The role of implementing key performance indictors to faculty members to enhance higher education quality in Lebanon

Moetaz Soubjaki*, Jinan University, School of Business, Tripoli, Lebanon
Radwan Choughri, Jinan University, Department of Business Administration, Tripoli, Lebanon
Hussein Al Jardali, Jinan University, Department of Business Administration, Tripoli, Lebanon

Abstract

The application of key performance indicators (KPIs) within institutions has proven to be a difficult task. Until now, its effective implementation is considered one of the key determinants for the performance and success of a business. This research aimed to explore the role of implementing KPIs to faculty members within higher education institutions (HEIs) in Lebanon. A total of 200 participants from across different HEIs within Lebanon were involved and the results indicated that majority of the respondents agreed that there are attributes needed in quality assurance. These include KPI dimensions and the management's ability to monitor the environment, communicate and present new ideas and implementations of their strategies within the university. The study recommended enhancing the role of KPIs in raising the quality of higher education in Lebanon, and decision-makers must immediately implement the KPI system based on selecting the best performance indicators related to the entire educational process**.**

Keywords: Key performance indicators (KPIs), higher education, quality assurance, Lebanon, faculty members.

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* ADDRESS FOR CORRESPONDENCE: **Moetaz Soubjaki,** School of Business, Jinan University Country, Tripoli, Lebanon.
E-mail address: moetaz.soubjaki@gmail.com

1. Introduction

Higher education is faced with myriad of challenges worldwide that range from technology distractions, regulatory compliance, emphasis on admission and demands in the society to achieve better learning outcomes. As a result, higher education institutions (HEIs) are adapting and changing to capitalise on the skills and ensure quality as part of a necessary factor within their core competencies in the curriculum. The increased demand for quality from the society today has led to the process of development to meet the changes in diversification and internationalisation of relationships in higher education. However, one of the growing concerns that have emerged is the need for the quality of inputs, processes and outcomes. These concerns are centred on defining measurable and straightforward quality indicators to ensure key performance.

Higher education in Lebanon is impacted by different challenges that are exacerbated by the existence of restricting regulatory policies that relate to quality assurance (QA) and control within Lebanon (Kaissi, Abou Chahine & Jammal, 2009). There has been a rapid growth of higher education witnessed over time that includes regional and international competition. However, it threatens the reputation of Lebanon as an education hub as issues grow with admission standards, assessment curriculum content and research activities (Kaissi et al., 2009). This has been reported to reflect on the low student employability rate and the lack of needed professional skills within the job market. Lebanon's HEIs are considered the oldest in the region, dating back to the year 1866 (Kaissi et al., 2009). The system is often characterised by significant developments over the years and currently includes diversity, autonomy and competition in the universities (El-Ghali & Ghalayini, 2016). It is available to ensure that graduates from Lebanese institutions gain an edge that allows them to be accepted into prestigious institutions globally and prepares them towards the job market. However, system administration and legislative reforms began in 2014, where a new HE law was established, calling all institutions to implement QA (El-Ghali & Ghalayini, 2016). The law cited the principles within QA would be used, but it did not specify whether universities were required to implement it. While the bill creates the structure that would help in inspecting and auditing universities on quality, there is still a need for national reforms on education systems that are driven by global changes (El-Ghali & Ghalayini, 2016).

On a worldwide level, Lebanon will be able to establish a knowledge-based society that allows educational institutions to take on new roles in ensuring both technological and scientific revolutions. Locally, QA measures will be able to ensure that HEIs are aligned with the growing population and the increasing demands for an education that positively impacts the economic and employment concerns within the society (Jammal, 2015). Moreover, the head of the higher education ministry in 2015 voiced doubts regarding the unwillingness and the essential limitations of the different QA programmes within Lebanese institutions. Currently, only 11 out of the 46 institutions in operations have put in place a QA system (Kaissi et al., 2009). This research will explore the role of implementing key performance indicators (KPIs) for the faculty members within HEIs in Lebanon.

2. Literature review

Within the education system, the measurement of university quality is a significant policy agenda. Fadeeva and Mochizuki (2010), in his research, found evidence of a correlation existing between quality education and sustainable development. However, there are difficulties within higher education in planning and ensuring the sustainability of different programmes. This is a significant issue in establishing a quality curriculum that will provide for the core competencies to be met.

Research shows that education performance accountability development in Western countries emphasises the use of multi-indicators towards ensuring efficiency and effectiveness within education (Wu & Chen, 2002). As a result, various countries have created education performance indicators to match with their education policies. Most of these items are focused on predicting the outcomes of the education systems through practical and functioning accountabilities within the education

performances (Wu & Chen, 2002). This has been attributed to the concept of KPIs that work towards predicting the outcome of education operations and describing the critical features that are needed within educational systems to ensure efficiency.

KPIs are defined as primary indicators that are used in the assessment of the outcome of long-term goals (Velimirovic, Velimirovic & Stankovic, 2011). The tool allows management to be administered in qualitative and quantitative means to help in objectively measuring the outcome. KPIs have various benefits including being useful towards improving planning and performance (Velimirovic et al., 2011). They ensure the presence of performance visibility and transparency so that everyone can know the different primary areas that are performing or not. Moreover, they help improve decision-making and direct behaviour within the organisational culture. Overall, the indicators are effective in critical performance assessment to provide a complete overview of the progress and the QA within the outcome.

Yang (2009) states that KPIs are based on the SMART construct that centres on specific, measurable, attainable, relevant and time-bound goals. According to the study, selecting the correct KPIs often depend on knowing what is important and needed within the organisations (Yang, 2009). Therefore, this includes various systems that measure the present state of the organisation, and once its key activities are found they are associated with selected performance indicators that help in determining potential improvements so that initiatives can be put in place to ensure effectiveness (Yang, 2009).

In analysing the dimensions of KPIs in QA, research shows that there are different facilitating factors of quality within higher education that frame the structure. One of the most widely cited dimensions includes commitment by the top management and that of internal stakeholders (Flumerfelt & Banachowski, 2011). Management and leadership are considered an essential precursor for improvement. This is because there needs to be willingness and sustained support from management to implement QA successfully. Other studies that identify commitment and support from senior management can be expressed with the mission and vision statement that includes quality as part of the strategic implementation in the provision of necessary resources (Flumerfelt & Banachowski, 2011). For internal stakeholders, the empowerment of the staff, including the administration and academic aspects, is considered an essential dimension for quality management. The department is the key activity systems and thus is an essential function within the hierarchy of the use of KPIs in ensuring participation and effectiveness (Kleijnen, Dolmans, Willems & Van Hout, 2011). Staff participation often leads to higher commitment and reduces the resistance that can happen with changes in the education system (Kleijnen et al., 2011).

Within Lebanon, there exist limited research studies that have ventured into analysing KPIs in ensuring quality in HEIs. However, none has discussed the different drivers, as well as considered QA as management innovations that can be implemented. QA was analysed through concepts and processes, such as in teachers' registrations as well as the ratings of instructions by students. El-Hassan (2009), in his research, focused on exploring the perceptions of students and faculty in the evaluation of instructions in order to understand the usefulness of quality in evaluating the effectiveness of teaching. Two surveys were developed at the American University of Beirut (El-Hassan, 2009).

The perceptions were compared on qualitative and quantitative methodologies, with results revealing that students thought that these ratings are essential in helping instructors improve the value of education methods. The faculty, on the other hand, believes that the system is useful, but there were inherent biases that collide within its application to the university. Kaissi, Jammal, Loutfi and Chahine (2008) study focused on an outline that describes HE in Lebanon through the QA for higher education in Lebanon project. It focused on a descriptive account of the proposals from the Ministry of Education on the improvement of HE, showing the future plans and the current status of Lebanon in implementing QA measures (Kaissi et al., 2008). It recommended questioning the

institution's accepted behaviour and patterns, developing the crew approaches and indicators and institutionalising these new patterns.

Nasser, Khoury and Abouchedid (2008) focused on the satisfaction levels of students of university services and programmes within HEIs. The research concluded that satisfaction is an effective measure to prove the quality of education offered. The results showed that senior class students were less satisfied with their programmes and services as compared to freshmen (Nasser et al., 2008). The conclusion recommended the use of improvements in their service provisions in order to improve quality. Choueiri, Choueiri and Choueiri (2012) presented the basics of quality management tools that can facilitate implementation. The research shows that HEIs need to use all means to help increase quality to sustain attractiveness (Nasser et al., 2008). El-Hassan (2013) focused on analysing Lebanon's status of QA. The research relied on reports published by international and other associations of 20 MENA region economies, including Lebanon, highlighting efforts that address the challenges faced in improving quality within HEIs. The results' findings indicated that there are insufficient measures to deal with the competitive areas. Increased demand in the world of education and rapid transformation within the regions need to improve.

The theory of innovation argues that the rate of adoption is often determined by stakeholders' perception based on the relative advantage, the complexity, testability, observability and compatibility with the norms and values of individuals to implement QA successfully (Rogers, 2003). The internal stakeholders' perceptions of attributes and involvement are essential, starting from the top management to the faculty member. The overall findings suggest that stakeholders perceive quality to be a relative advantage in standing, competition and improving the quality of instruction.

This research will explore the role of implementing KPIs for faculty members within HEIs in Lebanon. It will focus on answering the following question: How does the implementation of KPIs improving QA in higher education?

The objectives are as follows:

− To evaluate faculty members' perception of the KPI dimensions and their responsiveness to their implementation.
− To formulate recommendations on adequate KPI approaches that should be implemented to ensure QA in HEIs.

The hypotheses are as follows:

H0: There is no statistically significant role of KPIs for faculty members in QA in higher education in Lebanon.

H1: There is a statistically significant role of KPIs for faculty members in QA in higher education in Lebanon.

3. Method and materials

Based on the information obtained from the literature review, a research instrument in the form of an online questionnaire was customised for this study to identify the importance and actual performance of implementing KPIs for faculty members in higher education in Lebanon. The questionnaire consisted of 64 items, which were a variety of closed-ended and open-ended questions as well as a 4-point Likert-type scale with '1' implying 'unsatisfactory' and '4' implying 'exceeds expectations' and '1' implying 'not important' and '4' implying 'very important'. The questionnaire collected information on various issues, including gender, job title, sector, education level, experience, contract type, age, location and other statements related to the importance and actual performance for implementing KPIs for faculty members. These details were obtained from 200 respondents within Lebanon. The researchers targeted educators and professionals in universities. The questionnaire was created on Google Forms and the link was distributed via email and direct messages to pre-selected

respondents until 200 valid responses were received. Since the questionnaire was self-administered, the respondents were notified that all their responses would be acceptable, and their identities would be treated confidentially.

The distribution of valid responses from the Lebanese governorates are shown in Table 1, which indicates a high response rate of 35% from Beirut, the capital of Lebanon, and a 30% response rate from North Lebanon.

Table 1. Governorates of the respondents

Value	Frequency	%
Beirut	70	35
North Lebanon	60	30
South Lebanon	6	3
Mount Lebanon	4	2
Bekaa	22	11
Baalbek	2	1
Nabatieh	6	3
Akkar	30	15
Total	200	100

A pilot study involving 15 respondents was carried out to test the questionnaire. The inconsistencies and ambiguities identified in the survey instrument during the pilot study were rectified before the questionnaire link for the main study was distributed. The questionnaire was also tested for reliability during the pilot study. Cronbach's alpha test was conducted and the results of the test are shown in Table 2.

Table 2. Reliability statistics

Cronbach's alpha	Number of items
0.80	56

The test returned a Cronbach's alpha value of 0.80, which, on the basis of being greater than 0.6, should, according to Ray (2016), be taken to mean that the questionnaire is highly reliable or internally consistent. The obtained research data were analysed via Statistical Package for the Social Sciences v.24 software.

4. Results

More than 500 faculty members from different HEIs in Lebanon were reached out to for the study. However, only 200 responses were collected to present a rate of 40%. The demographics are as listed in Table 3.

Table 3. Demographic characteristics

	Value	Frequency	%
Gender	Male	153	76.5
	Female	47	23.5
Job title	Dean	6	3
	Full professor	24	12
	Associate professor	48	24
	Assistant professor	60	30
	Lecturer	50	25
	Department manager	12	6

University sector	Public	70	35
	Private	110	55
	Both	20	10
Educational level	PhD/DBA	180	90
	MSc/MBA	16	8
	BA/BSc	4	2
Years of experience	1–5	53	26.5
	6–10	59	29.5
	11–15	29	14.5
	15+	59	29.5
Contract type	Full time	58	29
	Part time	142	71
Age	26–30	12	6
	31–40	100	50
	41–50	35	17.5
	50+	53	26.5

From Table 3, it can be seen that 76.5% of the respondents were male and 23.5% were female. Most of the respondents were between 36 and 45 years in age, 19.8% of the respondents were between 26 and 30 years, 6% between 31 and 40 years, 50% between 41 and 50 years and 17.5% and 26.5% over 50 years. The number of respondents from private universities was 55%, while those from public sector universities were 35% and 10% worked for both sectors. Also, 71% of the respondents worked part time and only 29% had full-time contracts, which indicate a low level of employment security. Furthermore, 90% of the respondents held a PhD/DBA degree, which indicates a high level of education that reflects high-quality responses.

Table 4. Using the KPIs implementation for faculty members scale below, please indicate how important each of these factors is for your university in these statements

	Not important (1)	Slightly important (2)	Important (3)	Very important (4)
Having a clear KPIs for faculty members	0%	6%	26.5%	67.5%
Having a KPI target benchmark	6%	0%	44%	50%
Having a clear gathering data process for KPIs calculation	0%	8.5%	35.5%	56%
Having decision-making based on KPIs after root cause analysis	0%	11.5%	38.5%	50%
Review KPIs on a weekly basis	26.5%	29.5%	26.5%	17.5%
Review KPIs on a monthly basis	20.5%	20.5%	41.5%	17.5%
Review KPIs on a quarterly basis	2.5%	23.5%	41.5%	32.5%
Review KPIs on a semi-annual basis	0%	17.5%	41%	41.5%
Review KPIs on a yearly basis	5.5%	11.5%	35%	48%
Having to change programmes with KPI implementation	2.5%	8.5%	56%	33%
Having a technology to support KPI implementation	0%	17.5%	32.5%	50%
Having enough training and awareness sessions before implementation	0%	6%	32%	62%
Making better decisions regarding employees training based on KPIs' results	0%	9%	38%	53%
Linking the promotion and bonus systems to the KPIs' results	5.5%	14.5%	35.5%	44.5%

Table 5. Using the KPIs implementation for faculty members scale below, please indicate how you would rate your university's actual performance in these statements

	Unsatisfactory (1)	Improvement needed (2)	Meets expectations (3)	Exceeds expectations (4)
Having a clear KPIs for faculty members	44%	29.5%	17.5%	9%
Having a KPI target benchmark	47%	29.5%	17%	6.5%
Having a clear gathering data process for KPIs calculation	29.5%	41.5%	23.5%	5.5%
Having decision-making based on KPIs after root cause analysis	20.5%	38%	26.5%	15%
Review KPIs on a weekly basis	41.5%	26.5%	29%	3%
Review KPIs on a monthly basis	38%	29.5%	29.5%	3%
Review KPIs on a quarterly basis	23.5%	41%	32.5%	3%
Review KPIs on a semi-annual basis	38.5%	26.5%	20.5%	14.5%
Review KPIs on a yearly basis	35.5%	14.5%	44.5%	5.5%
Having to change programmes with KPI implementation	41.5%	26.5%	23.5%	8.5%
Having a technology to support KPI implementation	29.5%	26.5%	26.5%	17.5%
Having enough training and awareness sessions before implementation	29.5%	29.5%	23.5%	17.5%
Making better decisions regarding employees training based on KPIs' results	35.5%	26.5%	26.5%	11.5%
Linking the promotion and bonus systems to the KPIs' results	35.5%	23.5%	26.5%	14.5%

Table 6. Using the KPIs for faculty members in university outcomes scale below, please indicate how important each of these factors is for your university in these statements

	Not important (1)	Slightly important (2)	Important (3)	Very important (4)
Role of KPIs in faculty recruitment, progression and promotions	5.5%	2.5%	42%	50%
Role of KPIs in faculty teaching skills	2.5%	11.5%	33%	53%
Role of KPIs in faculty research quality based on publications in top journals (Q1–Q4)	3%	20.5%	41.5%	35%
Role of KPIs in faculty periodic publication	9%	17.5%	38%	35.5%
Role of KPIs in university ranking locally	3%	20.5%	41%	35.5%
Role of KPIs in university ranking internationally	5.5%	17.5%	35.5%	41.5%
Role of KPIs in university accreditations	2.5%	14.5%	35.5%	47.5%
Role of KPIs in new accredit schools	2.5%	20.5%	35.5%	41.5%
Role of KPIs in the internal processes	3%	14%	33%	50%
Role of KPIs in local students recruitment rate	3%	17%	52%	28%
Role of KPIs in international students recruitment rate	6%	17.5%	38.5%	38%

Table 7. Using the KPIs for faculty members in university outcomes scale below, how would you rate your university's actual performance in these statements

	Unsatisfactory (1)	Improvement needed (2)	Meets expectations (3)	Exceeds expectations (4)
Role of KPIs in faculty recruitment, progression and promotions	23.5%	52.5%	20.5%	3.5%
Role of KPIs in faculty teaching skills	53%	29%	14.5%	3.5%
Role of KPIs in faculty research quality based on publications in top journals (Q1–Q4)	20.5%	53.5%	23.5%	2.5%
Role of KPIs in faculty periodic publication	29.5%	41.5%	26.5%	2.5%
Role of KPIs in university ranking locally	20.5%	44.5%	26.5%	8.5%
Role of KPIs in university ranking internationally	23.5%	38.5%	35.5%	2.5%
Role of KPIs in university accreditations	23.5%	47.5%	26.5%	2.5%
Role of KPIs in local students recruitment rate	17.5%	41.5%	32.5%	8.5%
Role of KPIs in international students recruitment rate	20.5%	44.5%	32.5%	2.5%

Table 8. Using the KPIs for faculty members in students outcomes scale below, please indicate how important each of these factors is for your university in these statements

	Not important (1)	Slightly important (2)	Important (3)	Very important (4)
Role of KPIs in student learning outcomes	8.5%	20.5%	35.5%	35.5%
Role of KPIs in students employment rate	14.5%	14.5%	44.5%	26.5%
Role of KPIs in students employment rate in top companies	8.5%	26.5%	47.5%	17.5%
Role of KPIs in learners satisfaction rate	2.5%	23.5%	44.5%	29.5%
Role of KPIs in on-time students graduation	3%	26.5%	44%	26.5%
Role of KPIs in students' retention	9%	29%	38%	24%
Role of KPIs in curriculum development	6%	17.5%	47%	29.5%
Role of KPIs in acquiring new skills	8.5%	14.5%	47.5%	29.5%

Table 9. Using the KPIs for faculty members in students outcomes scale below, how would you rate your university's actual performance in these statements

	Unsatisfactory (1)	Improvement needed (2)	Meets expectations (3)	Exceeds expectations (4)
Role of KPIs in student learning outcomes	23.5%	35.5%	32.5%	8.5%
Role of KPIs in students employment rate	20.5%	44.5%	32.5%	2.5%
Role of KPIs in students employment rate in top companies	26.5%	38.5%	32.5%	2.5%
Role of KPIs in learners satisfaction rate	20.5%	44.5%	32.5%	2.5%

Role of KPIs in on-time students graduation	23.5%	38%	35%	3.5%
Role of KPIs in students' retention	20.5%	44.5%	32.5%	2.5%
Role of KPIs in curriculum development	17%	45%	35%	3%
Role of KPIs in acquiring new skills	17.5%	38.5%	41.5%	2.5%

The results in Tables 4 and 5 show that most of the respondents agree on the importance of all KPI implementation items for faculty members, while the five challenges facing the actual performance of this implementation are having clear KPIs for faculty members (73.5%) and having a KPI target benchmark (76.5%); and as per the researchers' experience in that field, these results occur due to the lack of performance management systems and specialists in the organisations. Additionally, from the replies, it is clear that leadership strategy needs to change in order to mitigate challenges in the institutions' ability to efficiently meet the set objectives and goals set within their KPI.

The data ultimately show that there is a variance that exists between the best practices of KPIs and the actual implementation. This demonstrates a gap between the knowledge in regard to the meaning of the necessary KPI practices that have impacted the actual implementation of different processes within the universities. These findings agree with Parmenter's (2015) study, where despite awareness of the best practices in KPI, the organisation usually develops a system without following these practices. The responses help provide backing to the objective within the research in the faculty member perception of KPI implementation.

The results clearly demonstrate in Table 8 that KPIs determine proper QA implementation. For example, as confirmed by the findings, KPIs were also found to influence student learning outcomes (important 35.5%, very important 35.5%), learner satisfaction (important 44.5%, very important 29.5%), graduation (important 44%, very important 26.5%), curriculum development (important 47%, very important 29.5%) and acquisition of new skills (important 47.5%, very important 29.5%). However, most respondents indicated in Table 9 that the majority of these things are not being implemented in their university.

5. Hypotheses testing

Within the predicted findings, a big proportion of the respondents from both responsive and nonresponsive universities agree that QA involves a complex process. They will state that they required an overall change in their strategy where the university is normally managed. Most respondents also state that QA leads to improvements in the status of the universities. Additionally, many agree that the effect of its implementation takes a long time to be observed. All of them will agree that QA measures within universities need to be the first in one department before being applied to the entire institution.

Most respondents agree that the implementation of proper KPI dimensions requires a strategic decision from the management. The role of a leader is considered crucial in helping an institution to meet the standards of QA. Within responsive universities, most of the respondents agree that the use of effective teaching techniques helps in improving studies. They take into account the different student-centred learning within the instructions to help students. Additionally, they agree that the number of student projects and research also increases. All respondents from the responsive institution agree that QA has resulted in improvements as a result of periodic student evaluation.

The respondents noted the importance of communication, the provision of training and financial resources and new learning techniques as they are significantly correlated to the responsiveness of the implementation of QA. It shows that monitoring, appropriate systems and an increase in student projects are also correlated with responsiveness to QA implementation.

6. Linear regression: comparison of 'not important' and 'very important' scores using KPIs for faculty members in university outcomes

Regression Statistics	
Multiple R	0.103709
R Square	0.010755
Adjusted R Square	-0.09916
Standard Error	8.492086
Observations	11

ANOVA

	df	SS	MS	F	Significance F
Regression	1	7.056634	7.056634	0.097852	0.76155
Residual	9	649.0397	72.11553		
Total	10	656.0964			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	42.93353	6.157483	6.972579	6.52E-05	29.00434	56.86272	29.00434	56.86272
Not Important	-0.41173	1.316211	-0.31281	0.76155	-3.3892	2.565748	-3.3892	2.565748

PROBABILITY OUTPUT

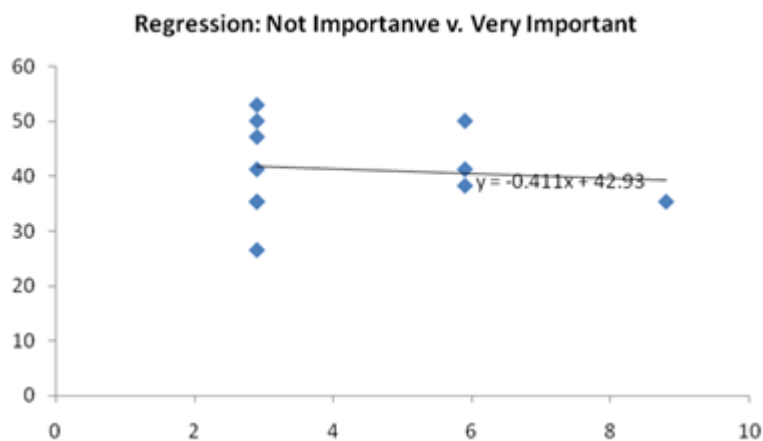| Percentile	Very Important
4.545455	26.5
13.63636	35.3
22.72727	35.3
31.81818	35.3
40.90909	38.2
50	41.2
59.09091	41.2
68.18182	47.1
77.27273	50
86.36364	50
95.45455	52.9

Figure 1. Comparison of 'not important' and 'very important' scores using KPIs for faculty members in university outcomes

The positive linear regression (by looking at the equation) results above indicate that the correlation and significance values are directly proportional, meaning that an increase in correlation result in an increase in significance (Figure 1). However, it is clear from the correlation values that H1 (There is a statistically significant role of KPIs for faculty members in QA in higher education in Lebanon) is accepted.

7. Discussion

The result indicates that majority of the respondents agree that there are attributes needed in QA. These include KPI dimensions and the management in the ability to monitor the environment, communicate and present new ideas and implementations of their strategies within the university. The results of this study are in line with previous research confirming the role that using KPIs for faculty members play into the application of QA within higher education. Previous studies have stated that specific organisational characteristics are important in ensuring QA implementation (Zachariah, 2007). It has been found that it affects decision-making and is associated with the ability to help implement change.

The results clearly demonstrate that key performances indicators (KPIs) determine the proper QA implementation. For example, as confirmed by the findings, majority of the respondents stated that clear indicators were considered important in the organisation (important 26.5%, very important 67.5%). However, only a small percentage of the respondents agreed that the university's KPIs meet the expectations (17.5%) and exceeds expectations (9%). Similarly, this was the case for the key target benchmarks (important 44%, very important 50%) in comparison with actual performance (meets expectations 17.5%, exceeds expectations 6%). KPIs were also found to influence student learning outcomes (important 35%, very important 35%), learner satisfaction (important 44%, very important 29%), graduation (important 44%, very important 26%), curriculum development (important 47%, very important 29%) and acquisition of new skills (important 47%, very important 29%). However, only a few respondents indicated that majority of these things are being implemented in the university.

8. Conclusions

Based on all the results and data obtained, the researchers are confident that higher education in Lebanon has not reached an advanced stage in the application of KPIs for the educational process, and with this, the results confirm that there is a weakness in understanding the role of KPIs in higher education, as well as a lack of specialists in the field of measurements and also the lack of support

from stakeholders, and this was reinforced by the results that were developed in this research. The current study was focused on examining how KPI implementation has played a key role in improving QA in HEIs within Lebanon. In general, the results suggest that HEIs that use KPIs highlight QA. The research also found that leadership characteristics are a substantial aspect in ensuring a supportive culture to the implementation of QA. Based on the results of the study, it can be argued that institutions should implement KPI measures to help ensure QA.

9. Recommendations and managerial implication

To enhance the role of KPIs in raising the quality of higher education in Lebanon, decision-makers must immediately implement the KPI system based on selecting the best performance indicators related to the entire educational process. Also, it is necessary to coordinate with entities and partners in the Middle East and the world to implement the specified criteria and indicators to improve the outputs of higher education in Lebanon. In addition to that, there should be a specialised team in each university to manage strategy and performance management, as they follow the development of the educational process and the achievement of set targets.

Practical implication includes the availability of information concerning existing systems of QA within Lebanon. Additionally, it will raise awareness of the importance of KPI factors to the responsiveness of QA. The implementation offers recommendations on increasing responsiveness towards the universities that are more non-responsive to using KPIs. Consequently, the research fills a gap in understanding QA implementations within Lebanon, specifically with the importance of KPIs in the HEIs in Lebanon.

10. Limitations and future research

The use of non-probability sampling limits the generalisation of the results. As analysed, the targets of the sample include faculty members, thus limiting the ability of the responses. Other responses from students may influence the perception of the attributes given to KPIs. Future research should focus on the data collected on the more longitudinal case study design in order to help take into account the different institutional pressures and challenges, as well as the perception of QA that comes with implementing KPIs.

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