective levels, creating a work environment where all departments were able to contribute equitably to the digital transformation effort.

Although several factors contributed to the potential difficulties in implementing the digital transformation strategy, including a lack of supporting technology, such as studio equipment and mobile kits, budgetary constraints, inflexibility in the hiring process, delayed policymaking, as well as reluctance towards digitalization by CODs and Deans, Mr. Ahmad with the help of his problem-solving and decision making skills ensured that UMT-CONNECTED played a key role in advancing

the university's digital learning initiatives, and therefore enabling students to access high-quality education from anywhere in the world.

Reflection on the journey at UMT and observing each approach under the provided context of problem-solving and decision making, increased the depth of understanding, helped identifying the patterns of success and gained expertise to improvise and cope with future VUCA challenges.

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