

INVESTIGATING AZERBAIJAN'S HIGHER EDUCATION INSTITUTES' SUSTAINABILITY BASED ON GREEN MANAGEMENT PARAMETERS AND PREFERENCES OF MANAGERS

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INTRODUCTION

Universities can include office and educational buildings, restaurants, retail, sports equipment and leisure facilities, integrated laboratory and workshop buildings, among others. As such, they can consume energy and resources equivalent to that of a small town. Today, these “small towns” are considering energy improvement measures in energy-efficient buildings and equipment due to intense pressure from rising energy and operating costs. Student admission is constantly on the rise, and on the other hand, the per capita consumption of each student is increasing for various reasons, including indoor air quality and high-speed Internet lines, which has led to higher energy consumption. Rising energy costs, environmental constraints and problems, depletion of fossil resources, the tremendous added value of these resources, and opportunity costs certainly motivate managers to optimize energy consumption and environmental preservation in universities. The high cost of energy and the insistence of governments and environmental laws on improving the energy consumption of universities have led managers to conclude that environmental management and energy consumption improvement is not only economical but can lead to a better situation inside them, and consequently raise the attractiveness of classrooms for students as well as the educational productivity and pleasantness of the academic environment [1].

The issue of a green university and sustainable development was raised for the first time by an American. He formed a professional association in 2005, called the Association for Sustainable Development and Advancement of Higher Education, which became known worldwide as AASHE. But now, AASHE are the universities with the highest level of success in green design and its development in the surrounding communities. The world's highest university in this scale is Colorado State University-Fort Collins, the greenest educational institution in the United States. The space of this university is equipped with a solar greenhouse, with which the air conditioning of the whole complex is directly connected [2].

MATERIALS AND METHODS

Based on several international and domestic standards, as well as the analysis of dissertations and articles on the subject, the components of HEIs' sustainability were categorized according to the Global Sustainable Development category (Table 1). A questionnaire containing the components of Table 1 was sent to professors and university administrators across Azerbaijan.

Table 1. Components of sustainable development for a HEI

classification	Row	Component
1) Environmental management	1	Paying attention to environmental issues in building maintenance and also environmental issues in new university constructions (sustainable architecture)
	2	
	3	Use of alternative transportation system or alternative fuel in the direction of green transportation (carbon footprint)
	4	
	5	Wastewater management and, if possible, use of rainwater
	6	
	7	Planning to buy green and buying green electronics (for example, buying low-energy electronics)
	8	Management of office paper purchase and usage due to its requirement in offices and for students
	9	Preparation and use of green food (organic ingredients, etc.)
	10	Paying attention to the outdoor air quality of the university (university campus)
2) Sustainable financial principles	11	
	12	Transparency of University Financial Statements
	13	Determining and providing financial resources and budget for long-term, medium-term and short-term green management plans (planning and paying attention to the annual increase of the university's green management budget)
	14	Supervise the purchase of materials, resources, equipment and administrative costs of the university for the purposes of green management
3) Providing services to the community	15	Provide professional and vocational training to organizations in order to achieve sustainable development
	16	Active participation in local and national sustainable development
	17	Partnership with the community and the public education system through seminars and scientific and specialized conferences on sustainable development
	18	International Interactions and Joining the Green World Community System
	19	Collaboration in the development of laws and standards related to sustainable development issues
	20	Launching a green management website to publicly announce policy, inspection results and social accountability
	21	Charging holders of high organizational positions with ecological management and ranking of personnel according to green goals
	22	Applying Occupational Health and Safety Principles (HSE)
	23	Efforts to live well on campus
4) Governance	24	Creation of a specialized green working group (establishment of an office or unit for sustainable development)
	25	Integrating sustainable development in the university vision and reviewing the strategic goals, missions, commitments and services of the university with a sustainable development approach
	26	Involvement of university stakeholders in decision making and appreciation efforts of managers and employees related to sustainable development
	27	Inter-university cooperation with the aim of sustainable development
	28	Participation and role model of higher education leaders in organizational change with a green management approach
	29	Attract the support of senior managers, faculty and staff for greater success in university green management



5) Sustainable education and research	30	Supporting knowledge-based companies and individuals for the production of green ideas
	31	Approval of environmental standards and efforts to obtain certificates
	32	Hold periodic meetings to review and explain the goals, programs and problems of establishing green management
	33	
	34	Existence of various organizations (especially students) active in the field of sustainable development
	35	Existence of scientific journals related to environment and sustainable development
	36	Trans-interdisciplinary curriculum and research with a focus on sustainable development
	37	Avoiding a merely commercial view of research
	38	Support for research projects related to sustainable development (from implementation to publication of results)
	39	Offering courses related to sustainable development in undergraduate courses
	40	Existence of tendencies related to sustainable development in postgraduate courses
	41	Research, development and interdisciplinary research with a green approach

RESULTS AND DISCUSSION

Out of more than 100 emails sent, 21 were answered reliably, and the following results are obtained from the analysis of these responses. The ranking section of the research questionnaire is based on a Likert 5-option scale, where: "Very strong impact on sustainable university development", "Strong impact on sustainable university development", "Medium impact on sustainable university development", "Weak impact on the sustainable development of the university" and "Very weak impact on the sustainable development of the university" were the answer options.

According to the respondents' ranking, the component of "Diversification of university financial resources through green measures (planning and supporting investments for green income and sustainable development)" is in the first place, which shows the importance of financial resources in universities as well as the planning and supporting investments for green income and sustainable development. The component of "Reduce energy consumption and use clean energy" shows the importance of reducing energy consumption in universities. The move towards the use of clean energy is due to the use of new technologies in the university. "Waste management and recycling" is ranked third as an important component in HEIs' sustainability, because waste management is one of the most important factors in green management for organizations like universities. The top ten items are ranked in Table 2.

Table 2. Ranking of components of HEIs' sustainability

Rank	Component	V e r y s t r o n g i m p a c t	S t r o n g i m p a c t	M e d i u m i m p a c t	P o o r i m p a c t	V e r y w e a k i m p a c t	Average
1	Diversification of university financial resources through green measures (planning and supporting investments for green income and sustainable development)	15	3	1	2	0	4.48
2	Reduce energy consumption and use clean energy	13	3	5	0	0	4.38
3	Waste management and recycling	10	8	2	1	0	4.29
4	University water consumption management	11	6	2	2	0	4.24
5	Having research centers in the field of environment and sustainable development	11	5	3	2	0	4.19
6	Research, development and interdisciplinary research with a green approach	10	5	4	2	0	4.10
7	Attract the support of senior managers, faculty and staff for greater success in university green management	9	6	4	2	0	4.05
8	Provide professional and vocational training to organizations in order to achieve sustainable development	9	4	7	1	0	4.00
9	Approval of environmental standards and efforts to obtain environmental certificates	8	6	6	0	1	3.95
10	Paying attention to the outdoor air quality of the university (university campus)	8	5	6	2	0	3.90

CONCLUSION

In this study, the factors influencing the sustainable development of the university have been addressed by the questionnaire method and the analysis of its results. It was observed that all the specialized groups agreed on the top component and their average ranking was very close to each other. The questionnaire, however, is still being completed and we have to wait for the opinions of all managers, professors, and employees related to the higher education institutions' sustainability. In the next step, after the completion of the research questionnaire, a system dynamics model will be developed to show the effect of different policies from the answers obtained in this research on Higher Education Institutes' Sustainability in Azerbaijan.



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