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Russian Education & Society

ISSN: 1060-9393 (Print) 1558-0423 (Online) Journal homepage: http://www.tandfonline.com/loi/mres20

How Do Universities Degrade?

M.A. Lisyutkin & I.D. Froumin

To cite this article: M.A. Lisyutkin & I.D. Froumin (2015) How Do Universities Degrade?, Russian Education & Society, 57:6, 442-458, DOI: 10.1080/10609393.2015.1096136

To link to this article: http://dx.doi.org/10.1080/10609393.2015.1096136

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Published online: 17 Nov 2015.



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M.A. LISYUTKIN AND I.D. FROUMIN

How Do Universities Degrade?

Toward a Formulation of the Problem

The article analyzes the possible causes of the degradation of certain public universities in Russia. On the basis of in-depth interviews with representatives of universities with deteriorating performance, certain external and internal causes of institutional degradation are identified.

Introduction

In 2012, the results of the first assessment of the effectiveness of Russian universities caused shock and indignation among the general public and experts (see "Russian universities' efficiency monitoring"). A particular source of disgruntlement was reputable universities marking the list of failing institutions. The debate focused not on specialized universities (e.g., those

English translation © 2015 Taylor & Francis Group, LLC, from the Russian text © 2014 "Institutsional'nyi dizain vyschei shkoly." "Kak degradiruiut universitety? K postanovke problemy," *Institutsional'nyi dizain vyschei shkoly*, 2014, nos. 4–5, pp. 12–20.

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Translated by Peter Golub.

with a specific focus on architecture or literature), but "common respectable universities."

However, in discussions critical to the Ministry of Education and Science and its evaluation of higher education performance, it was often recognized that "yes, university X had for a long time been slipping" or that "university Y had indeed slackened its standards." At the time, we asked ourselves: Could these individual points of view be considered a reflection of an objective fact of the lowering performance of certain prominent universities? We discovered that a number of objective indicators not only indicate that several formerly prestigious universities are now "at risk," but that many are in the midst of a downward trend. Below are the results of the first phase of our study, which aims to delineate the causes of the current decline in higher education performance.

* * *

Nowadays, higher education is rapidly growing in many countries. More and more countries are among those with a high degree of participation in higher education (Cantwell, Pinheiro, and Kwiek 2014; Carnoy, Loyalka, Dobryakova, et al. 2013). This process produces not only increasing numbers of students, but also contributes to a growing number of universities, and an expansion and complication of the higher education framework. To a large extent, this phenomenon is connected with the application of new (in terms of the public sector) methods of organization: universities are increasingly integrating quasi-market mechanisms into their systems of operation, including mechanisms of competition (Teixeira, Jongbloed, Dill, and Amaral 2004).

These mechanisms lead to a growing differentiation of universities. In all countries with a massive higher education complex, there is a group of leading universities, focused on global competitiveness. In countries like China and the United States, there are other segments of higher education, each of them having its own mission. Despite the efforts of politicians to equalize the value of all segments of the public system, in all countries with a massive higher education complex, hierarchies are established (usually unspoken, but widely recognized), which stimulate competition among universities for more prestigious positions within those hierarchies. At the same time, under the influence of growing demand, the system generates a special segment of low-quality or pseudo education. This fact has led the governments of many countries to introduce systems of quality control in order to "indicate institutional position" and to combat "bad" universities.

In many countries, such as the United States, an accreditation system combats subpar institutions, in other countries, such as Russia and the United Kingdom, this function is carried out by government monitoring bodies. Today, the latter approach is actively growing in many countries. However, this approach, first, raises the question of criteria and their application and second, is less a "preventive" measure than a "surgical" one, as it focuses almost exclusively on the consequences rather than the causes of the situation. The result of such surgery is often the closing of schools, and increasingly, the merging and acquisition of institutions (Goedegebuure 2012).

We believe that to effectively combat "bad" institutions, the subject of evaluation and analysis should include the universities' dynamics of development. This would facilitate not only the development of the process of diagnostics the risk of irreversible decline, but also the development of preventative measures.

Universities falling into the "risk" group fail to exhibit the objective indicators of satisfactory performance. In this article, we refer to these institutions as degrading and consider their degradation as organizations. Next, we analyze possible external factors of this degradation. Finally, on the basis of statistical data characterizing a university's performance and dynamics, we select those higher education institutions that have been deteriorating for the past three years (according to objective indicators). A number of universities included in the degrading group became the subject of a detailed case study, which allowed us to identify certain internal factors contributing to the degradation of some Russian universities.

What is the Degradation of a University as an Organization?

In the literature on the economics and management of the public sector (to which the majority of Russian universities belong) issues of ineffectiveness and of the need for improvement are often raised (Bevan 2010). However, the process of quality and effectiveness deterioration of existing public sector organizations is rarely discussed.

There are several studies that analyze the "poor" quality of higher education systems and universities (Saxena 1990), and some of these articles focus on deteriorating performance (Lyken-Segosebe and Shepherd 2013). However, the subjects of these studies are private universities that function as commercial organizations. There is, in fact, a considerable amount of work on the subject of failing schools in general, but a careful analysis of these studies reveals that they tend to avoid institutional dynamics, focusing on the characteristics of institutions that fail to perform their basic functions instead (Downey, von Hippel, and Hughes 2008).

In Russia, the work of T.L. Kliachko comes close to describing the phenomenon of university degradation. In Adaptation Strategies of Higher Education Institutions, she concludes that during the process of transformation of the country's system of higher education over a quarter of Russian universities follow a "strategy of stagnation" (2002). However, we can see today that some of these universities have begun to develop, others have "stayed afloat," while others have continued to deteriorate. This suggests that the strategy of stagnation reflects specific external situations rather than internal features of the universities. Besides, the use of the term "strategy of stagnation" fails to capture the idea of the university as a "natural-artificial" object, which develops not only according to the desires of management, but also in accordance with certain objective laws. Finally, the principle goal of our study is to clearly determine the identifiable signs of degradation.

Thus, the degradation (of a higher education institution) will refer to a change in institutional organization and key performance processes, which contributes to a decrease in objective institutional performance indicators as a result of external and internal factors. It is understood that this working definition is not perfect as it involves the difficulty of choosing objective indicators, and the problem of establishing a causal relationship between changes in performance and changes in indicators. For now, the definition is sufficient to begin the present study of this new (for the theory of higher education) object.

Given the experimental nature of the present study, we did not develop our own system of objective indicators, but instead adopted those used by the Ministry of Education and Science in their assessment of higher education effectiveness. The improvement of this system of indicators we leave for future consideration.

Isolation of external and internal factors of degradation requires an answer to the question: What do we mean when we refer to the process of degradation of a natural-artificial object and particularly a university as an organization? In the present case, our theoretical framework includes two approaches to the description of the dynamics of complex objects: the organizational life cycle theory of I.K. Adizes and the potential-tofunctional failure interval (P-F intervals) used in management of complex engineering systems, that is, in the performance of reliability-centered maintenance (RCM).

Organizational life cycle theory focuses on organizational management, and on the way the organization and its management team respond to external challenges and internal problems. The different stages and possible cycles of an organization's life are shown in Figure 1.

Adizes's theory was used to phrase questions on the factors of degradation. In the interviews, we specifically focus on the negative bifurcations of the maturity stage and the stages of aging.

The second approach is widely used to manage complex engineering systems and was used here to clarify issues relating to institutional dynamics when an educational institution enters the

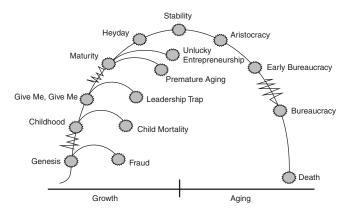


Figure 1. Life-Cycle Model of an Adizes Organization

process of degradation and begins transition toward a state of pseudo-education. The potential-to-functional failure interval is illustrated in Figure 2 (Reliability-Centered Maintenance. Bellwood Systems).

Thus, the working definition of university degradation allows us to identify degrading organizations, and the theoretical framework allows us to identify which specific factors are associated with the degradation.

Development of Russian State Universities: Analysis of the Dynamics

To identify the universities that are likely to be in the phase of degradation, we analyzed the developmental dynamics of more than 550 Russian state universities. Data gathered by the Ministry of Education and Science (2012–14) was used as a database representing the developmental dynamics of Russian universities. We analyzed the dynamics of the following institutional indicators (criteria of institutional effectiveness) (see Table 1).

As noted above, proposed performance criteria are not entirely adequate representations of institutional performance, especially in light of various university missions. Nevertheless, we believe (as do most of the experts we spoke with) that the general decline

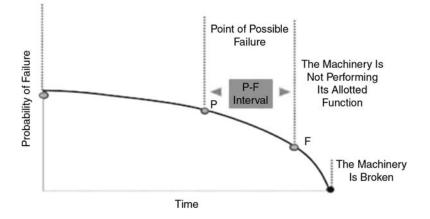


Figure 2. Potential-to-Functional Failure Interval

of these indicators is a significant sign of the overall objective condition of Russia's university system.

The analysis of the Ministry of Education and Science monitoring data showed that for two years (2012-14):

 The average Unified State Exam (USE) scores of students accepted to study full-time with full funding decreased in forty public universities;

Table 1

Criteria for Analysis of Institutional Dynamics

Type of	f activity
---------	------------

Academic performance	Average Unified State Exam (USE) score of fulltime students who received full funding on the basis of their USE score (weighted average of the score)
Research	Research and development spending per academic researcher (in thousands of rubles)
International	The volume of international students in the total number of graduates
Financial and Economic	University income from all sources for one academic researcher (in thousands of rubles)

- The scope of research and development spending per academic researcher decreased in seventy public universities;
- The volume of international students within the total number of graduates decreased in sixty public universities;
- University revenues from all sources per academic researcher declined in twenty-six public universities.

During 2012–14, two of the four indicators fell simultaneously in thirty-seven Russian state universities. For the same period, three indicators fell simultaneously in two Russian state universities.

Thus, a significant number of Russian state universities have shown negative dynamics according to key performance indicators. To test our hypothesis concerning the factors contributing to their degradation, we selected three universities with different academic profiles: technical, pedagogical, and socioeconomic. Our methodology consisted of an examination of their developmental history, as well as comprehensive interviews with administrators, teachers, and researchers.

Our analysis produced a series of internal and external factors potentially contributing to the degradation of specific universities, and probably to the Russian higher education system as a whole.

External Factors of Degradation

In our analysis, we found that when respondents explained declining institutional indicators nearly all of them appealed to external factors. It was possible to find evidence of the existence of these factors in the current research on the evolution of post-Soviet higher education in Russia. Nevertheless, these studies fail to ask how or whether these factors contribute to institutional degradation.

According to the university employees we interviewed, the external causes of degradation include:

• A sharp decline in the financing of the higher education system and separate higher education institutions in the first decade after the collapse of the USSR.

Indeed, the funding of higher education in those years was characterized by negative dynamics. "Government funding reduced to a critical level. In 1999, the average high school student received approximately \$150, which represented a tenfold decrease compared with 1989. The share of budgetary expenditure on higher education as part of the GDP also fell by 0.41 percent, having decreased nearly threefold in seven years" (Kliachko et al. 2002, p. 5). As a result, many universities have been forced to reduce their operating costs significantly and to diversify funding sources.

• A deterioration of the higher education human resources.

One of the results of reduced government funding and growing labor market is the number of academic fields having had a significant lag in the increase of faculty salaries in comparison to similar positions in the private sector (Andreeva, Balaeva, Busigin, et al. 2008). In recent years, teachers' salaries still lag behind that of their counterparts by two-three times, leading to "reverse selection." Low salaries and the complexity and length of academic careers has reduced the appeal of the profession, and resulted in hiring problems for many universities (Kniaginin and Trunova 2006).

• A sharp rise in demand for higher education, a formation of the private higher education sector, and an appearance of extra-budgetary spaces in public universities.

From the early 1990s, an emergence of nonstate higher education institutions and extra seats in state universities (Kuz'minov, Semenov, and Froumin 2013), and an explosion of demand (Figure 3) has made higher education one of the few channels of social growth available to broad segments of the population (Zaslavskaia 2004). It caused a large number of prospective students to reorient from long-term professional development to broad socialization. It also led to a matriculation

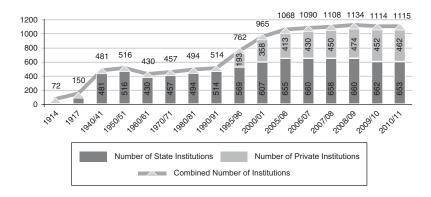


Figure 3. Number of Higher Education Institutions in Russia (Informatsionnye materialy 2015); Information resources of the Federal State Statistics Service http://www.gks.ru/

of a large group of university students who are poorly trained and poorly motivated academically.

In the mid-1990s, the growing number of students was accompanied by a sharp increase in the number of universities (Figure 3).

In turn, the number of students increased significantly in the early 2000s, with the most significant enrollment growth seen in distance learning (Figure 4).

 A sharp increase in the scale of higher education combined with the insufficient quality and quantity of teachers.

The main demand fell on specialty degrees, relevant to the market economy and the growing service sector (Figure 5). However, not all universities have the necessary resources (primarily academic) to educate their students in these areas (Kuz'minov, Semenov, and Froumin 2013). This may be one of the key reasons for decreasing performance.

• Reduction in external formal regulation.

The administrators and teachers we spoke with claimed that for an extensive period of time there has been almost complete

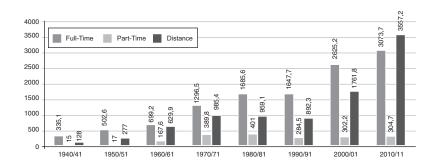


Figure 4. Number of Higher Education Students in Russian

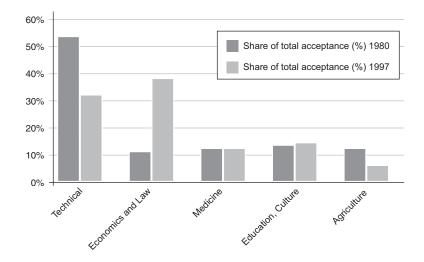


Figure 5. Higher Education Matrieculation Based on Field

absence of external and internal quality control. This is corroborated in the assessment of education economics conducted by the Ministry of Education and Science. In 2009, Ya.I. Kuz'minov argued that "in Russian system of higher education there are no real mechanisms for quality control, from 'outside' (i.e., government or public institutions), or from the 'inside' (i.e., there is no academic control via a framework of departments and faculties)." The development of external monitoring tools (beginning in 2012 when the Ministry of Education and Science began to monitor the effectiveness of universities) has done little to change the problem of internal monitoring.

Increased student mobility.

In Soviet times, deliberate efforts were made to equalize the quality and accessibility of higher education in the regional context. The absence of these mechanisms has contributed to the heterogeneity of regional higher education systems and individual universities in terms of financial and intellectual resources.

In recent years, the differentiation of Russia's regions has worsened sharply (Granberg 2004)—a fact that has yet to be addressed in higher education public policy. Today, Russia's "regional magnets" attract the best students from across the country, and "regional outsiders," are experiencing a "quality" drain (a phenomenon that has been exacerbated by the USE). Obviously, this recent trend has a significant impact on the quality of educational and scientific activities of universities in "outsider" regions and is one the causes of their degradation.

The decline of industries closely associated with higher education.

Many Russian universities received support from "parent" industries and relied on their recruitment of students. Currently, some of these industries have either disappeared or are on the decline. Nevertheless, higher education institutions continue to teach and train students for these fields (Leshukov and Lisiutkin 2013). This leads to a decrease in funding (including through orders for applied research) and a decrease in the incentives of future students.

• The lack of real competition for clients and financial resources between the majority of Russian universities.

The respondents raised the issue of poor competition among higher education institutions, and this fact is supported by the data. According to a research conducted by the Higher School of Economics, only 24 percent of higher education institutions had intense competition, 58 percent had a moderate competitive environment, and 18 percent had no competition at all (Kuzminov, Migunova, and Shuvalova 2013).

According to V.N. Kniaginin and N. Trunova, "the majority of Russian universities have no incentives for providing new products or interacting with other economic players" (2006, p. 3). Similarly, this leads to a reduction of resources and commitment to change.

Internal Factors of Degradation

The factors listed above influenced the degradation of nearly all Russian state universities, and therefore should be regarded less as causes and more as prerequisites. The key to identifying the causes and mechanisms of degradation lies in the analysis of the internal factors that have prevented universities from adapting to the changing environment.

In our interviews, respondents indicated various, often institution specific, internal factors of degradation. However, two factors were mentioned in almost every interview – bureaucratization and aging.

Internal bureaucratization of universities.

The majority of respondents said that in recent years their university had undergone bureaucratization in the form of growing formalization of its activities and in the use of performance indicators for assessment of internal processes "a significant proportion of which were determined mechanically and did not take into account the particularities of professional education" (Babintsev 2014, p. 3). At the first glance, this factor is not associated with declining performance. However, as stressed by I. Adizes, early bureaucracy leads to the imitation of significant processes, and to an abandonment of reflection and strategic action. It is also important that the bureaucratization of the university environment "causes a negative reaction from a large part of the teaching staff" (ibid., p. 5), which drastically reduces faculty fidelity and the effectiveness of management. External analysis of the universities showed that both their strategic planning and performance analysis was imitative.

A senior faculty that opposes major changes and internal competition.

All university administrators who were interviewed indicated difficulties in the introduction of major changes in the university, because the senior faculty had a negative reaction to any proposed changes. In their effort to maintain the status quo senior faculty members have engaged in recruiting like-minded new teachers, graduate students, and even undergraduates. In their article, "What Makes Russian Universities Change?" Dobryakova and Froumin write that this practice leads to "an agreement of noninvolvement" (2010). We found that our interviews supported the above statement. Many faculty members perceive structural development and increasing internal competition as a threat to their job security. Indirect quantitative indicators of this factor are the average age of professors, the average length of tenure, and the proportion of graduates studying under professors younger than 45 years. Our calculations showed that these indicators are different for institutions that are not degrading.

The study allows us to suggest a following hypothesis: The emergence of internal factors such as bureaucratization and "aging" faculty indicate that a university has entered an interval between the onset of degradation and the condition of pseudo-education.

Conclusion

The reality of degradation and its origin in Russian higher education system poses new research and practical challenges.

We can assume that degradation of higher education has occurred or is occurring in other countries as well. The problem of "deteriorating" higher education systems and universities has been researched in the United States, China, India, and Australia. An identification of common, international causes of higher education degradation becomes a matter of particular interest. Based on answers to the question of the causes of the detereoration in performance and higher education degradation on the systemic and institutional level, it is perhaps possible to identify "risk" universities and to focus on corresponding prevention. Of course, additional research on a broader empirical level needs to be conducted regarding the connection between external and internal factors of degradation.

The practical implication of the present study is that efficiency monitorings should pay increasing attention to the dynamics of indicators, which require more subtle means of measuring efficiency.

Analysis of the dynamics of institutional development allows us to draw conclusions about the factors influencing the effectiveness of university performance. In the future, it will enable the early identification of factors that may cause worsening of higher education.

Acknowledgements

This article was prepared on the basis of a study conducted as part of the Program for Fundamental Research at the Higher School of Economics (2014). We are indebted to the Science Fund at the Higher School of Economic for supporting the presentation of the main content of this article at the European Association for Institutional Research Conference in August 2014. We are grateful to I. Abankina, I. Karelina, A. Klimov, Y. Kuzminov, S. Marginson, O. Leshukov, D. Semenov, and A. Sobolev for providing useful feedback. We also remember with gratitude E.A. Knyazev who first raised this issue in 2012.

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