

Aids & Barriers Towards Online Education in Era of COVID 19: A Force Field Analysis

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Abstract

Online education exploded during the outbreak of Covid-19 crisis. Today, online education has become a necessity in times of unpredictable future. In response to the COVID-19 crisis, many institutions decided to continue education by transitioning face-to-face classrooms to online learning in a very short time frame. This shift or move was challenging for all stakeholders involved. Every stakeholder involved in this transformation experiences some barriers and opportunities as well. Now it's time to learn lesson from crises experience that what action had been taken and now what need to do for betterment in online education. So, the purpose of the study is to better understand and assess the aids and barriers towards online education. This study used a qualitative case study research approach. Primary data were gathered using a semi-structured interview questionnaire. Secondary data sources were also employed in this investigation. This study is conducted in MUET. Semi-structured interview had been conducted from those stakeholders of the university who have been involved in online classes during pandemic. The data was analyzed using a 10-point rating scale, total average mean, and force field analysis. The influence and interest of stakeholders was rated on a 10-point scale. The driving and restraining factors toward online education were studied using force field analysis. It found four primary sorts of stakeholders types Regulators (high influence and high interest), Facilitators (high influence and low interest), Providers (low influence and high interest), and Beneficiaries (low influence and low interest.). Online education allowed regulators to maintain instruction through crises like COVID-19. Regulators were worried about power and internet speed. Now more facilitators are considering online education. Facilitators battled with rapidly changing technological developments. Accessibility boosted online education's demand for providers. Provider's main concerns were internet and electricity. The ease of online education attracted beneficiaries. Online education was hindered by lack of hands-on experience. Driving forces outweigh restraining forces overall for most stakeholders, online education was a helpful tool during the outbreak. In this university context, online education is welcomed for several reasons. So academic change is easy. It is evident that online education will be more sustainable if driving forces will be enhanced and restraining forces will be reduced or challenges experienced during this pandemic will be transformed to opportunities. The study's findings should be used by MUET policymakers, designers, and developers.

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1. Introduction

COVID-19 pandemic has raised significant challenges for the higher education community worldwide. A major challenge has been the sudden and unplanned need to teach formerly face-to-face university courses online. During the COVID-19 emergency, institutions were forced to make a hasty and unplanned transition to online education [1]. We now need to learn from this experience, apply what we've learnt, and research what works in learning. However, recognizing the support aspects as well as the challenges faced by stakeholders during online education is critical to effective implementation. Online education aids and challenges must be understood. So, this study tries to identify the key problems and elements that enable online education.

1.1. Research Question

What facilitates/ hurdles the stakeholders for online education in MUET?

1.2. Research Objective

1.2.1 To identify stakeholders and develop stakeholder-mapping for online education in MUET.

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1.2.2 To analyse driving and restraining forces and develop force field analysis of online education for identified stakeholders in MUET.

1.3. Conceptual Framework

In this conceptual framework on the left side were driving forces and on the right side were restraining forces towards online education. And at the bottom there were four types of stakeholders of online education, see Fig 1.

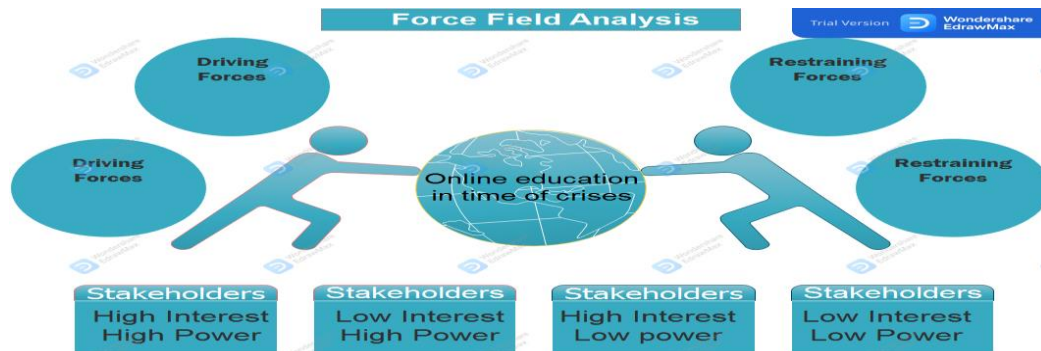


Fig. 1: Conceptual Framework

1.4. Significance of the study

This study will help educational institutions to understand challenges in online classes faced by students and teachers by identifying driven and restraining forces in online classes so that they will be explicitly ready for future and may make any changes in policy for achievement of better results in online classes. This study also contributes as identification and mapping of stakeholder involved for online classes in the context of Pakistan. This will be an addition in the literature.

1.5. Rationale of the Research

For online education in HEIs of Pakistan, there was limited research have been done that incorporate the perspective of all stakeholders. Very limited literature is available on force field analysis for online education. Generally, very little information is available on stakeholders. Stakeholder identification and mapping method are rarely found in the literature. Therefore, this study identified stakeholders and developed stakeholders mapping for online education and, secondly, identified driving and restraining forces towards online education in the era of COVID-19 by developing force filed analysis. Finally propose solutions based on empirical findings to overcome the restraining forces towards online education.

1.6. Research Beneficiaries

This study's primary beneficiaries were policymakers, education planners, and practitioners who want to enhance the quality online education. Teachers, learners, their families, and their communities will be the ultimate beneficiaries.

1.7. Scope of the Study

The corona virus has ravaged the planet for over two years. The world has changed dramatically in the last two years, and we are still adjusting to the loss and change caused by the epidemic. We never know when another crisis may strike, forcing us to shut our institutes and transition to online education once again. We never know what the future holds for our educational system. As a result, I believe that there is an increasing need for study in the domain of online education in order to save our educational system and prevent learning losses.

2. Literature Review

2.1. Overview

The World Health Organization (WHO) declared the COVID-19 outbreak a global emergency on January 30, 2020 [2].

Pakistan was one of the countries in the world who took very prompt decisions of lockdown during COVID-19 pandemic for the safety of people [3]. This pandemic affected Teaching and learning at almost in all over the world. Only in virtual universities teaching and learning was not affected because campuses were open as usual [4].

2.2. Online Education

For decades, scholars have researched online education, including online teaching and learning. To define the term online learning itself is a challenge [5]. Online learning defined as the learning that takes place outside of a typical classroom and requires use of electronic technology to access educational contents [6]. Online education in Pakistan (along with the country's ICT infrastructure) has largely grown in the twenty-first century [7].

2.3. Concept of Stakeholder

There are a few broad definitions in the stakeholder in literature. Freeman defines stakeholder is a person in an organization whose help is important for its existence. [8]. Talking with stakeholders early on in the research process will help to make this initial brainstorming and dreaming more creative, and more likely to result in innovations that can be used in the real world [9]. Each stakeholder group like students, teachers and institutions has a critical role to play in improving the overall learning experience in online education, and they must work together to achieve this aim [10].

2.4. Stakeholder Identification and Stakeholder Mapping

Mitchell (1997) proposed a classification of stakeholders based on power to influence, the legitimacy of each stakeholder's relationship with the organization, and the urgency of the stakeholder's claim on the organization [11]. Cameron (2011) identified a process based on needs and the relative importance of stakeholders to others in the network for ranking stakeholders [12]. Once the stakeholders are plotted on a power/interest grid, it is easy to assess their impact on the project and their level of interest. High-power actors must be satisfied, while high-interest actors must be informed. When a stakeholder possesses both, it's important to manage their expectations [13]. Stakeholder identification and mapping method are very limited in the literature. Semi-structured interviews [14], snowball sampling [15], and surveys [16] are some of the approaches used to identify stakeholders.

2.5. Force field analysis

According to Lewin [17] recognizing the driving forces that will help the change as well as the limiting forces that will hinder the change is crucial if the change is to be successful. Force field analysis has been widely used by organization to plan and implement changes in literature. The COVID-19 global pandemic is the major disruptive change event of the twenty-first century [18]. The Force Field Analysis theory offers a framework for examining structural forces of change operating for and against the goal of providing online education at the institutional level [19]. The theory of Force Field Analysis will be applicable to the subject of this research review because online education is thought to be a transformative experience. FFA serves as a lens to describe the driving and restraining forces towards online education.

3. Research methodology

A qualitative study is most suited for this research topic because this study intends to answer exploratory questions. This study used a case study approach to attain its objective. Case studies are among the most used methods in qualitative research. Mehran UET was chosen as a case study for this research. The MUET is a public University, founded in 1963. Mehran UET was the first public university in Sindh to offer online programmes after the Pakistani government ordered the closure of institutions. MUET was picked from among Sindh Province's public universities because outcomes acquired at one public university are likely to be representative of those obtained at other public institutions in Sindh.

3.1. Sample Size & Sampling Technique

The sample size for this research was 55 participants. The study sample included of 22 students, 17 teaching staff (Teachers, chairmen and directors), 10 IT professionals and 6 university administration or policy-makers at the Mehran UET. The participants were from different departments of the University, who are transitioned from physical classroom to online system at the university. This research employs two non-probability sampling techniques: purposive and convenience sampling. Researcher used purposive sampling technique for choosing 6 regulators (university administration or policy makers at the university) and 10 IT professionals within university because of their authority and involvement in transformation process during COVID-19 pandemic. While convenience sampling technique used

for choosing students and teaching staff.

3.2. Data Collection Process

Primary and secondary sources of data were used. Primary data were mostly gathered through semi-structured interviews. Secondary data sources included literature review, HEC & MUET policy papers regarding online education, government guidelines about online education, news articles, research papers, books and related publications.

3.3. Research Instrument for Gathering Data

Interview questionnaire was used as research instrument for gathering data. Four interview questionnaires were developed for four different categories of stakeholders. The first questionnaire was sent to regulators, the second questionnaire data were collected from facilitators, the third questionnaire was sent to providers and fourth questionnaire data were collected from beneficiaries. First part of the questionnaire is about demographic information. Second part is about the interest and influence of stakeholders in implementation of online education, third part is about force field analysis and in last questionnaire included some open ended questions that asked about aids and barriers that participants experienced during online education in university. Questionnaires were used as guide during interviews. The questionnaire included a rating scheme where participants were required to rate from 1 to 10 rating scale.

3.4. Research Methodology with respect to Objectives

OBJECTIVE 1: IDENTIFICATION OF STAKEHOLDERS & DEVELOP MAPPING OF STAKEHOLDERS

The key stakeholders of online education were identified by reviewing Literature, HEC & MUET policy papers regarding online education, government guidelines about online education, news articles, research papers and related publications. For developing stakeholders mapping, stakeholders influence and interest need to be assessed. In order to assess level of the stakeholder's influence and interest, the scoring method was used with a 10 point rating scale [22]. During semi structured interview stakeholders were asked to score themselves for their level of influence and interest in implementing online education in university during crises. Four interview questionnaires were developed for four different categories of stakeholders and questionnaires were used as guide for interviews.

OBJECTIVE 2: TO ANALYSE DRIVING & RESTRAINING FORCES & DEVELOP FORCE FIELD ANALYSIS

A number of driving and restraining forces were found from the literature. Some of them were also a result of interviews. The driving and restraining forces were then scored by participants according to their significance, ranging from 1 (Low) to 10(High).

4. DATA ANALYSIS AND FINDINGS

4.1. Role & Responsibilities of Stakeholders in Online Education

It has been noticed that the roles of the stakeholders were very similar in online classes as they were in traditional classroom settings. After reviewing Literature and policy papers, significant stakeholders were identified that played vital role in execution of online education in university during pandemic time. According to their role and responsibilities, these stakeholders were divided into four categories. The roles and responsibilities four major stakeholders' groups are depicted in Table .1.

Table1: Role and responsibilities of stakeholders

Role	Regulators	Facilitators	Providers	Beneficiaries
Stakeholders	University Administration	IT professional within university	Chairmen, Directors, and Teachers of departments	Students, Parents and Society as a whole
Responsibility In online education	To Regulate and monitor the process of online education and define policies regarding online classes	To facilitate the conduct of online classes & examination. It provides internet connectivity at campus	To teach and provide course material and feedback to students. Encourage and engage students	To obtain access to reliable internet connectivity and actively participate in online classes

4.2. Influence & Interest of Stakeholders

In order to assess level of the stakeholder’s influence and interest, the scoring method was used with a 10 point rating scale. The stakeholders scored from 1 to 10 scales, where 1 to 3 is considered as lowest interest and influence, 4 to 7 is considered as moderate interest and influence, and 8 to 10 is considered as highest interest and influence. Total average mean was calculated for interest and influence of stakeholders in implementing online education in university during crises. The result showed that average mean for regulator’s interest is 8.0 and average mean for regulator’s influence is 9.1. The average mean for facilitator’s interest is 4.6 and average mean for facilitator’s influence is 8.0. The average mean for provider’s interest is 8.2 and average mean for provider’s influence is 3.5. The average mean for beneficiary’s interest is 4.5 and average mean for beneficiaries influence is 2.0. The results shows that regulators possessed high interest and influence, facilitators possessed low interest and high influence, providers possessed high interest and low influence and beneficiaries possessed low interest and low influence in implementation of online education. This means that regulators and facilitators are the most influential stakeholder group than providers and beneficiaries. Regulators and providers are highly interested than facilitators and beneficiaries in implementation of online education. The total average mean value for the interest and influence of four categories of stakeholders, see Table 2.

Table 2: Total average mean value for the interest and influence

Stakeholders	Regulators	Facilitators	Providers	Beneficiaries
Interest	8.0	4.5	8.2	4.5
Power	9.1	8.0	3.5	2.0
Total Average Mean	8.5	6.3	5.8	3.2

4.3. Stakeholders Influence / Interest Matrix

On the basis of stakeholder’s total average mean, stakeholders were plotted on the chart. On this chart, at right hand side, were the regulators and facilitator possessed high influence. While on the lefthand side were the providers and beneficiaries possessed low influence. In this chart providers and regulators were at the top. They possessed high interest. While beneficiaries and facilitators were at the bottom and they possessed low interest, See Fig. 2.

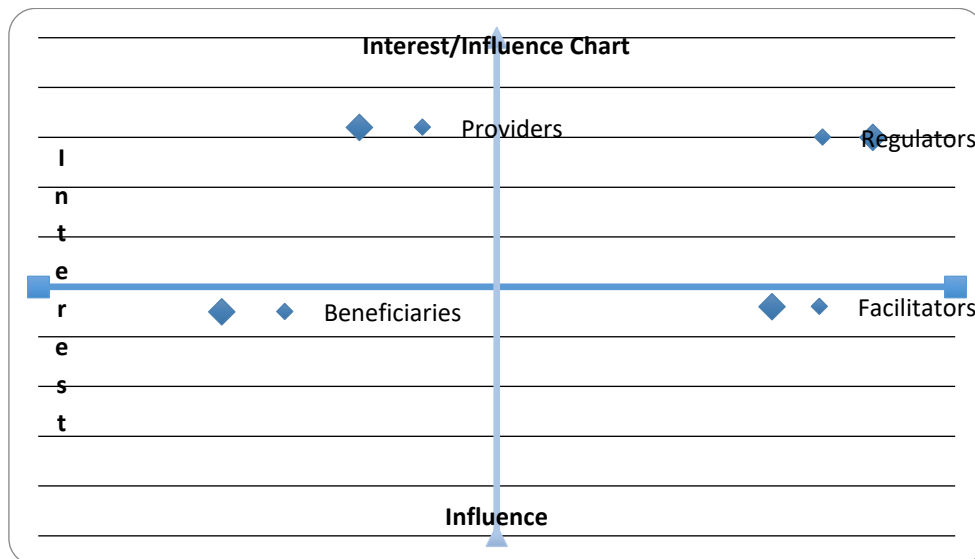


Fig. 2: Stakeholders Influence / Interest Matrix

4.4. Stakeholders Mapping

Stakeholder mapping is the visual representation of a stakeholder analysis [22] (Murray & Simon, 2006). After analysis of data stakeholders were mapped in four categories. Regulators were high interest and high influence stakeholders, facilitators were low interest but high influence stakeholders, providers were high interest, but low influence stakeholders and beneficiaries were low interest and low influence stakeholders, see Fig. 3.

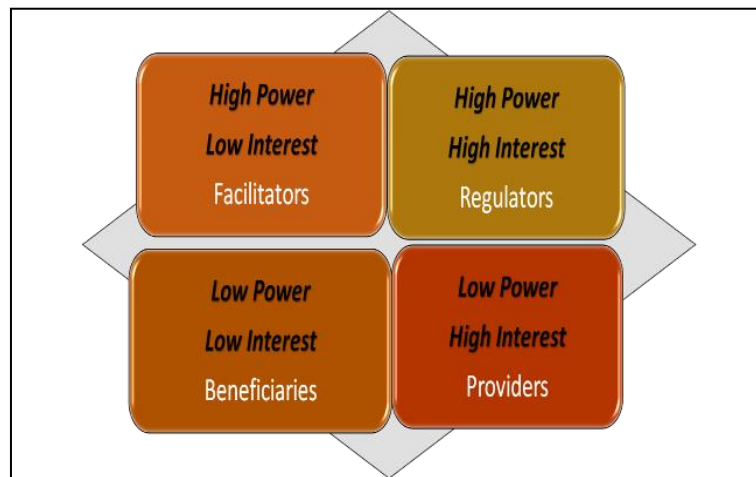


Fig. 3: Stakeholder mapping

4.5. Force field Analysis

A force field analysis was carried out between aids and barriers to online education for four different stakeholder groups. The mean of each force was summed to create a single number that served as an indication for the full set of forces.

4.5.1. Force field analysis for regulators

The total average value for driving forces for regulator was 8.3. Whereas the total average value for restraining force were 5.5. For regulators the total average value for driving forces is higher than the restraining forces, see Table 3.

Table 3: Force field analysis for regulators

DRIVING FORCES	Mean		RESTRAINING FORCES	Mean
Ability to continue education in crises	9.6	O N L I N E D U C A T I O N	Internet issues & Electricity issues	8.1
Reduced costs and increased savings	9.6		Personal anxiety with new technology/computers	6.3
Improved technology skills	9.1		No gov interest, support & policies	5.8
Build a smarter workforce	8.6		Lack of vision and/or mission	5.5
Positive impact of online learning on society	8.0		IT capacity of faculty and students	5.1
Develop future-ready skills and expand your horizon	7.8		Lack of preparation	5.1
Individuals can be safely connected	7.6		Insufficient infrastructure	5.0
Ability to grow enrollments without needing more classrooms, labs or hostels	7.3		Lack of faculty involvement in decision making	4.5
New eco-friendly vision	7.0		Financial readiness of the university	4.3
Improve image of the institution	8.1		Difficult to validate quality & learning outcomes	5.3
Total Score	8.3		Total Score	5.5

4.5.2 Force field analysis for facilitators

The total average value for driving forces for facilitator was 7.4. Whereas the total average value for restraining force were 6.9. For facilitators the total average value for driving forces is higher than the restraining forces, see Table 4.

Table 4: Force field analysis for facilitators

DRIVING FORCES	Mean		RESTRAINING FORCES	Mean
IT industry has grown tremendously	8.2	O N L I N E E D U C A T I O N	Electricity issues and Internet issues	7.7
Keep up with new trends in the market	8.0		Rapidly changing tech trends & tech	7.7
Increased jobs for IT Professionals	7.7		bandwidth choking	7.5
Social recognition of IT professionals	7.5		New cyber security threats	7.2
Prompt feedback & easy to inform	7.5		No communication with others	7.2
Feel motivated and better engaged	7.5		Increased workload	7.2
To feel welcomed and safer in digital spaces	7.5		Inadequate compensation	6.7
Every day, gain new experience	7.2		Environmental issues such as dust and heat	6.5
Enhanced focus on skills of IT people	6.7		Lack of teamwork	6.5
Cyber security expertise has increased	6.7		Lack of preparation	6.0
			Lack of ownership	6.0
Total Score	7.4		Total Score	6.9

4.5.3 Force field analysis for providers

The total average value for driving forces for provider was 7.4. Whereas the total average value for restraining force were 5.5. For provider the total average value for driving forces is higher than the restraining forces, Table 5.

Table 5: Force field analysis for providers

DRIVING FORCES	Mean		RESTRAINING FORCES	Mean
Accessibility	8.0	O N L I N E E D U C A T I O N	Internet issues & Electricity issues	6.9
Convenience	7.5		Difficult to explain practical nature concept	6.8
Flexibility	7.5		Social context cues are missing	6.3
Lectures start on time	7.5		Fear of losing one's privacy, trust, or copyrights	6.3
Full attendance	7.5		Less control over the actions of learners	6.1
Enhance visibility of teachers efforts	7.5		Weight gain and health issue	6.0
Innovation	7.4		Difficult to engage students	5.8
Improved technical skills	7.4		Inadequate technological and pedagogical skills	5.7
Optimized Work-Life Balance	7.2		Cheating Detection	5.7
Systematic track of time-spent on a topic	7.2		Insufficient administrative technical assistance	5.5
Increased autonomy and self-determination	7.1		Lack of appropriate material or content	4.8
Customization	7.0		Online work not valued for promotion	4.7
			Insufficient preparation	4.3
			More responsibilities causing time mismanagement	4.3
			Fear of new/online tools	3.4
Total Score	7.4	Total Score	5.5	

4.5.4 Force field analysis for beneficiaries

The total average value for driving forces for beneficiaries was 6.9. Whereas the total average value for restraining force were 7.2. For beneficiaries the total average value for driving forces is higher than the restraining forces, see Table 6.

Table 6: Force field analysis for beneficiaries

DRIVING FORCES	Mean	O N L I N E E D U C A T I O N	RESTRAINING FORCES	Mean
Accessibility(anywhere & whenever)	7.7		Lack of practical work or lab	9.5
Quickly availability of study resources	7.5		Unreliable electricity	8.5
Easy to return or reflect on material	7.5		Expensive(data packages etc)	8.0
Easy accessibility to lectures	7.5		No students personal interaction	7.5
Flexibility and Self-Paced Learning	7.3		Easily distracted (internet surfing)	7.4
No rush going from one class to another	7.3		Lack of technological skills	7.3
Huge resource of knowledge	7.1		Feeling confined & wasting time	7.2
No disturbance by fellow students,	7.1		Network congestion	7.1
students control study time	6.9		Low speed internet connectivity	7.0
Safe and comfortable environment at home	6.9		Health issues(Weight gain etc)	6.5
Learn New Technical Skills	6.9		Teacher lacks tech skill	6.2
Stick to healthy habits(midday jog)	6.9		Feel stressed when parents ask to study	6.0
More time to revise	6.8		Not visible to teacher	5.6
Develop self-motivation and self-discipline	6.8			
Saves money, eliminating travel time/cost	6.6			
Students can think longer & comments	6.5			
Well-organized or up-to-date content	6.4			
Parents can assist/get better view	6.1			
Total Score	6.9		Total Score	7.2

4.6. Total Average Mean Value for Driving & Restraining Forces

The whole total average mean for driving forces was 7.5, which was greater than the 6.2 for restraining forces.

Table 7. Total Average Mean Value for Driving & Restraining Forces

Stakeholders	Driving forces	Restraining forces
Regulators	8.3	5.5
Facilitators	7.4	6.9
Providers	7.4	5.5
Beneficiaries	6.9	7.2
Total Average Mean	7.5	6.2

5. Conclusion

A one-year experience with online education at a single institution during a pandemic was used to develop this study. Based on findings, each of these stakeholders has various levels of interest and influence towards implementation of online education in university. We were able to conclude that regulators and facilitators have a greater influence than providers and beneficiaries and regulators and providers have a greater interest than Facilitators and Beneficiaries have, at the higher education institution, we were studying. The findings revealed that while the interest and influence for implementing online education amongst students was low. This means that they have more issues than benefits of online education. The driving and restraining forces which drive and restrain stakeholders towards online education appear to

generally be universal. Regulators, Facilitators and providers appear to be more intrinsically motivated than beneficiaries. Regulators and facilitators were generally more positive towards online learning at the university than providers and beneficiaries. Overall, stakeholders have become slightly more positive towards online education at the university.

The greatest driving force towards online education for regulators was ability to continue education in the time of crises such as COVID-19. The greatest restraining force towards online education for regulators was electricity issues and low-speed and unreliable internet connectivity. The greatest driving force towards online education for facilitators was IT industry has grown tremendously. The greatest restraining force towards online education for facilitators was rapidly changing technological trends and techniques. The greatest driving force towards online education for providers was accessibility and flexibility. The greatest restraining force towards online education for providers was internet issues & electricity issues. The greatest driving force towards online education for beneficiaries was accessibility and flexibility. The greatest restraining force towards online education for beneficiaries was for lack of practical work or lab work for hands-on practice. The overall total average mean for driving forces outweighed the restraining forces. The higher mean for driving forces reflects that most of the stakeholders perceived that online education is helpful and effective learning tool during pandemic. However, successful execution of an online education can be ensured if the barriers are overcome. Higher mean value for driving forces indicates that our institution & stakeholders are ready to opt for online classes. Therefore, the systemic transformation is easy in this university context.

6. Recommendations

It is recommended that university in collaboration with should improve resilience of electrical power system, provide cheaper and robust/reliable internet to teachers and students. For smooth execution of online education it is recommended to improved coordination between all stakeholders. The barriers can be overcome by use of intelligent technologies, training on online education and multimedia content and gamification. Following the Covid 19 epidemic, universities should consider implementing hybrid or blended learning to prepare for any future anticipated circumstance. According to the results of this research pertaining to online education, MUET policy makers, designers, and developers should use this information as a guideline to improve the effectiveness of online education.

7. Limitation & Recommendation for Future Research

This research is based on a very small population. There needs to be more research into quantitative design on a bigger scale, involving all stakeholders, to better understand the benefits, challenges, and useful strategies for overcoming the challenges of online education. This study focusing only internal stakeholder's aids and barriers in online education. Considering external stakeholder may be another area to consider for future research. Each of these restraining and driving forces may be considered important areas of future research.

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References

- [1] C. Rapanta, L. Botturi, P. Goodyear, L. Guàrdia, and M. Koole, "Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity.," *Postdigital Science and Education*, vol. 2, no. 3, pp. 923-945, October 2020.
- [2] C. Sohrabi et al., "World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19)", 2022. .
- [3] M. Saqlain et al., "Knowledge, attitude, practice and perceived barriers among healthcare workers regarding COVID-19: a cross-sectional survey from Pakistan," *Journal of Hospital Infection*, vol. 3, no. 105, pp. 419-423, July 2020.
- [4] W. Ali, "Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic.," *Higher Education Studies*, vol. 10, no. 3, pp. 16-25, 2020.
- [5] R. Liang and D. T. V. Chen, "Online learning: Trends, potential and challenges.," *Scientific Research Publishing Inc.*, vol. 3, no. 8, pp. 1332-1335, December 2012.

- [6] V. S. Arun Gaikwad, "E-Learning in India: wheel of change.," International Journal of e-Education, e-Business, e-Management and e-Learning, vol. 6, no. 0, p. 1, March 2016.
- [7] W. Ali, "Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic.," *Higher Education Studies*, vol. 10, no. 3, pp. 16-25, 2020.
- [8] R. E. Freeman and D. L. Reed, "Stockholders and stakeholders: A new perspective on corporate governance.," *California management review*, vol. 25, no. 3, pp. 88-106., April 1983.
- [9] C. Furse and A. Bhutto, "Entrepreneurship: Getting Your Research Off the Bench and Out Into the Real World [Young Professionals].," *IEEE Antennas and Propagation Magazine*, vol. 61, no. 1, pp. 139-142., January 2019.
- [10] N. Wagner, K. Hassanein, and M. Head, "Who is responsible for e-learning success in higher education? A stakeholders' analysis.," *Journal of Educational Technology & Society*, vol. 11, no. 3, pp. 26-36., July 2008.
- [11] R. K. Mitchell , B. R. Agle , and D. J. Wood , "Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts.," *Academy of management review*, vol. 22, no. 4, pp. 853-886, October 1997.
- [12] B. G. Cameron , T. Seher, and E. F. Crawley, "Goals for space exploration based on stakeholder value network considerations," *Acta Astronautica*, vol. 68, no. 11-12, pp. 2088-2097., June 2011.
- [13] Dell'Anna, F., & Dell'Ovo, M."A stakeholder-based approach managing conflictual values in urban design processes. The case of an open prison in Barcelona." *Land Use Policy*, vol. 114, 105934 . 2022.
- [14] M. M. Parent and D. L. Deephouse, "A case study of stakeholder identification and prioritization by managers.," *Journal of business ethics*, vol. 75, no. 1, pp. 1-23., September 2007.
- [15] C. Conde , K. Lonsdale , A. Nyong, and I. Aguilar, "Engaging stakeholders in the adaptation process.," *Adaptation policy frameworks for climate change: Developing strategies, policies and measures*, pp. 47-66, 2005.
- [16] R. Brugha and Z. Varvasovszky, "Stakeholder analysis: a review.," *Health policy and planning*, vol. 15, no. 3, pp. 239-246, September 2000.
- [17] K. Lewin, "Behavior and development as a function of the total situation," In L. Carmichael (Ed.), *Manual of child psychology*, p. 791–844, 1946.
- [18] E. C. Tan, "perspectives from the national university of singapore on covid-19, before and beyond.," in *Universities: reshaping strategies to meet radical change, pandemics and inequality: revisiting the social compact?*, pp. 39-55, 2021.
- [19] S. G. Kashyap, "A case study to examine institutional factors facilitating and inhibiting faculty preparation for teaching in an online MBA program.," *The Pennsylvania State University.*, 2014.