

## UNIVERSITY PERFORMANCE: HOW WE DEFINE IT AND HOW WE MEASURE IT

Ala COTELNIC<sup>1</sup>

**Abstract:** Performance is a current and expanding topic, debated by both academic researchers and practitioners, being a complex concept that can be defined from several perspectives. In this article, the concept of performance is analysed in general and in particular in the university environment. We find that the concept of performance has undergone an impressive evolution in recent decades, because in the beginning, the definitions attributed to performance referred only to financial indicators, but over time, non-financial indicators were taken into account, which proved to be indispensable for the proper functioning of the organization, but especially for higher education institutions. Thus, performance measurement uses specific indicators to differentiate and compare universities, either in terms of study programs or the university as a whole, or for funding (Ministry of Education and Research) or for accreditation and quality assurance. In the article we refer to the performance indicators for the financial stimulation of public universities, which operate under conditions of financial autonomy in the Republic of Moldova. The proposed performance measurement system for the Moldovan universities is a new one, in the making and is being used for two years. A comparative analysis of some indicators is performed. The purpose of this article is to study the essence of the performance in the university environment notion and the methods of measuring performance based on the scientific literature in the field and normative acts. We also analyzed how the performance of universities in the Republic of Moldova is measured and what are the possibilities for improvement.

**Key-words:** performance, academic environment, performance measurement, performance indicators, performance management, compensatory funding.

**JEL Code:** I23, L25

### Introduction

Performance is a term often used in the field of managerial science. At the same time, the word is very delicate to use, as each defines a specific concept, and based on their definitions the concepts can be developed and used in different fields. We have encountered some difficulties in finding a unanimously accepted definition of the word by the scientific community. The number of definitions has expanded as the number of studies articles grew.

Performance matters in any business, in particular in the economic domain. In some areas this term can be easily defined, for example in sports (score, times, centimetres, etc.), but in the economic field the problem is more complex and more difficult to define.

The problem we have identified in this regard is the lack of clarity on the definition of the performance concept with reference to the managerial field, in general and to university management in particular. This is important because it allows us to understand what a successful university means, what are the indicators that determine this performance and to see how we can achieve performance.

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<sup>1</sup> Ala Cotelnic is university professor at Academy of Economic Studies of Moldova, Chisinau, Republic of Moldova, email: cotelnic.ala@ase.md, ORCID: 0000-0002-6599-6473

One of our tasks is to understand the term of performance. If we cannot understand the essence of the term, how can we use it and improve its use? How can we improve the performance of a system if we do not specify what performance we will improve?

Another goal we are looking at in this article is to clarify what is the performance in higher education and how it can be measured. The question that motivated us to conduct this study is to understand how we differentiate universities according to their performance.

## 1. Literature review

Although there are opinions, according to which “the notion of performance is very rarely explicitly defined, most of the time, its meaning being considered to be known implicitly” (Burz, 2013, p.21), we extended the searches in finding that definition, which responds more precisely to our requests.

We found that initially the term “performance” meant a play or a musical piece, according to Wettstein (2002, p.15), quoting Andersen and Fagerhaug “... it is believed that performance appeared in the XV-th century and means a play or an exhibition of a certain type”.

Another finding that emerges from the studies is that the term is often used for biological and mechanical systems, distinguishing between their performances. Burz (2013) says that in biological systems performance is a very good result, a great achievement. In mechanical systems, performance shows the capability, the maximum level that can be achieved. If in the case of mechanical systems the meaning is obvious, considers the mentioned author, then in the case of biological ones the problem of the significance of notions “particularly good”, “very good” appears, in most cases, the level of the result is something well established, but one loaded with the subjectivism of those who appreciate it.

Other definitions of the notion of performance "is a special result obtained in the field of management, economic, commercial, etc. that imprints characteristics of competitiveness, efficiency and effectiveness of the organization and its procedural and structural components" (Verboncu & Zalman, 2005, p. 63)

What we noticed and can be deduced from the above is that different areas use different definitions in different contexts. Thus, production management focuses on processes, the organizational context focuses on fast and optimal cost processes; the economic field sees performance as productivity; management accounting sees performance as a result of a company's financial performance; change management defines performance as generating results and focuses on interested parties, e.g. shareholders, customers, staff.

Samsonowa (2012) argues that all the different definitions she has consulted on performance measurement have one thing in common, they are all related to two terms: effectiveness and efficiency; effectiveness as an indicator of the achievement degree of an objective, and efficiency as an indicator of the resources that have been consumed to reach the level of achievement. In her paper, she uses the term “performance” as a level / degree of organization / department’s goals achievement, rather than of individuals. This definition is mainly inspired by the work of Krause (2005).

At the same time, we are firmly convinced that simply knowing the achievement or performance level does not improve the performance itself. Performance must be managed.

Performance management and performance measurement are sometimes confused with each other. Klingebiel (1999, p.9) states that the literature on conceptual, contextual and definitional differences between performance management and performance measurement is quite poor. Lebas (1995, p.23) argues, that "management could hardly exist without measurement". He argues that performance management and performance measurement are closely linked and therefore inseparable. His statement on their dimensions: "performance management precedes and seeks to measure performance, in a virtuous spiral and performance management creates the context for measurement." Our view is that performance measurement is an inseparable element of performance management.

Performance measurement is easier to perform in the private sector, where profit recording proves performance, while in the public sector measuring service performance is not an easy task. At the same time, measuring the performance of public institutions is necessary to demonstrate its responsibility to internal and external users.

## 2. Data and Methodology

In order to achieve the purpose and objectives of this research, we started studying the bibliography in the field, namely looking for answers to questions such as: what is performance, in general and performance for higher education institutions, in particular; how performance can be managed; are there interconnections between performance management and performance measurement; which indicators would more accurately characterize the performance of higher education institutions; is there a link between the performance of the university and the quality of the services provided. We also studied the regulatory framework in the Republic of Moldova in this regard. The author participated in the elaboration of the Regulation related to the financing of universities for the stimulation of performance (compensatory financing), analysing the experience of several countries, in this respect. The studies carried out within the Tempus (EUniAM) project - Enhancing University Autonomy in Moldova are the basis for the elaboration of this regulation and the university financing methodology of the Republic of Moldova, and its results have been published in several papers: University Institutional Autonomy in Moldova (2015), Comparative analysis of institutional university autonomy in Denmark, Lithuania, Romania, Scotland and Sweden (2015), Reflections on the universities financial autonomy and competitiveness (2014) and others. The author has participated in these studies and is the author or co-author of several publications on this topic. Thus, we could consider that the reflections in this paper and the conclusions are credible, have been presented at several scientific conferences. In this way, we used the qualitative method to synthesize the most relevant studies to highlight the valences of the performance concept and the adjacent concepts, such as performance measurement, performance management, and performance measurement indicators.

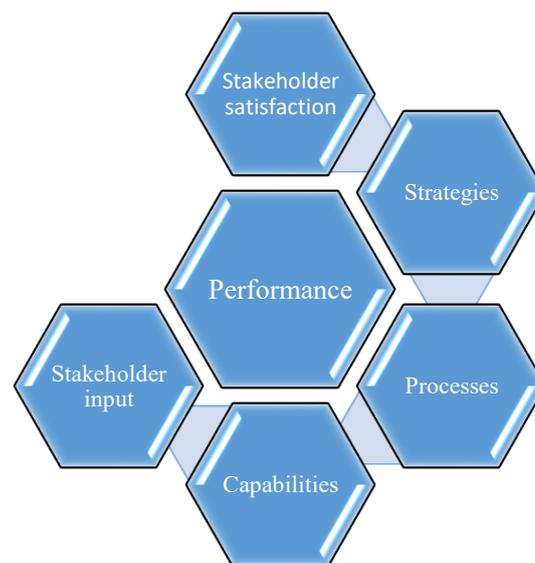
### 3. The Model and Findings

Our research interest refers to higher education institutions. How do we determine whether the university is performing? How can we measure and highlight the institutions with a higher performance? These questions bother us, not at all easy to answer.

There are several models for measuring performance in the higher education sector proposed by researchers, such as the Performance Pyramid, the Results and Determinants Framework, the Balanced Scorecard and the Performance Prism.

*Balanced Scorecard* (BSC) is a performance measurement model proposed by R. Kaplan and D. Norton (1996), which helps the university's senior management to have an overview of the institution's performance from four perspectives; the customer satisfaction perspective, the internal processes perspective, the innovation and learning perspective of and the financial perspective.

*The performance prism* is proposed by Neely, Adams & Kennerley (2002) and is a dashboard-based, measurement-based performance management concept, which focuses on the needs of an organization's stakeholders. This model measures performance in five facets (Figure 1).



**Figure 1. Performance measurement elements**

*Source: developed by the author after Neely, A., Adams, C., & Kennerley, M. (2002)*

Each of these elements implies the need to select process and analyse certain information with reference to:

- Stakeholder satisfaction: We need to identify our stakeholders and determine their needs;
- Strategies: Do we establish the strategies we need to meet these desires and needs;
- Processes: We identify the processes we need to implement these strategies;
- Capabilities: We establish the capabilities we need to ensure the most efficient management of the processes;
- Stakeholder input: we need to know what we want from stakeholders to develop and maintain these capabilities.

*The performance pyramid*, also known as the Strategic Measurement and Reporting Technique (SMART), was proposed by Cross & Lynch (1988). The purpose of this model is to connect the university's strategy with its progress by translating top-down objectives and bottom-up measures.

However, for the academic environment, more often, performance is associated with the quality of services provided. Quality can mean many things and it is the tool with which performance can be achieved. Another question arises on how do we measure the quality of these services? This is also a question to which we cannot find a single answer so far. There are many international and national attempts to measure the quality and performance of universities. We understand that quality is a subjective concept that is included in performance and is seen at the level of higher education institutions as the minimum requirement to meet certain standards. Universities cannot carry out their activity if their study programmes are not accredited. Therefore, external quality assessment (accreditation) is nothing more than getting permission to provide certain services and it is not about certain performance. The existence of international rankings and performance indicators, used to certify that a university provides the highest quality services, has led higher education institutions to set goals in line with the objectives of the rankings. Achieving the objectives brings the advantage of attracting both students and funding, but also of gaining a good reputation for the field in which a faculty prepares students.

Today, we understand as never before, that universities need to respond appropriately to new challenges in order to cope with environmental changes in which they operate, and the quality of services provided must adapt to current circumstances.

Each university sets its objectives according to its vision and mission, the external environment, and aims to achieve the best results in terms of teaching process, quality of research, which will lead to the performance of the university. Therefore, we could mention that in the university environment performance is defined as achievement of the objectives.

For several years, in the Republic of Moldova have been made attempts to find ways to measure the university performance and to stimulate those institutions, which put more effort and have better results. The best incentive is the financial one. In this regard, performance indicators have been developed that determine the amount of compensatory funding those public universities can receive (Regulation, 2020). There are currently 16 public universities and 8 private universities in the Republic of Moldova. The performance indicators we will refer to apply to 14 public universities that operate under conditions of financial autonomy. For two other public universities - the "Stefan cel Mare" Academy of the Ministry of Internal Affairs and the "Alexandru cel Bun" Military Academy of the Armed Forces - the mentioned method does not apply.

According to the mentioned Regulation, the compensatory financing is destined to support the performance of the public higher education institutions and constitutes 20% of the budgetary allocations for the budgetary financing of the public higher education institutions. The types and weights of the performance indicators, as well as their calculation method, are approved annually by the Order of the Minister of Education and Research. Performance indicators monitored by Moldovan educational institutions are correlated with

those of other states. First of all, the basic directions in which certain indicators were put forward were highlighted. These directions are indispensable for the university's activity and include: the teaching-learning process, university scientific research / artistic creation / sports performance, the dimension of internationalization, social orientation. The indicators that have been selected for each of these directions are simple, measurable, and, most importantly, controllable. This way of financing universities has been applied for the first time in the year 2021 and the second year is the budget year 2022. For the year, 2022 the weight for some performance indicators and calculation method has been changed (Regulation, 2021). Obviously, this is done in search of the most appropriate indicators to characterize the performance of those that can, at the moment, be measured and controlled.

What changes have taken place in the calculation of indicators? First of all, unlike the previous year, when calculating the funds for scientific research ( $I_4$ ), but also for international projects ( $I_7$ ), was taken into account the amount allocated to each university. Although in the previous year the name of the indicators was the same, but it was operated not with amounts, but with the number of projects. It is incomparable a project of several hundred thousand mdl, with another of hundreds of thousands of euros. This injustice was omitted in 2022. Another change referred to the social component. If for the year 2021 the ratio between the sum of the number of places in the university dormitories, determined according to the sanitary norms and the total number of university students from the bachelor's and master's degree cycles, from the full-time studies, indicator, which is not relevant enough to highlight the performance, for 2022 this indicator is determined as “the average for the last 3 budget years of the ratio between the amount of investments in student dormitories made by the university from its own and attracted sources and the number of places in university dormitories (capacity accommodation)”. We consider this indicator more relevant to highlight the university's performance by the following: firstly, it highlights the university's effort to attract additional funds other than from the state budget, and secondly, the university's interest in directing these amounts to improving students' living conditions.

The article “Trends in the development and financing of higher education in the Republic of Moldova” (Botnari, 2021) presents the way of financing higher education, including compensatory funding, which is allocated to universities according to the performance achieved, to which we referred above, and notes that the system of performance evaluation indicators in public higher education institutions, included in the new methodology are mainly quantitative in nature and do not reflect the actual universities' performance. We cannot disagree with the author, that these indicators are not the most appropriate, that is why every year we try to find more appropriate ways to measure performance. On the other hand, quantitative indicators are easier to measure, while qualitative indicators usually give us a wide range of interpretations.

Further on, the mentioned author comes with some proposals to extend the spectrum of performance indicators of universities with: the pass rate, the number of specialists employed in the national economy, in the field of specialization, graduates employed in management positions, the number of teachers participating in elaboration of national development policies and strategies, number of experts in state and international bodies, etc.

We agree with the author's proposals and the fact that the proposed indicators are much closer to characterizing the performance of a university than the existing ones. It is important to be aware that any proposed indicator must be able to be measured, recorded and verified. If we are unable to do so, this indicator cannot currently be used as a basis for calculating the amounts allocated to universities.

## Conclusions

The analysis of the bibliographic sources mentioned in the article allowed us to highlight some moments, in our opinion, important, in terms of achieving the intended purpose:

1. If we refer to the theoretical component, we found that although the term performance is characterized by a very wide use, its definition as a concept is quite difficult, due to the multiple meanings it entails. Due to these performance concept meanings, we can certainly state the following fact: *there is no general and exhaustive definition of the performance term, performance being defined differently over time depending on the meanings and purposes.*

2. The second moment analyzed in this study refers to performance measurement and performance management. In this regard, we have come to the conclusion that performance management is a concept that differs from performance measurement by being much broader. Performance measurement is only a first component of performance management. Once the performance has been measured, the information resulting from this process must be reported so that the decisions to be taken are based on the mission and strategy pursued by the institution, but also on the financial and non-financial information. The whole set of these activities is included in the concept of performance management.

3. We have highlighted several models for measuring performance in the higher education sector proposed by researchers, such as the Performance Pyramid, the Results and Determinants Framework, the Balanced Scorecard and the Performance Prism. We emphasized that the university performance is very often associated with the quality of the services offered. At the same time, the external quality assessment, carried out in Moldova by the National Agency for Quality Assurance in Education and Research and its provision of the accreditation decision does not mean performance, but only that the services provided by the university are compliant. It is like a license to provide those services.

4. The solution found in the Republic of Moldova to measure the universities performance and to stimulate universities to achieve performance is to link this process to their funding. The proposed performance measurement system for the Moldovan university environment is a new one in making and includes the teaching-learning mission, which influences the university performance in proportion of 30%, scientific research, in proportion of 30%. The dimension of internationalization is also important in a proportion of 30% and the social component influences the performance of the university by 10%. At the same time, from the presented material, it can be stated that higher education in the Republic of Moldova tends to improve and pursues performance indicators much more relevant for this field, which can be measured and controlled.

5. In order to extend the indicators used to measure performance, but also to highlight more relevant indicators in this regard, we consider the indicator of employability of graduates one with a high relevance for measuring university performance. Unfortunately, there is currently no mechanism at national level to record and monitor this process. For example, in the case of the Academy of Economic Studies of Moldova, which mainly prepares specialists in the field of economics, this indicator is important, but there are no statistics on their number. At the institution level we apply a questionnaire, through which we request information related to the insertion on the labor market, but we cannot force the graduates to answer, and do not know how true the answers are. This highlights a weakness of the way in which the insertion of graduates in the labor market is pursued.

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