WSB University in Wroclaw

RESEARCH JOURNAL

Vol. 16 No. 4, December 2016
ISSN 1643-7772
e-ISSN 2392-1153

Zeszyty Naukowe
Wyższej Szkoły Bankowej we Wrocławiu

Wyższa Szkoła Bankowa
we Wrocławiu

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Zeszyty Naukowe WSB we Wrocławiu są umieszczone na liście czasopism punktowanych Ministerstwa Nauki i Szkolnictwa Wyższego z dnia 23 grudnia 2015 r. (liczba punktów: 8)

Czasopismo jest zarejestrowane w bazie IC Journal Master List,
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The journal reviewed In compliance with the Ministry of Science and Higher Education

This journal is indexed by IC Journal Master List, CEJSH and BazEkon

ISSN 1643-7772
eISSN 2392-1153

Wyższa Szkoła Bankowa
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Projekt okładki i logo:
Sebprojekt.pl

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WSB University in Wroclaw
Research Journal
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Knowledge and Governance: a reflection of sustainability from campus to industry

Author: Vania Sarahid Flores Borboa

Abstract

Aim: The author provides a critical reflection of the questionnaire discussed at the workshop "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held in June 2016 at the University of Sonora (Hermosillo, Mexico). This paper poses a reflection of how the sustainability perspective in high level education institutions could define the stage of change of alumni and therefore has an influence on sustainability issues of local companies.
Design / Research methods: In the article, the author applies ideas and reflections regarding the research questionnaire discussed at the workshop to sustainability issues in local companies.
Conclusions / findings: Universities have great responsibility in preparing students for applying principles of sustainability into business practice. In particular regarding the complexity of the world, where knowledge can be applied in a quickly changing environment. University staff and students can have a completely different view on the existence of different fragilities.
Originality / value of the article: The article provides critical feedback on an innovative approach towards research on campus sustainability in the context of application to business practice.

Keywords: Sustainability, Knowledge, Governance, Stage of Change, perception.
JEL: Q01, B40, I23

History: received 2016-12-01, corrected 2016-12-10, accepted 2016-12-16

Introduction

In an explorative workshop carried out at the University of Sonora (Hermosillo, Mexico) in June 2016, where both students and staff participated, several issues concerning campus sustainability were discussed. Given the completely explorative nature of this study, no comments, opinions or reflections where considered mistaken, which resulted in a very rich discussion that showed a mind gap between those who are merely

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academics, students who have not entered the labor market yet, and students who already have been working in the industry and now came back to continue their studies. Since all participants were studying or working on projects aimed to contribute to sustainability, they had a purpose in common. However, there existed important differences in their perspective of the problems and potential solutions. In this context, this paper poses a reflection of how the sustainability perspective in high level education institutions could define the stage of change of alumni and in turn influence sustainability issues in local companies.

Reflections

Considering that five of the goals for sustainable development (e.g., decent work and economic growth, industry innovation and infrastructure, responsible consumption and production) are closely related to industry (United Nations 2015), it is of great importance to assess the level at which these organizations are or are not participating to achieve the goals mentioned above. How is this related to campus sustainability? Let us define universities as organizations which provide the world with educated and professionalized individuals, and which will also imprint its values and will somehow define how these individuals will interact and face challenges in their productive life. In this context, two important elements of campus sustainability were emphasized when discussing about how the university values will be imprinted in alumni: knowledge and education, as well as governance. The importance of knowledge and education may seem clear, as they influence and eventually change the way the next generation will face challenges regarding sustainability issues in industry. The relation between university governance, its influence on the mind of students and its impact on sustainability aspects of business may be less clear. According to *Commission* (2001), governance has been defined to refer to structures and processes that are designed to ensure accountability, transparency, responsiveness, rule of law, stability, equity and inclusiveness, empowerment, and broad-based participation.

Issues of governance were broadly discussed at the workshop. It turned out in the discussion, where 19 students and 7 staff members took part, that perspectives differed completely. While, for example, staff argued there are no small interest groups with much power and there is no authoritarian management style, students disagreed. While it is difficult to assess which group is right, there exists the threat that the opinion of the students influences their mindset. Deeper research on this issue is required, as when there exists the perception of the existence of strong interest groups and an authoritarian management style, this may reduce student participation in discussions and decision-making processes. It also may hamper critical thinking and asking questions, which is relevant for the identification of mistakes. As a consequence, this may lead to a passive attitude at the job after finishing the studies, reducing the capability for identifying fragilities.

The mentioned problems also influence innovation in companies, which is important for sustainability. This not only concerns technology, but also organizational systems. The existence of closed networks of family and friends, as was discussed at the workshop, slow down a company's actions. It provides a message that new ideas and opportunities are not important. This feeling can significantly influence a student's mindset and strengthen the passive attitude as mentioned above, reducing opportunities for companies

to introduce more sustainable practices. The described problems reduce chances for good governance to develop in companies. It will be difficult to create an atmosphere of participation, collaboration and efficacy in project management; balancing the interest of the stakeholders and the shareholders to those of the community and the environment.

This in turn strengthens problems with misinformation and lack of education in sustainability ideas and values. As a consequence, industrial stakeholders are unlikely to change their lack of interest in improving social responsibility, occupational health and safety conditions, or reducing the direct and indirect environmental effects from their normal operation activities. In other words, the stage of change (Doppelt 2010) is not achieved. It is not possible to obtain a progressive sustainable growth of industry if the stakeholders have no knowledge on what a sustainable business is, or what kind of procedures they should use and apply.

An example will be provided from a case study in a manufacture facility in Hermosillo (Flores 2016). It was found that several sustainability opportunities were not taken into account by the leaders of the organization, not because there were no resources or techniques available. It was because the level of awareness and knowledge was so low that the intention of improving social or environmental impacts of the company never appeared. In informal interviews with stakeholders, during the diagnosis stage of the project, some important declarations were made

"If I had known that, I could have managed to improve it."

Maintenance manager,
manufacture facility.

This person showed the openness to enter a stage of change, which was hampered by missing information and knowledge. One reason the information of the diagnosis was not produced can be a lack of knowledge, training and/or established strategies to pursue sustainable development. There also could be a serious disturbance in the communications between different departments of the organization. This would then result in the loss of information or the inefficiency of the execution of decisions. In such a case of lack of good governance, it will be hard to apply the preventive measure needed supporting sustainability.

Another interesting statement was made by a production line supervisor.

"We do the paper work to accomplish ISO 14001 certification, but we do not really understand what it is for, or we simply quit once we have the certification."

Production line supervisor,
manufacture facility

This statement may reflect lack of critical thinking, reflection and knowledge. But it also can be the result of study programs poorly oriented to the labor market and/or business market. While this is only one statement, it shows the relevance of the type of knowledge that is required for the functioning on the labour market. Further research on this issue is recommended to find out whether critical thinking and knowledge on sustainable development is necessary in order to function in a company. When the practice mentioned by the production line supervisor is more common in industry, critical thinking and knowledge is unlikely to be appreciated, as this would require the company to change its practice. When the ISO 14001 certificate is only needed for marketing reasons, any critique would need to be considered in the context of necessary changes, which in turn could lead to costs.

A statement of a production line worker is interesting from the point of view of stakeholder participation,

empowerment and transparency as elements of good governance.

"I have asked several times to improve the quality of the safety shoes we receive, but no answer has come yet."

Production line worker, manufacture facility

In Freeman's (1995) methodology for cleaner production, the importance of the inclusion of every individual in the company's voice is emphasized. In practice, empirical knowledge acquired by workers in field may be very valuable in the process of recognition, analysis and solving of sustainability challenges faced by the industry. Therefore, it is highly recommended to establish a system to register, track and give proper response to every proposal, as well as to implement conditions to promote team work. This should at the same time inspire and encourage continuous participation and will help avoid workshop blindness.

The statements discussed give an idea of the stage of change of these people, which seems to be between pre-contemplation and contemplation, and is at a very low level. There seems to be a poor system of communication in the organization, low inclusion of ideas from people in the lowest positions and the need for training in methodologies to assess sustainability on a daily basis. Awareness campaigns may be implemented, and also team work could be promoted in order to enter a state of action regarding sustainability challenges.

Concluding remarks

Universities have the task to provide the world with well-prepared and aware professional individuals. Individuals who not only understand differential equations, but also understand the complexity of the world where we are living in. People who understand how economic crisis could lead to self-destruction, chaos, poverty, resource depletion or inequality (contradicting the sustainable development goals). Universities could plant a seed in their students, using principles of good governance, educating and producing knowledge rather than titles, because in a rapidly changing world, knowledge will be needed to deal with new challenges in sustainable development. In this, there lies a challenge that views on reality may differ significantly between students and lecturers. For this reason, discussion, asking question, critical thinking and open-mindedness in the educational process are important. This may create the roots for enabling the introduction of measures by companies for a more sustainable development.

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Wiedza i współrządzenie: przemyślenia nad zrównoważonym rozwojem od kampusu po przemysł

Abstarkt

Cel: Autorka przedstawia krytyczne refleksje dotyczące dyskusji nad kwestionariuszem, która odbyła się podczas warsztatów pt. "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" przeprowadzonych w czerwcu 2016 roku na Uniwersytecie w Sonorze (Hermosillo, Meksyk). Artykuł zawiera przemyślenia związane z pytaniem, w jaki sposób perspektywa zrównoważonego rozwoju w instytucjach edukacji wyższej mogłaby definiować stadium zmian absolwentów i w ten sposób oddziaływać na kwestie zrównoważonego rozwoju lokalnych przedsiębiorstw.

Uklad / metody badawcze: W artykule autorka odniósł idee i przemyślenia dotyczące kwestionariusza badawczego omawianego podczas warsztatów do problematyki zrównoważonego rozwoju lokalnych przedsiębiorstw.

Wnioski / wyniki: Uniwersytety ponoszą ogromną odpowiedzialność za przygotowywanie studentów do stosowania zasad zrównoważonego rozwoju w praktyce biznesowej, w szczególności w odniesieniu do złożoności świata, gdzie wiedza może być zastosowana w szybko zmieniającym się środowisku.

Oryginalność / wartość artykułu: Artykuł prezentuje krytyczne przemyślenia dotyczące innowacyjnego podejścia do badań nad zrównoważonego rozwoju kampusu w kontekście ich zastosowania w praktyce biznesowej.

Słowa kluczowe: zrównoważony rozwój, współrządzenie, stadium zmian, postrzeganie

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WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
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WSB UNIVERSITY
RESEARCH
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Reflections on the Wrocław and Hermosillo International Workshops on Campus Sustainability

Authors: Luis Eduardo Velazquez Contreras, David Slim Zepeda Quintana

Abstract

Aim: This paper aims to describe experiences and remarks regarding The International Workshops on Campus Sustainability held on Wroclaw, Poland in May 2016 and in Hermosillo, México in June 2016. The objective of these workshops was to discuss ideas for explorative research on campus sustainability and identify fragilities and weaknesses in higher education institutions, which can lead to irreversible losses.
Design / Research methods: The findings presented in this paper were developed through two structured questionnaires used as a data collection instrument as well as discussion during both workshops. In total 51 participants, students, professors and administrative staff of different universities around the world, took part in the discussions.
Conclusions / findings: It is intended to create a new set of indicators of fragility threatening campus viability and sustainable development in general, which may contribute to a path towards sustainable development. Corruption, lack of access to information, lack of knowledge, lack of proper education for students, lack of understanding of sustainable development and hiring bad teachers were perceived as relevant indicators for the identification of fragilities within the university. In this paper, the discrepancy of perspectives among professors, students, and administrative staff is stressed.
Originality / value of the article: The identification of weaknesses and fragilities within higher education institutes may contribute to create more resilient environments and may enable the transition to sustainable development.

Keywords: sustainable development, campus sustainability, fragility
JEL: Q01, I23, D29

History: received 2016-12-01, corrected 2016-12-14, accepted 2016-12-14

Introduction

Over the last decades, sustainable development (SD) has been a focal point in a large number of international political and academic settings. In order to encourage change, education needs to evolve into an education committed

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to sustainability, in particular in higher education (Lambrechts et al. 2013). It has been argued that universities are key in the path towards SD (Lozano 2010, Karatzoglou 2013), since it is through these institutions that knowledge is generated and the necessary human resources are developed. However, the activities that take place at campuses can create a fragile environment and jeopardize this praiseworthy work.

The identification of weaknesses and fragilities in the context of SD is important since these can produce unpredictable damages and collapse the system, a situation that can compromise our survival (Platje 2011, Taleb 2012). This concept can be applied to different organizations, including universities, since these have an impact on the weakening of society through its functioning. This paper aims to describe experiences and remarks regarding The International Workshops on Campus Sustainability held on this issue in Wroclaw, Poland in May 2016 and in Hermosillo, México in June 2016.

The Wrocław Workshop

In May 2016, an International Workshop on Campus Sustainability was held in the city of Wroclaw, Poland with the purpose of identifying fragilities and weaknesses in higher education institutions, which can lead to irreversible loses. The authors took part in this international workshop on behalf of the Sustainable Development Group of the University of Sonora in Mexico. One of the Mexican participants is a senior sustainability researcher pioneering in implementing sustainability initiatives not only on campus but also in the country. The other participant is a young professor that starts to promote sustainability on campus.

In preparing for the workshop, a fourteen open questions questionnaire was filled out anonymously by each professor. This was aimed at facilitating the creation of indicators of campus unsustainability, making it possible to compare universities' contribution to sustainable development on an international scale. Then, a second questionnaire was filled out, but this one with the purpose of assessing to what extent we disagree or agree with statements in the context of our impression of our own home university. This questionnaire was an instrument used for collecting data during the workshop. The instrument consisted of seventy six statements classified in the following section: Knowledge and education, Mistakes and learning-by-doing, Governance, Different types of fragilities, Honesty and trust, and Job market. Participants were asked to indicate the extent or their agreement with statements on a seven-point scale. There was a "Don't Know" in case the respondents could not answer.[1]

At the workshop, participants were grouped according to their role at the university. At different tables were students, professors and other staff from institutions of higher educations in different countries. Participants were grouped by their level of expertise in sustainability issues because professors tend to participate more in sustainability organizational issues on campus than other staff and students. At the table of professors, the senior professor from Mexico initiated the debate claiming that he felt uncertain about how to answer some statements; he found that some statements were vague, contradictory, or seemingly without sense. This opinion was reinforced by a professor from The Netherlands and from another professor from Germany. The opinions of the other professors were not different. Since they had similar length of

[1] The statements can be found in the Annex of the first article of this special issue.

service in their institutions, they may possess knowledge about many of the issues asked in the statements. For them, it was clear when a statement was feasible to be answered or not. However, they tried to understand as a group those statements that were not understood when they answered the questionnaire individually. In most of statements there were still a lot of uncertainty concerning to their meaning. In spite of this, several important issues were emphasized. The first one is the importance as researcher to fulfill goals and targets in order to get funds for research projects. It was concluded that it is important to have a senior professor with political power within the group of professors, in order to get support from the university´s authorities. Without this support, it is complicated to create new research groups or that new groups survive. Having a "sacred cow" is important because higher education institutions are very political organizations where good initiatives can disappear just because a new chair of the department has increased its power. Authorities usually respect senior professors; therefore, no one is really opposing them. The issue of dealing with labour unions was also considered relevant; mainly in the Latin-American context where they have a lot of political power, even being able to close campuses for a while.

At some point of the workshop, all focus groups presented their conclusions. Conclusions from students and staff differed strongly from the professors' conclusions. In general, students were rather concerned about the quality of the education they received; they focus more on issues related to bad professors than the organizational structure in their university. Another difference was that students and staff seem to have a more positive approach than professors to answer any single statement in the questionnaire. This interesting discrepancy of outcomes among professors, students, and staff raised the question whether and to what extent the knowledge and understanding of institutional behaviors affects the answers. There is not a right or wrong for this question. On one hand, all feedbacks are important. On the other hand, without fully realizing the significance of each statement, feedback becomes sterile. This poses the question what type of information can be most effectively obtained from which stakeholder, which requires deeper research.

The Hermosillo workshop

As a follow-up, in June of 2016, a replication workshop was held in the city of Hermosillo, Sonora, Mexico with the objective of exploring new outcomes and gain more knowledge in identifying fragilities and weaknesses in higher education institutions. The authors served on this occasion as moderators. Participants were graduate students from the Sustainability Graduate Program of the University of Sonora, professors from other departments, and administrative staff. In total twenty six member of the university community attended this workshop.

The same instrument was applied for the data collection and working groups were created seeking a homogenization among the members. Each working group had at least one teacher or researcher. This was done so that the internal discussion in the groups did not depend exclusively on a specific vision. After the internal discussion of the groups, the debate between working groups was opened. The moderators tried to have minimal interaction with the participants to avoid bias in the information that was shared.

During the discussion, several elements were addressed such as the role of professors, researchers, and administrative staff within the university

system as these can have an impact on its integrity. Some participants concluded that factors as the lack of knowledge, critical discussion, honesty and information might produce issues regarding the communication dynamics of the university, creating a very hard working environment and, in the long term, weakening its integrity.

An interesting conclusion from the participants is that fundamental activities in the transition to more sustainable lifestyles are not fully integrated by decision-makers within the university. Activities such as adequate waste management, safety and hygiene of students, teachers and workers and mobility on the campus are neglected. The participants' discussion focused on the fact that there are activities that grab the attention of decision-makers such as academic productivity, infrastructure creation, and the obtaining of economic resources. From the perspective of fragility, this behavior makes a lot of sense as these activities are linked with the bottom line goal of sustainability in organizations; survival. Undoubtedly, the discussion becomes interesting because the question arises whether it is really sustainable to survive with some collateral damage and to what extent these damages make the system fragile.

Corruption, lack of access to information, lack of knowledge, lack of proper education for students, lack of understanding of sustainable development and hiring bad teachers were perceived as the most relevant indicators for the identification of fragilities within the university (Table 1). Indicators such as lack of parking space for students and staff, making mistakes and employment of many free-lance teachers were perceived as irrelevant by the majority of participants. Also a large number of participants found existence of closed networks of family and friends, punishing people for minor, relatively harmless mistakes, too quick changes in rules, procedures, etc., irrelevant (Table 2).

Concluding remarks

Both Workshops on Campus Sustainability were very interesting events since different opinions and experiences about the contribution of universities around the world committed to the principles of SD were discussed and exchanged. From this perspective, the workshops can be considered a successful and worthy initiative.

In this paper, the discrepancy of perspectives among professors, students, and staff at the first workshop is stressed. This did not happen in the second workshop perhaps because the knowledge and understanding of institutional behaviors were not different enough. It seems that most of the institutional behaviors in universities are known and understood, a precondition for answering the statements in the data collection instrument. Senior professors indicated the need for modifying the questionnaire in order to avoid flaws that lead to uncertainty, ambiguities, and contradictions.

Undoubtedly, the identification of weaknesses and fragilities within universities may contribute to create more resilient environments and support the transition to SD. Corruption, lack of access to information, lack of knowledge, lack of proper education for students, lack of understanding of sustainable development and hiring bad teachers were perceived as relevant indicators for the identification of fragilities within the university. Universities have a great social responsibility in this task, not only because these institutions are in charge of generating the science and the necessary knowledge, but also through the training of professionals committed to SD. There is still much left to do. Nevertheless, initiatives such as The International

Table 1. Indicators perceived as relevant for the identification of fragilities within the university

Indicator	Frequency	Percentage
Corruption	26	100.00%
Lack of access to information	26	100.00%
Lack of knowledge	25	96.20%
Lack of proper education for students	25	96.20%
Hiding the truth	24	92.30%
Hiring bad teachers	24	92.30%
Lack of honesty	24	92.30%
Low quality of teaching staff	24	92.30%
Lack of understanding of sustainable development	24	92.30%
Lack of environmental elements in the study program	24	92.30%
Lack of proper waste management	24	92.30%
Lack of trust	24	92.30%

Table 2. Indicators perceived as irrelevant for the identification of fragilities within the university

Indicator	Frequency	Percentage
Lack of parking space for students and staff	16	61.50%
Making mistakes	15	57.70%
Employment of many free-lance teachers	13	50.00%
Existence of closed networks of family and friends	11	42.30%
Punishing people for minor, relatively harmless mistakes	10	38.50%
Lack of knowledge of foreign languages	10	38.50%
Too quick changes in rules, procedures, etc.	10	38.50%
Lack of explanation of decisions by the university management	8	30.80%
Employment of family and friends	8	30.80%
Political influence on employment of lecturers and administration	8	30.80%
High level of secrecy	7	26.90%
Lack of openness to critique	6	23.10%

Workshop on Campus Sustainability can create a firm commitment and constantly improving process by different universities around the world. An ongoing discussion may stimulate reflection on the importance of elimination of weaknesses threatening or hampering campus sustainability.

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Refleksje nad zorganizowanymi we Wrocławiu i w Hermosillo międzynarodowymi warsztatami dotyczącymi podtrzymywalności kampusów

Abstrakt

Cel: Artykuł ma na celu zaprezentowanie doświadczeń i opinii dotyczących Międzynarodowych Warsztatów na temat Podtrzymywalności Kampusu, które odbyły się we Wrocławiu w Polsce w maju oraz w Hermosillo w Meksyku w czerwcu 2016 roku. Warsztaty ukierunkowane były na przedyskutowanie idei poszukiwawczych badań nad podtrzymywalnością kampusu i identyfikacji kruchości i słabości w instytucjach szkolnictwa wyższego , które mogą prowadzić do nieodwracalnych strat.

Uklad / metody badawcze: Wyniki przedstawione w artykule sformułowano na podstawie dwóch ustrukturyzowanych kwestionariuszy służących jako instrument gromadzenia danych, a także na podstawie dyskusji przeprowadzonych podczas obu warsztatów. W dyskusjach tych wzięło udział łącznie 51 uczestników, studentów, profesorów oraz pracowników administracyjnych z różnych uniwersytetów z całego świata.

Wnioski / wyniki: W zamierzeniu miał zostać stworzony nowy zestaw wskaźników kruchości zagrażającej wydolności i ogólnie pojętego zrównoważonego rozwoju kampusów, który mógłby się przyczynić do wkroczenia na ścieżkę zrównoważonego rozwoju. Korupcja, brak dostępu do informacji, brak wiedzy, brak właściwej edukacji studentów, brak zrozumienia zrównoważonego rozwoju oraz zatrudnianie nieodpowiednich nauczycieli były postrzegane jako istotne i powiązane wskaźniki dla identyfikacji kruchości na uniwersytetach. W artykule podkreślono rozbieżności perspektyw pomiędzy profesorami, studentami i pracownikami administracyjnymi.

Oryginalność / wartość artykułu: Identyfikacja słabości i kruchości w instytucjach szkolnictwa wyższego może przyczynić się do stworzenia bardziej sprężystych i odpornych (ang. resilient) środowisk i może umożliwić przemianę w kierunku zrównoważonego rozwoju.

Słowa kluczowe: zrównowazony rozwój, podtrzymywalność kampusu, kruchość

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
we Wrocławiu

WSB UNIVERSITY
RESEARCH
JOURNAL

Reflections on methodology for and the importance of indicators for campus sustainablity – a Lithuanian case study

Authors: Diana Cibulskiene, Vėjūnė Laurinavičiūtė, Gaivilė Nemeišytė, Renata Osockyte, Raimunda Urbelytė, Žygimantas Kupstys, Eivydo Čuluunpurevas, Joost Platje

Abstract

Aim: Provide a summary of the discussion of focus group 2 at the workshop on "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held in June 2016 at Siauliai University (Lithuania), as well as reflection notes each of the participant wrote after the workshop. The paper shows the outcome of the process of interaction and reflections of the authors.
Design / Research methods: This article contains feedback based on the experience and ideas from third year students from sustainable business from the University of Siauliai (Lithuania). Discussion took place during the workshop in focus groups. Afterwards, a discussion took place among all participating students and lecturers. After the workshop, the authors wrote individual feedback notes. These are summarized in this paper.
Conclusions / findings: When using a wider set of indicators of campus sustainability showing different types of fragilities, different stakeholders need to be used as a source of information. The reason is that when not possessing information on a certain aspect, as was confirmed by this focus group, an indicator tends to be considered irrelevant. A conclusion that should be treated with care is that indicators of lying and cheating, honesty, as well as indicators of mistakes may be a good starting point for creating indicators of campus sustainability focusing at threats for organizational viability and sustainability of the university's external environment.
Originality / value of the article: The article provides critical feedback on an innovative approach towards research on campus sustainability.

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Keywords: campus sustainability, sustainability management, fragility, antifragility, methodology
JEL: Q01, B40, I23

History: received 2016-11-25, corrected 2016-11-27, accepted 2016-11-27

Introduction

Altogether, in Lithuania there are twenty universities and according to the magazine "Rating", in the year 2015, Siauliai University has taken the sixth place among the all universities (Pukenė 2015). It consists of three faculties: the faculty of social science, humanities and arts, faculty of technology, physical and biomedical sciences and the faculty of education science and social welfare. In the year 2015, 2273 students enrolled at the university. This is a serious decline compared to the more than 12000 students enrolling just after the university's establishment in 1997.[1] In this context, the authors reflect upon indicators for campus sustainability discussed at the workshop on this topic, held at Siauliai University in June 2016.

A summary of the discussion of focus group 2 of third year students from Sustainable Business as well as reflection notes each of the participant wrote after the workshop is provided. The paper shows the outcome of the process of interaction and reflections of the authors. First, some methodological issues are discussed. Then, reflections in indicators of campus viability and the university's impact on its external environment are presented.

Methodology

Two difficulties appeared in the discussion on the questions and indicators regarding campus sustainability.

a. Participants differently understood the notions of campus viability and external sustainability.
b. Some indicators were considered to be ambiguous in their meaning.

While this was a stimulus for discussion into the nature of the importance of different indicators, the indicators need a clear, specified meaning when applying them in order to compare different universities. For example, when discussing the issue of mistakes or hiding the truth, the question appeared "what type of mistakes" or what kind of truth we were talking about. This discussion created consciousness regarding the effects of different types of mistakes.

Another issue concerned the different approach to the first and the second part of the questionnaire. The respondents had to answer the questions from the first part in the context of their own university. The second part contained indicators which should be assessed on their relevance for organizational viability and sustainability of the external environment in general. This part of the questionnaire required a more abstract, generalistic approach, compared to the home-university specific questions in the first part. A problem was that some of the participants reflected on part 2 with their home university in mind. This created a challenge in the group discussion.

Quite often it was argued that an indicator was not relevant as a participant had never experienced such a situation (e.g., ignorance of critique by the university management) or the indicator did not concern them (lack of parking space for those not possessing a car). This is a more general problem in

[1] Siauliai University Website, http://www.su.lt/index.php?option=com_content&view=article&id=167&Itemid=5520&lang=lt [20.06.2016].

identifying fragilities (which are often difficult to identify as they are often non-visible or difficult to observe) – when people have never observed something or experienced something, they tend to assess this as unimportant (compare Kahneman 2011).

Indicators of campus viability and sustainability

While some disagreement existed at the beginning, after the discussion most of the time consensus was reached about the relevance of indicators. First of all, lack of knowledge was often mentioned in the individual reflection notes. A lack of knowledge of graduates from the university was assessed as a low probability event that eventually could lead to serious impact on the organizational viability. The argument was that the student him/herself has the largest influence on whether he/she will absorb information and gain knowledge. When a graduate has too little knowledge, the reputation of the university among the employers may be damaged. As a consequence, there is an incentive for the teacher to support the development of knowledge enabling students to function on the labour market, as this otherwise would negatively influence student numbers in the future. This is of particular relevance in the context of the declining number of students at Siauliai University. A challenge identified by participants is that the curriculum contains too few elements of sustainable development while scientists do little research in this area.

However, as came up in the discussion, many students may think that obtaining a diploma is more important than knowledge. A reason may be that the student does not realize him/herself that while a diploma is needed to enter the labour market, different types of knowledge are required to stay on the labour market.

Interestingly, no reflection was made regarding the importance of knowledge for sustainability of the external environment. It was acknowledged in the discussion that many indicators and questions are interrelated. Examples are hiding the truth, high secrecy, lack of honesty and lying and cheating. While the probability that hiding the truth or secrets have a negative impact on organizational viability was thought to be low, one important unsaid thing may destroy a university's reputation. As the university is an important factor in local development, such an event is also relevant for the external environment. Many participants in the group mentioned that when truth is hidden, the sooner or later this will be revealed. This increases the likeliness of a negative impact on the organization. As mentioned, an important impact is loss of reputation, threatening organizational viability when it reduces the number of students. Now the question appears whether reputation is in fact an element of fragility, which can reduce long-term demand by students, the willingness of good lecturers and scientists to work at the university, a lack of funding, etc.

One example of a negative impact of hiding the truth or cheating by students "not having time to study" on the university's reputation is related to the fact that part of the students have a job besides their studies. The students who do not have a job are more likely to attend lectures and to spend more time at home for studying. While the level of knowledge and absorbed information may differ, some participants argued that grades received can be similar. In this case, the mark given does not reflect the truth about the student's knowledge. While this may have a negative impact on the incentives for non-working students to study, finally the diploma will not reflect differences in knowledge. Like before, also here the university's

reputation may be seriously damaged when such information becomes public.

The existence of closed groups of family and friends as well as hiring family and friends were, with the exception of one participant, considered to be irrelevant. This was often due to the fact that such a situation was never observed. Another element that came up is that teachers have to provide a minimum level of knowledge in order not to lose students. As a consequence, it can be expected that hiring bad teachers will not be a fragility likely to appear when struggling for students in a situation where their numbers decline.

All indicators connected with mistakes were considered to be relevant, as mistakes are very easy to make. As a consequence, in general, their appearance is highly probable. Is there is a lack of information on the mistake, no learning process can take place and the mistake cannot be fixed. Students make a lot of mistakes while studying. The seriousness of these mistakes is low when feedback is provided. When this is not the case, or as discussed earlier, similar marks are given for good and bad work, students may graduate without proper knowledge. This may have a negative impact on sustainable development in the future, in particular when the amount of such students is large. A reason may be a lack of knowledge on sustainable development, but also a lack of ability to learn from mistakes, or even a mentality of hiding mistakes.

A problem identified related to learning from mistakes is a lack of critical discussion and asking questions during class. During the discussion some participants changed their mind on this issue. First, they considered it to be irrelevant, while at a certain moment recognizing the relevance of critical discussion and asking questions for uncovering mistakes and learning from them. People not used to critique will not get feedback and/or not be open to feedback, may not learn as much from mistakes as they could. What makes an international comparison a challenge is that asking questions in some countries may culturally be seen as offensive to others.

Knowledge of foreign language by staff was considered to be relevant, in particular when a university wants to increase the number of international students in the face of a declining amount of students from the home country. When knowledge of foreign language lacks among staff, foreign students may face serious difficulties in getting to know the rules at the university. When living in a dormitory where none of the employees speaks, for example, English, this not only makes life more difficult, but may also be dangerous in case of emergencies such as a fire or a serious illness.

Not surprisingly, cost reduction was identified as relevant. As discussed, the number of students declined significantly at Siauliai University during the last decades. Different faculties have merged and reorganization has taken place. A question remains whether this process will stop at a certain point, or that the university will be too small to survive individually at a certain moment.

Concluding remarks

The reflections presented in this paper should be interpreted with care. They are based on knowledge and experience of third year bachelor students of the Sustainable Business programme at Siauliai University in Lithuania.

An important issue that came up is that when a problem remains unseen, it is considered to be irrelevant. This is a standard problem with identifying fragilities (Taleb 2012), which, not surprisingly, was confirmed in the group discussion and reflection paper.

Only discussion afterwards made the participants aware of this issue. However, even when being aware of the problem, it is incredibly difficult to do something with it in practice, as this requires skills and imagination.
Thus, due to a lack of knowledge and information among participants, a problem which to different extents can be expected in any type of group is that not all indicators can be discussed. When using a wider set of indicators of campus sustainability showing different types of fragilities, different stakeholders need to be used as a source of information. As such, the conclusion that indicators of lying and cheating, honesty, as well as indicators of mistakes may be a good starting point for creating indicators of campus sustainability should be interpreted with care. Other indicators which people are relevant because they lack knowledge about it may in reality reflect important fragilities, challenging campus sustainability.

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Uwagi o metodologii wskaźników zrównoważonego rozwoju kampusu i ich znaczeniu – studium przypadku Litwy

Abstrakt
Cel: Tekst zawiera streszczenie dyskusji prowadzonych w grupie fokusowej nr 2 podczas warsztatów na temat „Metodologia oceny zrównoważonego rozwoju kampusu z perspektywy antykruchości wielopoziomowej" zorganizowanej przez Uniwersytet Szawelski na Litwie w lipcu 2016 r. oraz uwagi wynikające z notatek pozostawionych przez każdego uczestnika po warsztatach. Artykuł pokazuje wynik procesu integracji i refleksji autorów.
Metoda badawcza: Artykuł zawiera informacje zwrotną opartą na doświadczeniu i poglądach studentów trzeciego roku zrównoważonego biznesu z Uniwersytetu Szawelskiego na Litwie. Dyskusja miała miejsce podczas warsztatów i przebiegała w grupach fokusowych, a następnie z udziałem wszystkich uczestników i wykładowców. Po warsztatach uczestnicy byli proszeni o sporządzenie notatek z informacją zwrotną. Notatki te są streszczone w artykule.
Wnioski: Użycie większej liczby wskaźników zrównoważonego rozwoju kampusu pokazujących różne typy kruchości pociąga za sobą konieczność uzyskania informacji z różnych źródeł. Z tego powodu brak informacji na temat pewnego zagadnienia, co miało miejsce w tej grupie, traktowano jako wskaźnik nierelewantny. Wnioskiem, który należy przyjąć z ostrożnością jest to,

że kłamstwo, oszustwo i uczciwość, a także wskaźniki dotyczące błędów, mogą stać się dobrym punktem wyjścia dla opracowania wskaźników zróżnicowanego rozwoju kampusu skoncentrowanych na zagrożeniach żywotności organizacyjnej i zrównoważonego rozwoju środowiska zewnętrznego uniwersytetu.

Oryginalność / wartość artykułu, wkład w rozwoju nauki: Artykuł zawiera krytyczne informacje zwrotne na temat innowacyjnego podejścia badania zrównoważonego rozwoju kampusu.

Słowa kluczowe: zrównoważonego rozwoju kampusu, zarządzanie zrównoważonego rozwoju, kruchość, antykruchość, metodologia

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Reflections on methods for assessing campus sustainability from a Lithuanian perspective

Authors: Diana Cibulskiene, Alina Gogitidze, Vladimir Kuvshinov, Laura Malyševa, Kornelija Raišytė, Sofya Sharipko, Joost Platje

Abstract

Aim: Provide a summary of the discussion of focus group 1 at the workshop on "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held in June 2016 at Siauliai University (Lithuania), as well as reflection notes each of the participant wrote after the workshop. The paper shows the outcome of the process of interaction and reflections of the authors.
Design / Research methods: This article contains feedback based on the experience and ideas from third year students of sustainable business from the University of Siauliai (Lithuania). Discussion took place during the workshop in focus groups. Afterwards, a discussion took place among all participating students and lecturers. After the workshop, the authors wrote individual feedback notes. These are summarized in this paper.
Conclusions / findings: Students may provide limited information on university viability and sustainability of the university's external environment due to lack of information on many indicators. Many indicators on which no information was available were considered to be irrelevant, being an example of the principle "what we do not see, does not count."
Originality / value of the article: The article provides critical feedback on an innovative approach towards research on campus sustainability.

Keywords: campus sustainability, sustainability management, fragility, antifragility, methodology
JEL: Q01, B40, I23

History: received 2016-11-25, corrected 2016-11-27, accepted 2016-11-27

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Introduction

This article provides a summary of the interaction of focus group 1 at the workshop on "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held in June 2016 at Siauliai University (Lithuania). The reflections were drawn from discussions at the workshop, as well as reflection notes written after the workshop. First, some methodological issues are raised. Then, reflections on indicators are presented. An outline of the workshop as well as the indicators can be found in the first article of this special issue.

Methodological issues

An interesting element of the approach used in the workshop was that the discussion in the focus group was open. It was not directed in any way by the organizers. Because of this, the discussion was directed towards what the group members thought was relevant. Also, the open discussion led to a change in opinions of some participants. However, afterwards in the reflection notes it was mentioned that such a change in opinion may not necessarily be the result of proper argumentation. Such changes may also be based, for example, on a convincing story from a participant with strong discussion skills and/or authority.

This issue is relevant in the context of the limited information and knowledge people possess. As one participant noted: "Most likely, if I were to write the same essay, next week or a year from now, my views would not coincide, since new arguments would arise, a new day may bring a new perspective and so on." It was also noticed that indicators are often interrelated. Thus, a change in one indicator can lead to a kind of chain reaction, negatively influencing other indicators, which could seriously damage organizational viability. It seems that in an intuitive way the participants recognized the relevance of a system approach, where relations between indicators need to be researched.

Indicators of campus viability and sustainability – some reflections

Indicators such as "lack of knowledge", "low quality of teaching staff", "lack of critical discussion" as well as "students not questioning teachers during class" were considered to be relevant and interrelated. A teacher with poor knowledge is also unable to transfer knowledge to students. When graduates lack knowledge, this may harm the image (reputation) of the university, which may lead to lower student numbers and the university being less attractive as a place to work. Furthermore, graduates with poor knowledge may negatively influence the business or organization they will work for, while engaging in unsustainable activities. During the discussions, it was argued that the aim of the university to keep a good reputation makes the first part of the negative scenario unlikely. Employers will be less likely to employ graduates from universities they consider to be poor.

There was no clear agreement on the relation between students asking questions and a lack of knowledge. On the one hand, the argument was brought up that students are often rather interested in passing and obtaining a diploma than in acquiring knowledge. On the other hand, students who are inactive during class, may finish their studies and become successful. One reason may be that during their employment graduates obtain specific knowledge required for the job, while the university rather focuses on more general knowledge. It was mentioned that teachers are not really asked questions, or criticized,

because they can get angry, which can have a negative impact on the mark. It was argued that this hampers the development of skills to identify problems and fragilities.

This aspect also appeared in the discussion on knowledge regarding sustainable development. This seems to be of particular importance in the context of the participants of the focus group being sixth semester students of a bachelor in Sustainable Business. One participant argued that some students finishing the programme may have little knowledge on sustainability issues. This brings forward the question whether such knowledge is really demanded by companies, a topic for deeper research. However, it was mentioned that when there is a need, a graduate may quickly catch up knowledge by way of self-study.

As a relevant indicator for the viability of the university, knowledge of foreign languages was identified. The reason is the need to attract foreign students, which is in particular important for small universities and universities with declining student numbers, like the Siauliai University. Foreign students help to prevent closure of some study programmed. The importance of this issue is based on own experience of the participants – all of them studies abroad for a while. It can be inferred from the discussion that in case of language problems, this issue increases in importance together with the increase in the number of foreign students.

The mentioned information and communication problems are related to the problem of lying and cheating as well as hiding the truth and a high level of secrecy. It was noticed that the indicators are probably correlated with corruption, and are expected to rather have an impact on organizational viability than on the sustainability of the external environment. Of course, the impact depends on the type of information which is kept behind or lied about. For example, lack of feedback on a student's mistake or wrong information provided by lecturers on the course requirement and expectations towards the students are likely to hamper learning-by-doing and the acquisition of knowledge. In this case, lying and cheating are related to low quality of teaching, discussed earlier.

One issue requiring deeper research is whether and up to what moment lying and cheating is harmless. Another issue is whether what is considered to be a lie or cheating is illegal or not, and whether it is irrelevant. Also, when a disaster may happen, like an asteroid eventually destroying the Earth, and such a potential apocalypse is announced every half year, this may lead to chaos or disbelief in any information on such events. At such a moment, a question appears whether it is better to deny such information. The situation seems to be more clear in the case of withholding information or lying about the financial situation of a university (e.g., debt), as this can be very harmful.

Regarding environmental issues, lying and cheating was related to corruption. In a corrupt environment, with a lack of or failure of legislation, where no information about environmental problems becomes public, this can have serious negative impact on the environment through environmentally-harming investments. Several times during the discussion it was mentioned that corruption is in fact a kind of cheating.

The existence of closed networks of family and friends as well as the employment of them were considered to be irrelevant. One reason was that such a situation was not experienced by the participants. A reason why such a situation is irrelevant is that teaching staff at least should have some minimum skills, in order not to harm the reputation of the university. Dependence on a few scientists or IT was also

not really considered to be relevant. This because of the profile of the university. This shows that many participants assessed the importance of general indicators based on their own experience.

Concluding remarks

While some important issues were raised in this paper, awareness exists that students do not have access to all types of information needed to assess the indicators of campus sustainability. This poses a limit to the general applicability of the issues identified. Many indicators not discussed were considered to be irrelevant. One reason was a lack of information on them. Other university stakeholders may shed a different light on them. One main element appeared in the discussion. New students are relevant for university viability. The declining number of students at Siauliai University had probably an important impact on the direction of the discussion as well as the interpretation of the importance of indicators as well as their interrelation. This is also probably the bottom-line of university viability – without students a university cannot exist. As a consequence, it is quite likely that in case of declining student numbers, when not forced by, e.g., student and labour market demands, sustainability is unlikely to receive much attention. This is an issue requiring deeper research.

Uwagi o metodach oceny zrównoważonego rozwoju kampusu z perspektywy litewskiej

Abstrakt

Cel: Tekst zawiera streszczenie dyskusji prowadzonych w grupie fokusowej nr 1 podczas warsztatów na temat „Metodologia oceny zrównoważonego rozwoju kampusu z perspektywy antykruchości wielopoziomowej" zorganizowanej przez Uniwersytet Szawelski na Litwie w lipcu 2016 r. oraz uwagi wynikające z notatek pozostawionych przez każdego uczestnika po warsztatach. Artykuł pokazuje wynik procesu integracji i refleksji autorów.

Metoda badawcza: Artykuł zawiera informacje zwrotną opartą na doświadczeniu i poglądach studentów trzeciego roku zrównoważonego biznesu z Uniwersytetu Szawelskiego na Litwie. Dyskusja miała miejsce podczas warsztatów i przebiegała w grupach fokusowych, a następnie z udziałem wszystkich uczestników i wykładowców. Po warsztatach uczestnicy byli proszeni o sporządzenie notatek z informacją zwrotną. Notatki te są streszczone w artykule.

Wnioski: Studenci mogą mieć niewystarczające informacje o żywotności i zrównoważonym rozwoju uniwersytetu z powodu braku informacji o wielu wskaźnikach. Takie wskaźniki często uważano za wskaźniki nierelewantne, zgodnie z zasadą „czego nie widać, to się nie liczy".

Oryginalność / wartość artykułu, wkład w rozwoju nauki: Artykuł dostarcza krytycznej informacji zwrotnej na temat innowacyjnego podejścia w badaniach nad zrównoważonego rozwoju kampusu.

Słowa kluczowe: zrównoważony rozwój kampusu, zarządzanie zrównoważonego rozwoju, kruchość, antykruchość, metodologia

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
we Wrocławiu

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Reflections on developing indicators for campus sustainability from a fragility perspective

Authors: Monika Paradowska, Santa Bukauskaitė, Gytys Rimkus, Alexander Heller, Akim Sharapov, Nika Magradze, Joost Platje

Abstract

Aim: Provide a summary of the discussion at the workshop on "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held on Friday 13 May at the WSB University in Wrocław, as well as reflection notes each of the participant wrote after the workshop. The paper shows the outcome of the process of interaction and reflections of the authors regarding the methodology of assessing campus sustainability using a fragility approach.
Design / Research methods: This article contains feedback based on the experience and ideas from students from Georgia, Germany, Kazakhstan and Lithuania. Discussion took place during the workshop in focus groups. Afterwards, a discussion took place among all participating students and lecturers. After the workshop, the authors wrote individual feedback notes. These are summarized in this paper.
Conclusions / findings: Although there are promising element that can be developed into a framework of assessing campus sustainability from a fragility perspective, many challenges appear. In particular challenges in defining unambiguous indicators as well as finding proper sources of information were identified.
Originality / value of the article: The article provides critical feedback on an innovative approach towards research on campus sustainability.

Keywords: campus sustainability, sustainability management, fragility, antifragility, methodology
JEL: Q01, B40, I23

History: received 2016-11-25, corrected 2016-11-27, accepted 2016-11-27

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Introduction

The aim of this paper is to summarize arguments discussed during the focus group discussion at the international workshop "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held at the WSB University in Wrocław (Poland) on Friday 13 May 2016. The discussion was assessed after the workshop by individual participants in reflection papers. The outline of the workshop and questionnaire discussed can be found in the first article of this special issue. This paper does not have the pretention to be a scientific treatise on the issues discussed at the workshop. The paper shows the outcome of the process of interaction and reflections of the authors regarding methodological issues.

Methodological issues

The focus group consisted of students from different countries with different backgrounds, mainly economics and engineering. Also some lecturers took part in the focus group discussion, while afterwards an open discussion took place between students and university teaching and research staff. In this discussion it became clear that the different backgrounds influence the assessment of the indicators of organizational viability. This was a strong point of the open discussion – it offered everyone the opportunity to participate. Not only the indicators of campus sustainability could be assessed and criticized, but also new ideas came up. Furthermore, it provided an opportunity to get acquainted with different points of view originating from different backgrounds, which can have a good learning effect.

One challenge identified is that different stakeholders have different priorities. It is not surprising that quality of teaching was important for students, while scientific research and access to research funds was relevant for the lecturers. As a consequence, it may be that, for example, students underestimate the importance of good science for university viability. On the other hand, lecturers may underestimate the importance of social life (student organizations, clubs, events, etc.) in the choice of the university as the place of study.

Another issue is difficulties with finding a representative sample within a group of stakeholders. For example, as a participant wrote: "maybe our program is perfect, with a lot of approaches and good lectures. But in another faculty it might be vice versa, because their lecturers are all the time late, without passion on their subject. This means that four people from the same study program filling out the same questionnaire, might end up with different answers, because they experienced other things." Thus, in the assessment of indicators there exists the problem of subjectivity and opinions developed based on cases, stories, examples, etc. Probably, all students from all faculties should fill out the questionnaire on campus sustainability in order to get a representative picture. However, a problem to be dealt with is the experience of students based on the number of years they study.

In the discussion about indicators, the participants obtained the following task. "Please assess whether you consider the following to be relevant or irrelevant for the identification of fragilities. Please assess the indicators you think are relevant on the seriousness and likeliness (probability) of potential threats related to the indicators for the organizational viability of the university as well as the sustainability of the external environment. Please assess seriousness and likeliness with H (high) and L (Low)." (Quote of the questionnaire from the conference.

The indicators can be found in the Annex of the first article of this special issue.)

A challenge in the discussion was that many indicators had different meanings for different participants. In other words, they were ambiguous, open to a wide range of interpretations. This made it difficult to assess the likeliness of an event happening, as well as the impact on organizational viability and external sustainability. This may have been a purpose or the workshop organizers, as it stimulated a lively discussion into the deeper meaning, while showing that a phenomenon as such to a certain point may not be problematic at all.

Let's take the example of strong interest groups. A strong and motivated group of students and/or teachers can force through changes supporting sustainable development and create an interesting study programme. But an interest group can also defend its own interests in a way that hampers change and the introduction of new ideas for a more sustainable university and society. Also important is whether there is a struggle between interest groups. For this reason, this indicator should be accompanied, for example, by an indicator regarding the type of interest group (Freeman 1984).

An example of an ambiguous indicator is "making mistakes." This indicator probably refers to a negative event. However, questions in the first part of the questionnaire concern "mistakes and learning-by-doing." Thus, as such, making mistakes is not bad as long as there are learning effects. Small mistakes, such as wrong information in a student's ID, rather causes inconveniences for the individual student. A calculation mistake in the university budget can lead to major problems. It follows from this, that a distinction can be made between "positive mistakes" (creating learning effects) and "negative mistakes" (threatening the viability of the university). Though, a fundamental problem remains that, depending on the situation, the same mistake can have different impacts. Like with a hammer – it can be used for the construction of a table, but also to smash someone's head. This implies that indicators of mistakes should be analysed in the context of other indicators, like critical discussion or hiding the truth, as they show whether mistakes are discussed, creating opportunities for learning effects.

Another issue is that many indicators are connected to the functioning of the organization as such, and not with, for example, environmental elements of sustainable development. An example is a question from the first part of the questionnaire: "The things at my university are so bad it can't get any worse." It seems that maybe too much emphasis is put on the organization's viability, and indirectly to its capacity to deal with issues of sustainable development and/or to fragilize the external environment. However, the capacity to deal with challenges does not necessarily have to lead to a positive influence on sustainable development. A university which has a lot of problems (such as underfunding, administrative chaos, lack of students) will vanish in the long run. When improving the organizational viability, these issues are likely to receive priority.

Concluding remarks

The main focus of the discussion and reflection notes was on methodological issues. The most important points were presented in this paper. The remarks and ideas discussed are based on personal reflections on the explorative research method which was the main topic of the workshop. As different individuals understand statements differently, evaluation of universities and indicators may significantly differ

within small groups, even when participants are from the same university. As a consequence, the outcome of such a workshop should be interpreted with extreme care, as when a focus group decides an indicator is unimportant, it is likely that this may only reflect an idea that needs deeper elaboration.

Furthermore, students may be a poor source of information regarding many indicators, as most of them just may not possess enough information or knowledge. This effect may be strengthened by the limited amount of time available for discussion. However, as students are an important stakeholder regarding university viability (without students a university would not exist), they can be a useful source of information regarding fragilities that may lead to a reduced amount of students enrolling at the university.

As was discussed, indicators should be unambiguous in order to make universities comparable. The ambiguity of some indicators may have been useful for the aim of the explorative workshop, as this stimulated discussion. It led the focus group to the conclusion that there may be a threshold up to where mistakes, just to mention an indicator, are not harmful. Also, there may be "positive mistakes" and "negative mistakes." In the first case, these mistakes provide information and knowledge from which people can learn. The second mistakes rather lead to fragilities threatening organizational viability. When writing this paper, attention was drawn to the fact that similar thought can be found in Nassim Taleb's (2012) work.

However, as students may rather focus on the quality of education and scientists on research funds and conditions for doing research, a viable university does not necessarily focus on sustainability issues. This aspect is included in the questions about the university's impact on the sustainability of the external environment. This issue needs serious study as in the current approach it can only be assessed whether a university harms the external environment. Although it may have been the intention of the theoretical ideas behind the workshop, that is can be identified to what extent the university causes damage, also some positive action or impact should be included as this can be, for example, more easily included in teaching practice.

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Uwagi na temat opracowania wskaźników zrównoważonego rozwoju kampusu z perspektywy kruchości

Abstrakt

Cel: Tekst streszcza dyskusję przeprowadzoną podczas warsztatów na temat „Metodologia oceny zrównoważonego rozwoju kampusu z perspektywy antykruchości wielopoziomowej" zorganizowanych przez Wyższą Szkołę Bankową we Wrocławiu w piątek, 13 maja 2016 r. i zawiera informacje zwrotne uczest-

ników tej dyskusji, które pozostawili w formie notatek. Prezentuje ponadto wynik procesu interakcji i refleksji autorów na temat metodologii i oceny zrównoważonego rozwoju kampusu z wykorzystaniem perspektywy kruchości.
Metoda badawcza: Artykuł zawiera informacje zwrotną opartą na doświadczeniu i pomysłach badawczych studentów z Gruzji, Niemiec, Kazachstanu i Litwy. Dyskusja najpierw przebiegała w grupach fokusowych, a następnie z udziałem wszystkich uczestników i wykładowców. Po zakończeniu warsztatów uczestnicy sporządzili notatki zawierające informacje zwrotne, których streszczenia zostały omówione w artykule.
Wnioski : Mimo wielu obiecujących pomysłów, które mogą doprowadzić do opracowania ramy badawczej zrównoważonego rozwoju kampusu z perspektywy kruchości, pojawia się również wiele wyzwań. Należy do nich głównie zdefiniowanie jednoznacznych wskaźników i poszukiwanie właściwych źródeł informacji.
Oryginalność / wartość artykułu, wkład w rozwoju nauki: Artykuł zawiera krytyczne informacje zwrotne na temat innowacyjnego podejścia badania zrównoważonego rozwoju kampusu.

Słowa kluczowe: zrównoważony rozwój kampusu, zarządzanie zrównoważonego rozwoju, kruchość, antykruchość

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
we Wrocławiu

WSB UNIVERSITY
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Reflections on methodology for assessing campus sustainability from a Turkish perspective

Author: Serhat Basak

Abstract

Aim: The author provides a critical reflection of the questionnaire discussed at the workshop "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held on Friday 13 May at the WSB University in Wrocław. The author reflects from the background of his experience in Turkey.
Design / Research methods: The author provides his own reflections and opinions, based on the discussions at the workshop.
Conclusions / findings: It is very difficult to create a set of indicators making campus sustainability internationally comparable, as well as finding proper sources of information. A starting point in creating such indicators may be mistakes threatening organizational viability and sustainability of the external environment.
Originality / value of the article: The article provides critical feedback on an innovative approach towards research on campus sustainability.

Keywords: campus sustainability, sustainability management, fragility, antifragility, methodology
JEL: Q01, B40, I23

History: received 2016-11-25, corrected 2016-11-27, accepted 2016-11-27

Introduction

The participation in the workshop on Campus sustainability was an experience, because when doing my studies in "Graphical Design – American Culture and Literature – International Relations" of Bilkent University (Turkey)[1] I had not been in touch with this subject. My first reaction was that the individual campus in itself cannot contribute much to sustainability. However, in the discussion of the questionnaire the idea that it may be more important to prevent contribution to unsustainable development than to contribute to sustainability became an idea I started to appreciate. Furthermore, small efforts can make a large difference.

[1] http://w3.bilkent.edu.tr/bilkent/

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My home university, Bilkent University, is a private university in Ankara in Turkey. From the website, it can be inferred that the university is doing efforts to contribute to sustainability. It uses solar power, has its own paper factory using recycled paper, reuses waste, uses water filters in order to make tap water more attractive and reduce the consumption of bottled water, etc. However, as the number of students is about 35,000, of whom about 70% live in student dormitories[2], the accumulated effects may be significant. In this context, the survey discussed at the workshop is relevant as it seems to focus of the capacity of the university to contribute to sustainability, or at least to prevent unsustainable actions. In this short paper I present some of my ideas and doubts about the approach in the research.

Reflections

An important element of the survey seems to be the importance of the educational process for sustainability. This is as such a complex issue, as educational staff members have their own ideology regarding teaching, and different expectations regarding to students. This creates a serious challenge in establishing a proper sample of the whole university. There are so many teachers, while students only have classes with a small part of them. For this reason, the assessment by students only counts for the impression they have based on their own experience. Furthermore, I have the impression that many students are only interested in good grades and a diploma. While this as such already questions the willingness to obtain knowledge and think critically, it also makes assessment of the educational situation of the university more difficult. Even when lecturers would try to support knowledge creation and critical thinking, the group of students aiming at obtaining a diploma may not be interested in this. In this case, it is questionable whether these students are a reliable source of information. What in this context is missing in the questionnaire is a question regarding the motivation of a student to study.

Besides the mentioned issue, whether a university is private, public and/or religious can radically change answers. It may be that the religious background, combined with experience and personal expectations, changes the perception of reality. For example, concerning discussion and asking questions during class, for one person, one question per class may be a lot, while for the other this may be very little. The diversity in background is not clear in the survey. Like religion, political background can be important in explaining sustainability efforts as well as the power to destroy all the dignity of the university.

Interest groups and political influence are important for university viability. Bilkent University is probably not unique in its development path. The core of its development strategy was influenced by, among others, the engineering, science and chemistry departments, at the expense of literature, history, art and other studies. This in order to become an internationally recognized university, and to be attractive for students who can combine different studies and advance in different types of science. A question is whether such a developmental path will not lead to overemphasis on science and engineering and related specific knowledge. The rector, coming from a science department, thinks that “mankind is only evolving with the help of science.” and “putting university sources to science departments will lead Bilkent

[2] http://www.bilkent.edu.tr/bilkent-tr/admin-unit/yurt/e_yurt.htm

to higher ranks[3]" was his election slogan. Too much focus on one path of development may close options for different types of studies creating different kinds of knowledge, closing the way for new ideas regarding campus sustainability.

Regarding the questions on governance issues, it is doubtful whether many staff members of students can really answer these questions, as this requires specific knowledge. For example, students will have great difficulties to assess whether firing half of the staff will be a good idea. There may be hundreds of teachers, while students only have classes with a small part of them. As such, the answer will be likely "don't know" or an opinion based on own experience with a few teachers. Furthermore, firing staff members may lead a chaotic environment because there will be for sure some people who are really good but need to be fired because they do not fit the tests or a certain norm that is standardized by a formula. Maybe students would like to see some of the professors out of the department but still dry wood will be able to burn the wet wood too.

[3] https://www.timeshighereducation.com/world-university-rankings/bilkent-university#ranking-dataset/589595

Concluding remarks

It will be a real challenge to create a set of indicators making universities internationally comparable regarding campus sustainability. Many issues depend on differences in the type of university, the economic situation, legal rules, culture, etc. In order to catch all these issues, a multiple of indicators may be required as, for example, IT is very important in computer science, but literature studies can function very well without it. Added to this, it will be difficult to find a reliable source of information. A good starting point for comparability may be mistakes. They make universities comparable as they are important in the process of creating knowledge. This will be a challenge, as there may be different cultural perceptions on what are mistakes. However, in particular the mistakes that threaten university viability and/or sustainability of the external environment can be a starting point. The reason is that they are a clear threat to the university's functioning and survival, as well as to sustainable development.

Uwagi o metodologii szacowania zrównoważonego rozwoju kampusu z perspektywy tureckiej

Abstrakt

Cel: Autor pokazuje krytyczną refleksję na temat kwestionariusza warsztatów „Metodologia oceny zrównoważonego rozwoju kampusu z perspektywy antykruchości wielopoziomowej", które zostały zorganizowane przez Wyższą Szkołę Bankową we Wrocławiu 13 maja 2016 r. Uwagi autora wywodzą się z jego doświadczenia w Turcji.

Metoda badawcza: Autor przekazuje swoje uwagi i opinie w oparciu o dyskusję przeprowadzoną podczas warsztatów.

Wnioski: Bardzo trudno jest opracować zespół wskaźników zrównoważonego rozwoju kampusu o charakterze porównawczym w kontekście międzynarodowym, jak również wskazać na właściwe źródła informacji. Punktem wyjścia dla określenia takich wskaźników mogą być błędy zagrażające żywotności organizacyjnej i zrównoważony rozwój otoczenia zewnętrznego.

Oryginalność / wartość artykułu, wkład w rozwoju nauki: Artykuł zawiera krytyczną informację zwrotną na temat innowacyjnego podejścia do badania zrównoważonego rozwoju kampusu.

Słowa kluczowe: zrównoważony rozwój kampusu, zarządzanie zrównoważonego rozwoju, kruchość, antykruchość, metodologia

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
we Wrocławiu

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A simple model for preventing campus unsustainability

Author: Tadas Radavičius

Abstract

Aim: The author presents his reflections on the theories and survey discussed at the workshop on "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held in Wrocław (Poland) in May 2016. The reflections concern indicators which are relevant to prevent unsustainability of the development of a university as well as its stakeholders. Furthermore, a simple model for assessing the potential for eliminating threats regarding campus sustainability is presented.
Design / Research methods: The author reflects on the theories and survey, based on his experience as a student of while being a volunteer teacher for almost two months in Ukraine, among other things providing seminars for students. The ideas were further developed during the workshop on campus sustainability at WSB University in Wrocław (Poland) on 13 May 2016.
Conclusions / findings:
Many people want to make changes at universities in order to support campus sustainability. This paper shows that changes towards eliminating obstacles not always have a positive impact. As there are many factors determining University viability, when changing something, the non-reversible impacts of a change in the respective indicator on other indicators need to be considered. While this may not be enough to conclude whether a change, as a whole, is positive or not, it helps to define different scenarios of change.
Originality / value of the article: A simple model for initial assessment of potential for eliminating threats regarding campus sustainability is presented. This simple models enables the decision whether quick changes can be made, or whether deeper research is needed.

Keywords: campus sustainability, sustainability management, fragility, antifragility, methodology
JEL: Q01, B40, I23

History: received 2016-11-24, corrected 2016-12-01, accepted 2016-12-01

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Introduction

Developing a methodology facilitating the identification of harmful and irreversible events may support environmental protection and sustainability, while saving money. However, as it is difficult to indicate in advance which harmful events can take place, it may be better to create stabilizers, or buffers against changes that can have too serious damages (Taleb 2012). A constitution may be a good example. It protects a country from opportunistic people who want to make drastic changes in law, for example restrict human rights for minorities. While this creates large damage for a small group, it may lead to crossing a line of no return, where a whole democratic system is destroyed. This is also important in the campus sustainability discourse – to identify lines that should not be crossed. In this article, based on the survey discussed at the workshop on "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held in Wrocław (Poland) on 13 May 2016, personal reflections are given regarding indicators which are relevant to prevent unsustainability of the development of a university as well as its stakeholders. Examples are provided based on experience while for two months, among other things, volunteering as a teacher in Ukraine and providing seminars for students.

Elimination of single threats

Hiding the truth in a University is not necessarily a bad thing, as long as it has no heavy impact on internal stakeholders and the environment. Not telling the whole story or keeping behind information does not harm in all cases, in particular when it concerns difficult to understand or uncertain issues. When it is hidden that a university is in deep debt, this can be very dangerous. When it is not told that a certain professor, who is very highly performing, drinks a bit before a lecture in order to feel more relaxed, this may be less harmful. In fact, when the drinking does not influence his performance, and the fact he does becoming public would lead to firing this professor, the truth may not only be harmful for the professor himself but also for the university as a whole. While these are simplified examples, they show that it is important to consider the positive and negative effects of information to become public.

Dependency on a few very good scientists is risky for a University. The university is fragile because if one of the scientists will leave university, this can seriously hamper innovations, the scientific level of publications, access to research funds, etc. Furthermore, they may be important in attracting students (e.g., chemistry, biology), which is of particular importance in a situation of declining student numbers. While this is a good indicator of fragility of the university viability itself, it also creates fragilities for the city in which the university operates. Not only because, for example, a serious reduction in student numbers may have economic consequences for a city (in particular when the share of students in the population is high). Also because the innovative and knowledge base for urban development and business development weakens.

Relation and interaction between indicators

Increasing *critical discussion* between university authorities may improve the effectiveness of problem solving. However, without empathy and communication skills, such discussions may create more damage than benefits. When the critique is formulated in, for example, an aggressive or

insulting way, the *openness to critique* may decline. In particular when there is struggle between interest groups, critical discussion may be used as an instrument to harm outsiders. Many criteria need to be fulfilled in order for such a type of discussion to be effective.

This is related to the question, can the university survive when many of the professors employed are not real professionals? Who are not open-minded, and able to provide a relevant reflective and critical discussion? As such, bad professors (or, bad lecturers) reduce the quality of education. However, universities continue to operate and function, even when employing poor professors. Here the question appears, what is the threshold when the number of poor professors does not harm the university too much? Is this 20% of the total amount of professors employed? Is this less than 30% of the students being dissatisfied with these professors? Another issue is whether there are enough good professors available on the labour market in order to replace the poor professors. If not, the good professors may take more classes. This, however, reduces the time these professors can spend on individual students and on their research. This also may negatively influence the level of education, and in turn the reputation of the university. Thus, the question is whether there is a minimum level of quality in teaching professors should provide in order not to threaten the quality of education too much, and to attract enough students to enrol.

These examples are exemplary for the fact that often trade-offs exist. When one indicator is improved, others may deteriorate. Or, different types of side effects may appear (Taleb 2012). The question is – which change can cause an improvement of indicators of fragility (threatening the viability of the university), while not creating new fragilities threatening the existence of a university?

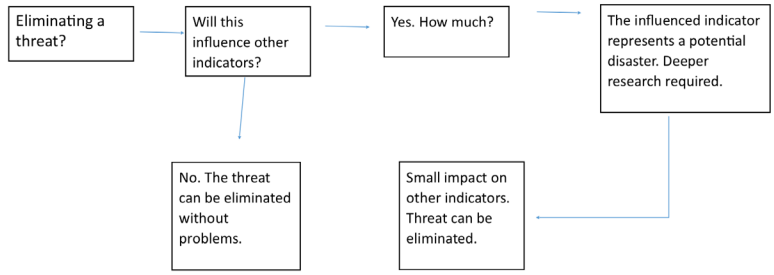
Eliminating threats and their impact of other variables

A problem with assessing threats is that measurement is difficult, while the fragilities are difficult to identify. Furthermore, many indicators are probably more or less correlated, making it difficult to estimate the probable effect of the elimination of a threat. For example, *lack of knowledge* probably depends much on the type of knowledge that is required by the labour market. Bad education may create a lack of knowledge that makes it impossible to find a job. In this case, the university (or at least the study programme) may collapse. However, also when students obtain a lot of knowledge, when this is in an area for which there is no demand for workers the study programme may also disappear. This example shows that it is difficult to establish what type of specific knowledge is required for students to be prepared for the labour market. Important seems to be knowledge that enables students to quickly adapt to changes in the labour market in the future.

Now suppose a university wants to improve students' knowledge by eliminating a strong interest group of professors providing low quality teaching and disturbing democratic processes. What if these people have connections with government authorities, enabling the acquisition of research funds? This may be of particular importance in case of countries with a high level of corruption. This shows that elimination of one negative element is not so easy, as it may disturb university viability by influencing other indicators.

Some challenges in eliminating threats are presented in a simplified way in Figure 1. In order to eliminate threats,

Figure 1. When can a threat be eliminated?



Source: author's own elaboration

it is important to know whether there is interaction with other indicators (correlation), and what is the cause-effect relation. The simplified scheme (also Figure 2) shows the threats of improper analysis of interactions. It shows also in a simplified way when threats can be eliminated. Of course, in reality, the scheme needs to be expanded for the multitude of indicators that interact in a complex system.

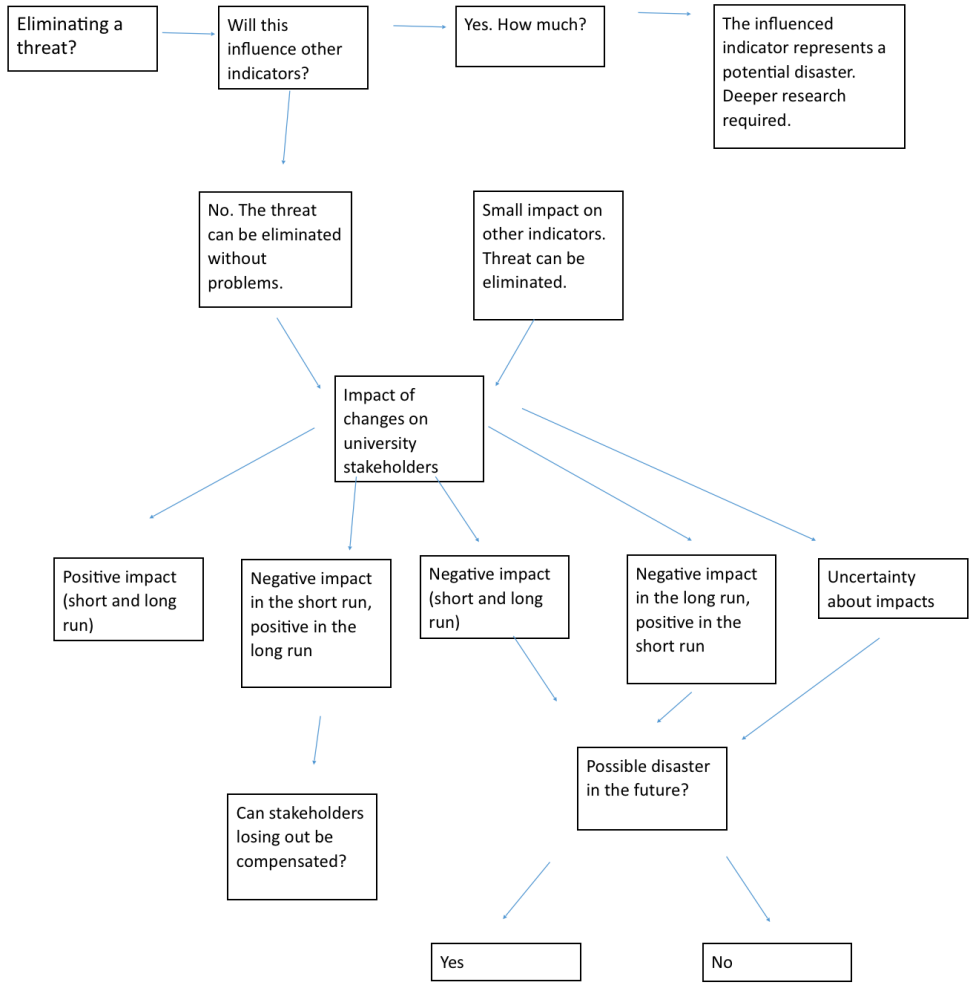
Let's take the example of eliminating *corruption* at the university. In my experience as a volunteer, corruption is widely spread in Ukraine among professors and students. This probably has serious negative impact on the reputation of Ukrainian universities' in the world. Now suppose university authorities want to improve their university's reputation by way of eliminating (or, seriously reducing) corruption with, among other things, the aim of joining international research groups and in this way obtain research funds. However, what can be the impact on other indicators? First of all, when professors would not receive illegally money (e.g., bribes), this would seriously influence their income. If this income decline is not levelled out by a wage increase, this may lead to professors leaving the university, which as a consequence may threaten its existence. Furthermore, a question is what is the impact on the level of knowledge (will the best professors leave, having an opportunity to find another job?), the research grants from the national government (will the professors who have the best connections with the government decision makers leave?), etc.

The scheme helps us to quickly make an initial assessment of opportunities accordingly to their threat to destroy the university in the long run. If we have 3 different opportunities to deal with a *lack of knowledge*, the scheme together with indicators shows which opportunity is likely to cause most harm. When a potential disaster can appear, the opportunity has to be dealt with great caution. When the impact is small, policy measures may be developed relatively quickly. In the next section, university stakeholders are included in the scheme in order to identify political conflicts in case of proposed changes (see Freeman 1984).

Elimination of threats taking into consideration University Stakeholders

Figure 2 is an extension of Figure 1. Also this is a simplified decision scheme, requiring further development. Now assume the university

Figure 2. Elimination of a threat taking into consideration University Stakeholders



Source: author's own elaboration.

wants to deal with the *lack of environmental elements in the study program*. What would be the impact on other indicators? Knowledge and awareness regarding environmental issues may increase. However, is this knowledge required by the labour market? If not, even when the long-term effects may be positive, and short-term benefits for the university may appear (e.g., by engaging students in developing energy saving measures, with positive environmental and economic effects), the knowledge required by the labour market may not be obtained. Less time is spent on other topics which may be required by employers. This may seriously reduce the students' opportunities to find a job, and decrease the attractiveness of

studies. However, the moment when the number of hour spent on an environmental topic is relatively low, or even better, when it is introduced in existing courses, the negative effect is unlikely to be large. The other way round, when eliminating environmentally related topics, the fragility of the university is unlikely to increase, as environmental topics are currently not so important in Ukraine. Students as stakeholders may gain knowledge of other subjects, important on the labour market. Also, teachers of other subjects may gain. However, lack of environmental knowledge may lead engineers to misunderstand the environmental impact of, for example, investment projects. While maybe the likeliness of an environmental disaster happening is small, the effects of mismanagement due to a lack of knowledge can be enormous.

The scheme presented in Figure 2 can be used as a simple tool to make an initial assessment whether the elimination of a threat can improve campus sustainability. After this initial assessment, a deeper analysis is of course required. In particular, when negative effects are expected in the long-run, then the question is whether these negative effects can lead to a possible disaster in the future. When this disaster has non-reversible effects, it is better to apply the precautionary principle, and either not make the change, or wait at least until the potential threat can be eliminated (see Taleb et al. 2014). The moment there are no long-run threats, the elimination can be considered. Here it is important to look at which stakeholders lose from the change, and try to find ways to eventually compensate them for eventual losses in order to reduce eventual resistance to change (Freeman 1984).

With help of the model presented above, the decision of Šiauliai university in Lithuania to combine courses for first and second year studies can be analysed.[1] In the academic year 2016-2017 only 5 students enrolled in the first year. As this is below the minimum number of students needed to start the programme, it was decided (in agreement with the students and their parents) to let first year students join second year courses. This is an example of a wider problem of the university, facing a declining number of students through the last decade.

The first consequence is that university lecturers will have less teaching hours. Following Figure 1, the question has to be asked "Will this influence other indicators?" Among other effects, lecturers (at least part of them) may receive lower *salary* (e.g., less extra hours, change of full time contract into part time contract), while there exists the possibility someone will lose his/her job. Furthermore, first year students will need more preparation time (*time spent on studying*) in order to catch up with second year students. As these indicators are influences, now the question appears "Yes, how much?".

In order to assess the impact on the lecturers' salary, and in turn the threats appearing regarding other indicators data is needed. These data include, among other things, the level of the current salary, the changes in the salary, other employment opportunities and attractiveness of the university as a place to work. For example, when the salary is already low, the impact may be significant. Maybe older lecturers with a family will stay. However, younger lecturers may leave the university, and even the city. This can lead to the reduction of the resource base for the university, creating a further downward spiral in the university viability. In this case, as

[1] This case study is based on an interview with a Staff member of the History Faculty of Šiauliai University.

shown in Figure 2, "The influenced indicator represents a potential disaster. Deeper research required." However, the action of merging groups of first and second year students should be taken, as without action there would be no new continuity at all, with even more negative impact on salary. The deeper research required may concern policy on how to get out of this downward spiral.

Regarding the time spent on studying, an important factor may be the students' capacity to study. This may be reflected to a certain extent by the results of the final exams of secondary school. When these results are low, there exists a greater threat that they will face difficulties with catching up with second year students. As also in this case it is more problematic for the university not to merge the groups (assuming that a small merged group is better than no group), individual coaching for students may be required. As such coaching requires time from lecturers, the question appears whether this is accompanied by financial compensation. When the university receives a set amount of funding per student from the state, this will be problematic. Either the lecturer has to spend more time for the same salary (or, the same amount of time for lower salary due to reduced formal teaching hours), or the university has to allocate resources from other faculties (or debt just increases). In this scenario, there tend to be high uncertainties about the impacts (strengthened when no analysis if interaction of indicators and potential threats has been carried out). And a possible disaster in the future cannot be excluded. However, as mentioned, there are arguments for undertaking the action, as no action at all would even more threaten the university's viability.

In case of the scenario that students had great exam results and lecturers' salaries are sufficient, the threat of *financial loss* can be reduced and eventually eliminated. The question appearing is what is the "impact of changes on University stakeholders" (Figure 2). In the short run, the University benefits by combining first year and second year classes instead of closing the study program or running a financial loss. The rough assessment provided above makes the scenario "Negative impact in long run, positive in the short-run" likely. What, then, about a "Possible disaster in the future?". While there already exist problems in recruiting students, the merging of first and second year classes, combined with the low number of students, can have a negative marketing impact. Without history students, libraries and museums would not only lose visitors, but also students and scholars doing research on, for example, regional history. Thus, the answer is "Yes" both for the history department (as a disaster has been (temporarily) prevented) as well as for stakeholders like museums and libraries.

Concluding remarks

I am aware that there are more sophisticated methods for risk assessment and disaster assessment than the simple model presented above. However, the simple schedule makes it easy to see in which case we should be very cautious with making changes by eliminating, for example, bad practice (as the organization or the external environment can be seriously damaged), and in which case we can give it a try. It is a way to identify damages and potential benefits of eliminating unsustainable practices, and draws attention to the fact that the elimination bad practice can, paradoxically, have a negative impact on different elements of sustainable development.

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Prosty model zapobiegania niezrównoważonemu rozwojowi kampusu

Abstrakt

Cel: Autor przedstawia swoje refleksje dotyczące teorii oraz badań ankietowych omawianych podczas warsztatów pt. „Metodologia dotycząca oceny podtrzymywalności kampusu z perspektywy wielopoziomowej antykruchości" (ang.: "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility"), które odbyły się we Wrocławiu (Polska) w maju 2016 roku. Przemyślenia dotyczą wskaźników, które są istotne i powiązane z zapobieganiem niezrównoważonemu rozwojowi uniwersytetów, jak też ich interesariuszy. Co więcej, zaprezentowano prosty model służący ocenie potencjału do eliminacji zagrożeń związanych z niezrównoważonym rozwojem kampusu.

Układ / metody badawcze: Autor odnosi się do teorii i badań ankietowych w oparciu o swoje doświadczenie zdobyte podczas studiów w trakcie niemal dwumiesięcznego wolontariatu jako nauczyciel na Ukrainie, między innymi prowadząc seminaria dla studentów. Idee zostały pełniej rozwinięte podczas warsztatu dotyczące zrównoważonego rozwoju kampusu na WSB we Wrocławiu (Polska), 13 maja 2016 roku.

Wnioski / wyniki: Wiele osób pragnie wprowadzić zmiany na uniwersytetach, aby wspierać zrównoważony rozwój kampusów. Niniejszy artykuł dowodzi, że zmiany mające na celu usunięcie przeszkód nie zawsze przynoszą pozytywne skutki. Ponieważ na wydolność i żywotność uniwersytetów wpływają liczne czynniki, zmiana czegokolwiek wymaga rozważenia, czy nie spowoduje ona nieodwracalnych zmian innych wskaźników. O ile może to być niewystarczające do stwierdzenia, czy dana zmiana, rozpatrywana całościowo, jest pozytywna lub nie, o tyle pomaga określić różne scenariusze zmiany.

Oryginalność / wartość artykułu: Przedstawiono prosty model wstępnej oceny potencjału służącego usunięciu zagrożeń dotyczących niezrównoważonego rozwoju kampusu. Model ten pozwala na podjęcie decyzji, czy można dokonać szybkiej zmiany, czy też wymagane są głębsze badania.

Słowa kluczowe: zrównoważony rozwój kampusu, zarządzanie zrównoważonym rozwojem, kruchość, antykruchość, metodologia

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
we Wrocławiu

WSB UNIVERSITY
RESEARCH
JOURNAL

Reflections on the questionnaire at the workshops: Methodology for assessing the campus sustainability from the perspective of multi-level antifragility

Author: Robert Daniel Poskart

Abstract

Aim: The author provides a critical reflection of the questionnaire discussed at the workshop "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" held on Friday 13 May 2016 at the WSB University in Wrocław. The aim is to make a general diagnosis of the current situation in higher education in Poland, and to propose a direction of change than can enable its survival and improve its quality.
Design / Research methods: In the article, the author gives his personal reflections regarding the research questionnaire discussed at the workshop "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" in the context of the viability of higher education in Poland.
Conclusions / findings: The author selected, in his opinion, the most important elements of the questionnaire discussed at the research workshop. The main conclusion is that significant changes seem to be necessary due to the dynamic developments in the external environment, in particular the declining number of students resulting from the deepening demographic decline.
Originality / value of the article: The article provides critical feedback on an innovative approach towards research on campus sustainability.

Keywords: higher education, demographic decline, external environment
JEL: I23, J11

History: received 2016-10-14, corrected 2016-11-26, accepted 2016-11-26

Introduction

In this article, the author presents his personal reflections regarding the functioning of institutions of higher education in Poland in the context of the changing socio-economic environment. The subjective views on the issues are based on personal experiences with management and economics studies, as well as participation in the methodological workshop on

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"Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" organized by the WSB University in Wrocław on 13 May 2016. About 24 academic teachers and higher year students from The Netherlands, Kazakhstan, Lithuania, Mexico, Germany, Poland and Turkey participated. During the workshop, based on an extensive research questionnaire, different determinants of viability of institutions of higher education as well as their impact on the sustainability of the external environment were analyzed and discussed in detail. In this article, the most important issues, in the opinion of the author, are discussed, as they are crucial for the competitive position of institutions of higher education and their capacity to survive in a dynamically evolving external environment. In the next sections, the following issues will be discusses: knowledge and education, mistakes and learning-by-doing, different types of fragilities and job market.

Reflections regarding knowledge and education

The statement that changes appearing in the world take place with such an intensity and speed in so many areas that science (and in particular higher education) cannot keep up with them is a truism. However, it may be that the disproportion in the inability to keep up with these changes in the external environment are fundamentally different in, for example, the highly developed Anglo-Saxon countries and former Communist countries such as Poland. This becomes more and more clear in the current processes of transformation in higher education, and may even become more apparent in the changes which are necessary in the future. While transformation has taken place in the economic sphere since the beginning of the 1990s, stimulated by strong competitive pressure from other European countries as well as the global market (see Winiecki 2012), a question is why significant changes have not taken place in higher education.

There are many factors that may explain the relative status quo in higher education. First of all, changes take time. Second, there should be fertile soil for making changes, in particular when these changes should be as "painless" as possible (see Furubotn and Richter 1997, Platje 2004). Of course, it can be argued that many changes have taken place. However, there exist great challenges in the near future (Denek 2012). It can be observed that system of higher education has not transformed in such a way that it has strengthened its viability. The current demographic decline may verify whether this is the case. The 1990s were the "golden era of Polish higher education" due to the massive increase in the number of students. This was the effect of, among other things, the demographic boom. As there were more students than available places at state universities, deep transformation was not necessary. This situation had as a consequences that a large amount of private institutions of higher education appeared, euphemistically called "non-public" (in the academic year 2014-2015 there were over 300 of such private institutions of higher education (Główny Urząd Statystyczny 2015: 30).[1] Thanks to accreditation by the responsible state commission, these private institutions could offer the same studies and diplomas with the same value on the labour market as state universities

[1] In the academic year 2014-2015, 302 non-public institutions of higher education were functioning in Poland. In total, 359,178 students enrolled, 13,071 academic teachers employed while 122,650 students graduated and obtained a diploma (Główny Urząd Statystyczny 2015).

(also called public universities). This "golden age" has passed. Currently, the number of students is much lower, and the situation for many universities and colleges, in particular private ones, is dramatic. The whole branch (public and non-public universities and colleges) functions in an environment of demographic decline. This decline is expected to have its low in the years 2020-2022 (Główny Urząd Statystyczny 2015a: 4).[2] This may create a great challenge for in particular private universities and colleges, as state universities will probably be able to offer as many places to study as there will be new students by that time. This is a serious threat to the viability of these universities, as without students they are not able to survive. This threat creates incentives for change, which should have taken place a long time ago.

Regarding the questions concerning the dilemma between creating knowledge and creating new graduates (new diplomas), it seems that both are important for the viability of a University. On the one hand, a high level of education and knowledge creation is important for the so-called "categorization" of the university, which influences the level of finance departments, faculties and whole universities obtain. The more faculties of a university belong to the highest category, the more funds a university obtains for scientific research (both private and public universities obtain financial support). The second component influencing the level of financial support is the number of students. The more students, the higher the financial support. It can be observed that most universities focus on attracting as many students as possible, in order to keep the different studies they have on offer. This tends to trade-off with the quality of education, in turn negatively influencing the level of knowledge obtained by graduates. This will probably have a negative impact on the value of the diploma of many universities on the labour market.

Another important issue discussed during the workshop is the use of system approaches in teaching. While formally many standards are fulfilled on paper, such a system approach is not often applied. Not only in teaching issues of sustainable development, but also in the creation of the curriculum. Many documents are created (syllabuses, etc.) exactly describing the content of different courses in accordance with the ministerial National Qualification Framework (KRK – *Krajowe Ramt Kwalifikacyjne*). At each university detailed descriptions are provided which kind of knowledge, abilities, social skills, etc. the student should acquire during classes. However, reality may be completely different from what is written in the documents. A reason is the quality of teachers, but also the tendency to reduce teaching hours in order. Observation of lecturers does not take place often, or only formally "on paper". Questionnaires among students do not always provide a complete picture of the situation. And it remains a question whether students and lecturers are interesting in changing the situation. It is questionable whether lecturers completely understand the National Qualification Framework, and no integrated approach towards the curriculum is used, as this would require extra effort. Furthermore, when being too tough for students by failing them, this may threaten certain study

[2] According to data from the Main Statistical Office, the number of graduates from secondary school will amount to 350,000 in the year 2020-2022. At this moment (2016) this number is 412,000. Thus, assuming a similar trend in the schooling coefficient, the number of potential students is expected to decline by about 15% (Główny Urząd Statystyczny 2015a).

programmes. When not changing this by way of using a system approach towards the creation of the curriculum, this may create a long term threat to the viability of the university the moment more knowledge is required by the labour market.

Important for the viability of institutions of higher education is business orientation of study programmes, as this improves the opportunities for students on the labour market. A challenge in improving the business orientation, like with increasing knowledge in general, is the reduction in teaching hours for core subjects due to the aim of cost reduction in the face of declining student numbers. While this cost reduction may be necessary for university viability, it may trade-off with students' basic knowledge. In particular developing critical thinking and discussion may require more intensive student-teacher interaction. The current curriculum may not be adapted to the demands from the side of business. For example, in financial sciences there is a lack of use of advanced platforms for so-called integrated management in the educational process. Such a platform allows for multi-level economic-financial analysis. Also, trading platforms should be used in order to make students acquainted with the complex and dynamically changing financial system. The introduction of use of such platforms is a challenge, due to lack of financial resources in higher education, in particular in case of smaller universities. Furthermore, different decision-makers may not appreciate the importance of such platforms, as the costs are directly visible, while the benefits of such an innovation and the impact on attracting new students are rather more indirect and uncertain.

Also, the contents of courses needs to be adapted in order for the students to find a job in the field of their studies. The student should possess skills and abilities that enable to start working without significant extra time and outlays spent of trainings required by the employer. In this context, increased cooperation between university and business is requires, as at the moment many study programmes seem to provide knowledge which is difficult to apply in business practice.

Reflections regarding mistakes and learning-by-doing

One important element, in the opinion of the author, that is important for university viability is ignorance of critique from students or staff by university management. The moment critique is treated as a kind of insubordination, and/or is just ignored, this may create problems. During the years of the demographic boom, student critique could be neglected. However, as nowadays there is a struggle for students, this may negatively influence the number of students. While it may be argued that teaching staff can be easily replaced (e.g., more teachers on the labour market due to the decline in number of students), the best teachers may become demotivated, and eventually leave for a job in, for example, business. This in turn negatively influences the attractiveness and quality of studies. A reason for ignorance of critique may be that the management of many universities do not really see the need for continuous improvements in the educational programme and the organization itself. In particular when already working, say, for 30 years at a university, the management has the experience of the "golden age" while already being in their 50s or 60s. Also when consciousness of the problems and the willingness to change exist, a lack of habit and experience with making critical analyses of the university viability may be a factor hampering change.

Another issue is students asking questions during classes. While management may ignore critique from weaker stakeholders such as students and lower level teaching staff, students do not have the habit to ask questions during classes. From time to time, the most motivated students tend to ask questions. This may show that paradoxically, when studying economics or finance, there is no real interest in the subject. It should be researched whether this is related with the knowledge required by the labour market, as well as the question whether a student studies in order to obtain knowledge, or rather in order to obtain a diploma. However, another determinant of the few questions asked during classes may be the Master-Student relation, where asking questions can be interpreted as questioning the authority of the teacher.

This last issue also needs deeper study. When interested students ask questions to a well-prepared lecturer, the questions may be appreciated as this lecturer then has an occasion to show a high level of knowledge by providing specific and practical examples. When, as has been mentioned on different occasions by lecturers of different universities, the lecturer is "one lecture in advance of the student" as he/she has read the materials before class, asking questions can lead to inconvenient situations. While this may be a kind of urban legend, research is needed whether such phenomena exist, and at what scale.

An issue is whether students prepare for classes. An interesting question in the questionnaire related to this is whether reading a textbook is more useful than a lecture. This is unlikely to be the case, and depends on the type of lecture. In the ideal case, the lecturer is an expert in the given field of study and students interested in the subject, while classes inspire further search for knowledge in literature. However, when an incompetent lecturer provides classes, it may happen that lectures are a waste of time and it may be better to read the literature.

The next issue, which is rather complex, is making mistakes and the reaction to mistakes by superiors. While it may be argued that it is better not to make mistakes, only people not doing anything do not make mistakes. This seems often to be understood, that mistakes are a normal thing, and no extreme reaction is likely to appear. However, when a mistake appears, for example, in a project co-financed by external sources (e.g., ministry, European funds) this may lead to exclusion of a university from future funding. In such a case, often a kind of collective responsibility is applied, where besides the persons responsible also others are punished. While this is understandable due to the huge impact on the university, such a reaction can create anger and frustration among employees. However, these things are unlikely to be discussed in public.

Reflections regarding different types of fragilities

One element in the discussion at the workshop was the influence of the university on the sustainable development of the external environment, in particular the city in which it functions. Until not such a long time ago, the impact on the environment was rather negative, due to lack of waste management and low energy efficiency of buildings. However, during the last decade many investments improving the energy efficiency can be observed, more solar power is being used, while waste segregation has been introduced. The moment universities start to use unused buildings in the city centre, and renovates them, this positively influences urban

development. This can be observed in the city of Opole in Poland.

One fragility identified concerns the influence of a few good lecturers on the level of education. Although lecturers can be replaced, in particular in a situation of demographic decline, for many types of studies specific knowledge is needed. The impression exists that many programmes drive on a few specialists, knowing the ins and outs of the specifics of the programme. When they would disappear, replacement by lecturers with less talent and knowledge may significantly reduce the competitiveness of such a study programme, which also weakens the university.

An interesting question is whether the situation in higher educational institutions can be worse than it is at this moment. As mentioned, due to the demographic boom reforms stayed behind. These reforms probably will need to take place, due to the increasing competition between universities resulting changes in the external environment, in particular the declining number of students. The decreasing amount of students is not only the result of the demographic decline, but also emigration as well as the reduced interest in higher education. Furthermore, the expected earnings after finishing higher education compared to the earnings of people not finishing their studies tends to become less attractive. The number of students as a percentage of the total amount of people in the student age has been declining from 49.2% in 2013/2014 from 53.8% in 2010/2011 (Wilkin 2015: 5).

Another issue discussed is the level of administrative support for research grant application and management. While such support is very important, it is already difficult for small institutions of higher education outside the educational centers in large metropolitan areas to obtain such grants. An important criterion in the decision is the experience of the project manager in managing research project, or participation in such projects. Even very good proposals may be rejected because of this criterion. How, then, to obtain experience when experience is an important condition to obtain a grant? This is difficult due to the little amount of money available from the state directly used for financing research at universities, and the increasing reliance on the mentioned grants.

Reflections regarding the job market

An interesting issue is the relations between knowledge required by the labour market and the incentives for students to acquire knowledge during their studies. In the discussion at the workshop it was argued that when the labour market requires knowledge, this may positively influence the motivation to study for knowledge, and not only for obtaining the diploma. Important in this context are two factors: the topic of studies and the situation on the labour market. When the demand for a certain profile of studies is high, then students will probably rather easily find work when graduating. This may reduce the knowledge requirements. A complicating factor is that employers in need for a certain type of graduate also may have its own training programme for new employees. This complicates the research on relation “labour market demand” and “incentives for acquiring knowledge by students”. The moment a student graduates from a less desired direction of studies, acquaintances, friends and family may be relevant in finding a job. In particular when this is a job in the public sector, connections may be more important than knowledge. In the private sector knowledge may be more important in order to keep a job, as it may influence the revenues and costs of the private owner.

Concluding remarks

In this paper, important determinants of the competitive position of institutions of higher education were presented, supporting organizational viability. Their importance and significance are disputable and need deeper elaboration. Workshops on the viability of higher education institutions, like the one discussed in this article, may be an important instrument for the future viability and development of higher education. In particular decision-makers should participate in such workshops. This allows for confronting propositions for change with the real possibilities as well as the willingness to introduce such changes. Detailed analysis of the fragilities embraced by the questionnaire can create a basis for the decision-makers for developing strategies and aims. However, a condition for change is the willingness of critical assessment of and discussion about the institution of higher education in question, as well as the willingness to change. This element is partly included in the questionnaire – the capacity for critical discussion and learning from mistakes. Without the capacity for eliminating fragilities, institutions of higher education have a lower probability to be viable in the changing external environment.

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Refleksje dotyczące kwestionariusza w ramach warsztatów: Methodology for assessing the campus sustainability from the perspective of multi-level antifragility

Abstrakt

Cel: Autor przedstawia krytyczne przemyślenia dotyczące dyskusji nad kwestionariuszem, która odbyła się podczas warsztatów pt. "Methodology for assessing the campus sustainability from the perspective of multi-level antifragility" przeprowadzonych w piątek 13 maja 2016 roku na WSB we Wrocławiu. Celem artykułu jest postawienie diagnozy obecnej sytuacji szkolnictwa wyższego w Polsce oraz zaproponowanie kierunku zmian, jakie musiałyby nastąpić w przyszłości, by umożliwić jego dalsze przetrwanie i rozwój o charakterze projakościowym.

Układ / Metody badawcze: W artykule przedstawiono osobiste refleksje autora dotyczące zawartości kwestionariusza badawczego w kontekście problemu funkcjonowania szkolnictwa wyższego w Polsce.

Wnioski / wyniki: Autor wybrał najważniejsze jego zdaniem zagadnienia dostępne w formularzu omawianym na warsztatach w ramach projektu badawczego. Głównym wnioskiem wynikającym z prowadzonych rozważań wydaje się być pilna potrzeba zmian w szkolnictwie wyższym wymuszonych coraz bardziej dynamicznie rozwijającym się otoczeniem zewnętrznym. Szkolnictwo wyższe sprostać musi wyzwaniom pojawiającym się wraz z malejącą liczbą studentów, będącą pokłosiem kryzysu demograficznego w Polsce.

Oryginalność / wartość artykułu: Artykuł przedstawia krytyczną opinię na temat innowacyjnego podejścia do badań nad zrównoważonego rozwoju kampusu.

Słowa kluczowe: Szkolnictwo wyższe, niż demograficzny, otoczenie zewnętrzne

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
we Wrocławiu

WSB UNIVERSITY
RESEARCH
JOURNAL

The seductive logic of subtractive sustainability: reflections on sustainable socio-economic development

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Q: What's the first thing you'd take out of a burning house ?
A: The fire
(Pratchett, 1995)

Abstract

Aim: To discuss the drivers and impediments sustainability of social systems.
Design / Research methods: Analysis of and reflections on the discussions on campus antifragility during *the 4th international conference on efficiency, sustainable business and sustainable economic development*, hosted by WSB Wroclaw on May 13th 2016.
Conclusions / findings: (1) Lack of sustainability results from organisational culture or dominant logic rather than from primary activities; (2) Disequilibrium in organisational culture reflects a lack of congruence between formal and informal institutions; (3) Conflict between informal and formal institutions is a driver of change, unless the formal institutions are enforced as a core cultural value; (4) Sustainability and sustainable development in a turbulent environment should aim for organisational and cultural diversity.
Originality / value of the article: This discussion note shows that a good metaphor can generate new insights. Viewed in terms of organisational viability and antifragility it is not what is done, but how it is done that determines the sustainability of an organisation. This implies that the ends never justify the means. The discussion note shows that sustainable development requires a critical reflection on the formal institutions and governance systems that determine these means. Likewise sustainable marketing requires a critical reflection on market institutions.

Keywords: Diversity, institutions, organisational culture, sustainable development
JEL: B52, M14, Q01

History: received 2016-07-29, corrected 2016-10-20, accepted 2016-10-20

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Introduction

Theories and models are mere metaphors for understanding the complexities of the real world. Theories are a way of viewing reality. A theory, like a metaphor, may fit reality but by definition cannot be true, and therefore the relevant questions to ask about a theory are not related to its truth or its lack of truth (Box 1976). Correct and relevant questions about theories, models, and about metaphors in general, are whether or not they contribute to understanding phenomena, and especially whether they help in generating new insights on these phenomena. The important questions to ask of a theory are along the line of '*Does it work?*'. And the ultimate test of the usefulness of a theory is whether new empirical evidence provides sufficient reason to disconfirm and reject the understanding and insights that are generated. If a theory is sufficiently disconfirmed in sufficiently different ways it makes sense to accept the limits of this specific metaphor and search for a new one to explain the unexplainable. If not there is hardly a reason to stop using it as long as it fulfils its purpose of contributing to understanding and the generation of new insights. During *the 4th international conference on efficiency, sustainable business and sustainable economic development*, hosted by WSB Wroclaw on May 13th 2016, the guiding metaphor was multilevel antifragility of a university campus. In this discussion note I analyse whether this worked and generated new insights.

Setting the stage

Antifragility recently has been introduced as the capacity of a system to benefit from stressors, shocks, and other influences that ordinarily are harmful to a system (Taleb 2012a, 2012b). Antifragility therefore is the capacity of a system to gain order from disorder. In practical sense it remains unclear whether this benefit or gained order stems from an evolutionary weeding out of fragile subsystems (like in a species), from purposeful system learning (like in business), or from a reinforcing response (like in the body), just like it remains unclear at what level of system-analysis antifragility becomes an issue (Geddes 2012). Even if antifragility cannot be equated to the capacity of a system to live up to the epitome 'wat does not kill me, makes me stronger' (Geddes 2012, Nietzsche 1889), antifragility only is a relative and indeterminate state because only the lack of antifragility, i.e. 'whatever destroys me does kill me', can be positively and conclusively observed. All systems that currently seem to benefit from external stress are at best 'tentatively antifragile until proven differently'. The ultimate irony of positivist science is that in order to gain conclusive knowledge about something it is most often necessary to destroy it. This notwithstanding, because only the lack of antifragility can be conclusively observed, and because it is seriously doubted that antifragility can exist (Kovalenko, Sornette 2013), antifragility seems to be a fitting metaphor for sustainability (Jickling 1992).

Discussing sustainability of society in terms of campus antifragility with a group of academics (professors and students) is refreshing in several ways. It rapidly becomes evident that all four key concepts (society, campus, sustainability, and antifragility) are floating signifiers (Lévi-Strauss 1950) that lack a clear and unambiguous referent, and that have no concrete operational meaning. Even this limited domain does not allow for consensus – though to be fair, consensus among academics is rare under the best of circumstances. The meaning of sustainable development only becomes

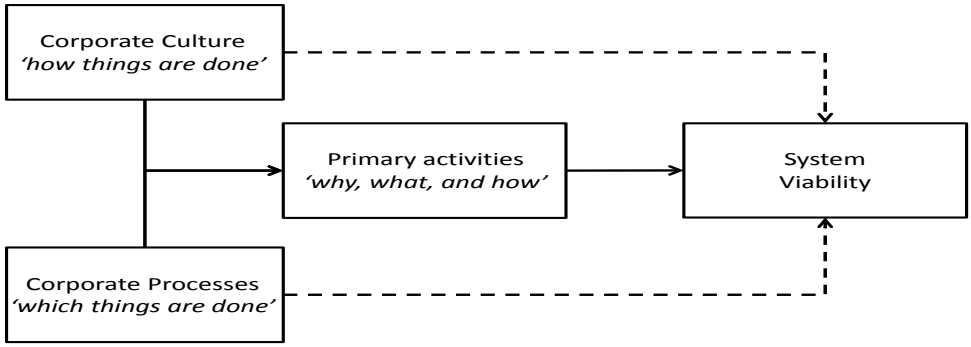

Figure 1: Proposed determinants of system viability

evident when applied to a specific concrete context and when discussed in terms of what changes are required to increase sustainability (or to decrease the lack of sustainability) in this concrete contextual application (Shearman 1990, Van Dam, Apeldoorn 1996). Likewise the meaning of 'campus' appears to become evident when applied to a specific and concrete issue. What is often referred to as an academic community, or *Gesellschaft,* rapidly turns out to be an academic society, or *Gemeinschaft* (Tönnies 1887).

Playing the play

The seminar was organised to elicit elements that contribute to the fragility of the (academic) system and to find ways to eliminate these. Without going into detail about the specific elements that were listed in this specific context, the elicited elements could be classified in two different ways. The first classification follows a distinction between primary elements (i.e. academic education and research), organisational elements (infrastructure and support) and resources (these latter are mostly financial). The second classification follows a distinction between process variables and culture variables. Structurally the result therefore can be depicted in a two-times-three matrix. Process variables cover what is done, in terms of primary processes, organisational processes, and (financial) resource processes (Porter 1998). Culture variables cover how things are done (Balmer, Wilson 2001, Deshpande et al. 1993) in the primary, organisational and financial process.
Functionally the variables may be grouped into three constructs: one covering corporate (organisational and financial) culture, one covering corporate (organisational and financial) processes, and one covering the primary activities (process and culture). Corporate processes support and corporate culture institutionalises the primary activities, and jointly they directly or indirectly determine system viability (Figure 1). This functional distinction is reminiscent of the distinction between technical (what) and functional (how) quality of services (Grönroos 1984). If services are substituted for the primary activities, then the quality of these primary activities has a technical and a functional component. The technical quality of the primary activities depends mainly on corporate processes and the functional quality depends mainly

on corporate culture, whereas the synergy between processes and culture may further increase both quality components.

A striking observation is the general absence of reflective variables that cover why things are done the way they are done. Both the corporate processes and the corporate culture are assumed to be given, or at least they are not questioned, as a fact of life. Not questioning what is done and how it is done may have many benefits (Briley, Wyer Jr 2002) and increases the efficiency of an organisation (Alvesson, Spicer 2012), but it does not contribute to organisational survival in a volatile environment (Sørensen 2002). Even more disconcerting is this lack of critical reflection on corporate processes and corporate culture in a discussion of academic fragility among academics (Giroux 2011). This lack of critical reflection on the own organisation, even among academics, should be analysed to its sources and its consequences, though it is not too farfetched to assume that those consequences are related to antifragility/sustainability or the lack thereof (Cohan 2002).

A second observation is that corporate culture is a contested construct. Though there is little doubt about the influence of corporate culture on corporate performance (Deshpande et al. 1993, *Sørensen 2002*, Sugita, Takahashi 2015), and though there is at least qualitative evidence of the incorporation of sustainable values into corporate culture (McMaster 2003, Muja et al. 2014), the meaning of corporate culture remains elusive. The constituting elements and the underlying dimensions of corporate culture are not unambiguously operationalised and the relations between corporate culture and corporate performance are not unambiguously modelled (Balmer, Wilson 2001, Cameron, Quinn 2005, Dauber et al. 2012 Deshpande et al. 1993, Serpa 2016). A key issue in this context is whether culture explains why things are done or legitimises and prescribes how things are done (Dauber et al. 2012; Deshpande et al. 1993). In organisational and marketing literature these teleological and causal explanations are used interchangeably, mixing up or substituting ends with means, as is common in the praxeology of the Austrian school of economics (Von Mises 1949, 1962).

Formal and informal culture

Let corporate culture be a set of conventions that determine how things are done in a corporate organisation (Berry 2004, Cohan 2002). Corporate culture thus reflects the espoused values within an organisation and the conventional arrangements that coordinate individual actions within that organisation (Dauber et al. 2012, Hatch 1993, Schein 2006). It may be assumed that the informal culture and governance conventions are explicitly codified by the formal organisational culture and the formal governance style. This notwithstanding the formal codification is by necessity an abstraction (a theory or a model) of the informal culture and governance conventions. What is codified and made visible is a reduced slice of corporate reality that, like any formal contract, never covers all contingencies (Hart, Moore 1988). As long as this formal structure reflects the manifold informal structures, the formal structure may (appear to) function satisfactorily and the informal structures may remain invisible (Figure 2).

When formal institutions and formal governance styles are fully supported by the informal institutions an institutional equilibrium exists, and the informal institutions are the glue and grease that keep an organisation together and running (Platje 2008, 2011). In an institutional equilibrium the informal institutions compensate

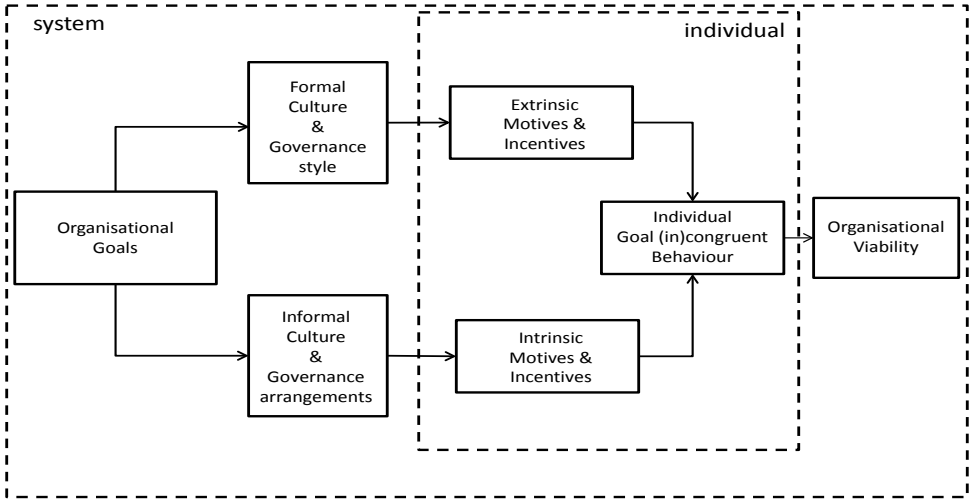

Figure 2: Culture, governance, and individual behaviour

for the incompleteness of the formal institutions. An unintended consequence is that the informal institutions cover for the misspecifications of the formal institutions, which enhances the perception of correctness and truth of the formal model. When the codified formal culture and governance style are mistaken for the underlying reality the abstract reduction sooner or later will be implemented to replace and curtail reality. This occurs in economic or organisational policy when the theory or the model is not used to understand social reality but to control and engineer this social reality, and the bureaucracy shifts from enabling into coercive (Adler, Borys 1996). In an informal organisation new entrants (employees, members or partners) must learn their way to understand the culture and the governance system in a trial-and-error process of integration and socialisation, which can be facilitated by informally showing the ropes (Sutton, Louis 1987). In a formal organisation the formal acculturation is codified in terms of '*this is how we do things around here*', which covers the formal organisation but not necessarily the informal organisation from which this formal organisation has emerged (Banks 2008). After all, no model is correct and no formal arrangement can cover all eventualities that are taken for granted in an informal arrangement (Box 1976, Hart, Moore 1988) and likewise no formal acculturation can cover the full extent of the informal culture that makes an organisation run smoothly.

When the formal institutions and governance are not supported by the informal institutions, people are unwilling to comply with the formal rules and the informal culture increases friction and organisational costs (Platje 2008, 2011). Lack of acceptation of the formal culture may stimulate institutional change, but if the belief in the formal model is sufficiently strong it is more likely that the informal structures are

viewed as 'aberrations of the model' or 'imperfections of the world' that are blamed for the decreased performance and viability of the formal system. Strong belief in the incompletely specified formal institutions easily results in a vicious circle as existing informal structures are eradicated and alternative non-formal structures spontaneously emerge to replace them, only to be eradicated by stricter rules and regulations once they become visible.

Though the formal culture is supposed to be grounded in the informal culture, the two can easily get dissociated once the formal culture becomes codified and rationalised. Where formal physical models sooner or later are corrected by the physical world, because misspecified structures collapse, formal socio-economic models have a strong narrative component that allows their adherents to ignore corrections by the socio-economic world and instead make them try to bring the world in line with the model. It is a continuous source of surprise and wry amusement to observe how many laws and regulations have been necessary to safeguard and protect the 'self-regulating market' of classical economy (Polanyi 1944), or how many rules, regulations, forms, and bureaucrats are necessary to maintain 'bureaucratic efficiency' (Antonio 1979). Over the years the spontaneous resistance against (and consequent regulation of) the neo-liberal free market policy has been used as the decisive argument in favour of that policy, because 'if only the free market would be truly unregulated it would generate sustainable welfare as intended'. Likewise the bureaucracy would be efficient 'if only people would stick to the rules'.

Subtractive epistemology and a culture of antifragility

The general idea behind subtractive epistemology is creating improvements by elimination. This resembles the idea of incremental improvement by eliminating the worst evil, rather than salutary improvement by pursuing the greatest good (Popper 1945). The proposition is that if one eliminates what makes an organisation or a system fragile, the fragility would decrease and possibly the antifragility would increase. This proposition rests on a couple of hidden assumptions that can be illustrated by the model in Figure 2. A first assumption is that the formal knowledge of 'what makes a system tick' is accurate: if the formal knowledge is the belief in formal culture and governance style, the idea of subtractive epistemology forcibly suggests the elimination of the informal culture and governance arrangements that prevent the system to achieve its goals. This is more or less the argument that has always been and still is used by neo-liberal economists to demand a decrease in regulation of the market (Polanyi 1944, Von Mises 1949). Conversely if the formal knowledge embraces a strong belief in informal culture and spontaneous governance arrangements, the same idea of subtractive epistemology favours the radical elimination of the formal structure (Kropotkin 1927). Either might be successful and either might prove disastrous, and conclusive knowledge on what cannot be safely eliminated only results from positivist destruction of the system. Stepwise improvement by incremental elimination may turn into an elaborate game of organisational jenga. The key point, however, is that in most instances the identification of 'what makes an organisation fragile' depends on the ideology or the social paradigm of the observer.

A second assumption is that fragility is caused by the presence of something that can be eliminated. The generic organisation model of Figure

2 presupposes a mutual reinforcement between formal and informal structures. Any organisation where formal structure is incongruent with the informal structure loses its viability. Subtractive epistemology suggests this can be solved by eliminating the absence of congruence rather than by the creation of congruence. Apart from the pragmatic observation that one cannot remove what is absent, this suggestion also ignores the institutional development processes by which the emergent formal culture and the informal culture may diverge. If the alienation of formal and informal culture is a consequence of the autonomous development of either culture, then the solution is not in dialectical elimination, but in a critical dialogue and synthesis between them.

Final act

Antifragility is simply defined as the capacity of a system to gain from disorder (Taleb 2012a). As long as it is not specified what the system should gain from disorder, it may be advisable not to push this metaphor too far. Antifragility as a goal implies that the primary aim of the system is survival, which seems rather shallow – especially for functional systems like markets or organisations – though it may aptly describe the current state of the neo-liberal economic system. Antifragility as a condition appears to be a post hoc qualification of systems that have survived external stressors. Despite this obvious limitation, using the metaphor of antifragility in discussing campus sustainability may contribute to understanding sustainability, and especially to generating new insights on sustainability – if only because both sustainability and antifragility are unattainable in the current reality. So in this sense the metaphor may have worked in this seminar. Of course this does not mean it would work the same way for other people, and it does not mean that another metaphor might not have worked equally well or better.

A weak spot of the subtractive epistemology metaphor is similar to the problem of social costs in transaction cost economics (Coase 1960): irrespective the type and magnitude of social costs, sustainability increases with the internalisation and decreases with the externalisation of these costs. Lack of sustainability is caused by external costs, and in terms of subtractive epistemology sustainable development merely requires the elimination of external costs. Transaction costs economics shows that welfare effects are equal whether social costs are prevented or repaired afterwards, but this may be different for sustainability costs on two points. Firstly, the prevent/repair trade off assumes that reparation is possible, which may be a fallacy as convincingly shown in e.g. Bhopal (Eckerman 2005a, 2005b), or Chernobyl and Fukushima (Mietelski et al. 2014, Piedelievre et al. 1990). Secondly, contrary to the two-actor examples that are popular in transaction cost economics, in real life the externalised sustainability costs are too widely dispersed to be repaired, which implies that individual companies and their customers profit at the expense of current and future global population (Kapp 1971).

Conclusion

Viewed in terms of organisational viability and antifragility, the internal and external sustainability of an organisation depend on the interplay of technical-process variables (what is done) and functional-cultural variables (how things are done). Though much criticism on corporate sustainability refers to what companies do, the functional-cultural component of

sustainability remains underrepresented. A functionalist view on sustainability therefore proposes that it is not what is done, but how it is done that determines sustainability. It is the means that determine the sustainability of the ends, but this implies that the ends do not justify the means. Critical analysis for sustainable development therefore should not primarily focus on the goals but on the procedures of an organisation: not 'why is this done?' but 'why is it done in this way?'.

If corporate culture and the means rather than ends of the organisation determine the sustainability of an organisation, the general lack of reflection on the formal culture and governance system that determine these organisational means is rather disconcerting. This lack of critical reflection has been explained as intentional organisational stupidity or as ethical blindness (Alvesson, Spicer 2012, Palazzo et al. 2012), which suggests a non-sustainable institutional equilibrium. Another explanation might be institutional disequilibrium and incongruence between the formal bureaucracy and the informal structures that has resulted in alienation and apathy among the members of this society (Abramson et al. 1978, Horton 1964, Seeman 1959, Weber 1922). The deeper explanation behind all these might be the that the dominant social paradigm, built around neo-classical economics and neo-liberalism, is so firmly established that it is beyond any critical discussion (Harris 2008, Kilbourne et al. 2009, Milburn, Harvie 2016).

Critical reflection on the concept of antifragility shows that at first glance it is incompatible with thermodynamics (Osband 2013), and therefore physically impossible in the physical universe as we know it. Critical reflection on the concept of sustainability shows that at first glance it is incompatible with the dominant social paradigm (Kilbourne et al. 2002), and therefore socially impossible in the social universe as we know it. A fundamental difference between the physical universe and the social universe, however, is that the former is indeed given as a fact of life whereas the latter only is assumed to be given but can be changed in principle. The discussion and reflection on campus antifragility shows that this change, though possible in principle, may never occur in practice due to institutional inertia. Feasibility of a change to sustainable development might be enhanced by focusing on the reduction of non-sustainable practices and damage prevention rather than on the increase of sustainable practices and damage repair. Of course this presupposes the ability to identify and critically evaluate non-sustainable practices, and the ability to find and implement alternative ways of doing things. Even though we do not know which path of development will eventually be sustainable, the subtractive epistemology of antifragility suggests that the sustainability of a system increases with the variability within that system (Fisher 1930). In a stable context the benefits of efficiency promote uniformity and homogeneity in a system, which implies that the fragility of that system in a turbulent context is increased. In order to prepare for sustainable development in a turbulent environment a system therefore should actively aim for organisational and cultural diversity in a stable environment, even (or especially) if this compromises efficiency. Sustainable development requires a critical reflection on the existing culture of governance and institutions, likewise sustainable marketing requires a critical reflection on market governance and institutions.

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Kusząca logika zrównoważonego rozwoju subtraktywnego: refleksje na temat zrównoważonego rozwoju socjoekonomicznego

Abstrakt

Cel: Omówienie czynników sprawczych i przeszkód zrównoważonego rozwoju systemów społecznych.

Metoda badawcza: Analiza i refleksje z dyskusji o antykruchości kampusu podczas *Czwartej Międzynarodowej konferencji na temat sprawności, zrównoważonego rozwoju biznesu i zrównoważonego rozwoju ekonomicznego* zorganizowanej w WSB we Wrocławiu, 13 maja 2016 r.

Wnioski: (1) Brak zrównoważonego rozwoju wynika raczej z kultury organizacyjnej lub dominującej logiki niż z aktywności podstawowych, (2) nierównowaga w kulturze organizacyjnej pokazuje brak zgodności między instytucjami formalnymi i nieformalnymi, (3) konflikt instytucji formalnych i nieformalnych jest czynnikiem wywołującym zmianę, chyba że instytucje formalne dominują jako podstawowa wartość kulturowa, (4) celem osiągniecia samopodtrzymującego i zrównoważonego rozwoju w niestabilnym środowisku jest dążenie do zróżnicowania organizacyjnego i kulturowego.

Oryginalność / wartość artykułu, wkład w rozwoju nauki: Ten artykuł pokazuje, że poręczna metafora może rodzić nowe spostrzeżenia. Z punktu widzenia żywotności organizacyjnej i zrównoważonego rozwoju, czynnikiem określającym samopodtrzymywalność organizacji nie jest to, co zostało wykonane, ale to, w jaki sposób zostało to wykonane. Takie ujecie tego problemu implikuje, że cele nigdy nie uświęcają środki. artykuł ponadto pokazuje, że zrównoważony rozwój wymaga krytycznej refleksji na temat instytucji nieformalnych i systemów współrządzenia, które te środki określają. Krytycznej refleksji na temat instytucji rynkowych wymaga również zrównoważony rozwój marketingu.

Słowa kluczowe: zróżnicowanie, instytucje, kultura organizacyjna, zrównoważony rozwój

WSB University in Wroclaw
Research Journal
ISSN 1643-7772 I eISSN 2392-1153
Vol. 16 I No. 4

Zeszyty Naukowe Wyższej Szkoły
Bankowej we Wrocławiu
ISSN 1643-7772 I eISSN 2392-1153
R. 16 I Nr 4

Wyższa Szkoła Bankowa
we Wrocławiu

WSB UNIVERSITY
RESEARCH
JOURNAL

A fragility approach to campus sustainability – methodological explorations

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Abstract

Aim: Often, the approach towards entering a path of sustainable development is that intervention needs to take place. This may lead to unwanted side effects. This paper presents ideas for explorative research on campus sustainability. The aim is to create a basis for developing a methodology for identifying fragilities, threats to organizational viability and sustainable development of the external environment.
Design / Research methods: The ideas presented in this paper were developed through literature study and discussed during three explorative research workshops organized in May and June 2016 at the WSB University in Wrocław (Poland), the University of Sonora (Hermosillo, Mexico) and Siauliai University (Lithuania). The ideas developed are the basis for future research on the issue.
Conclusions / findings: The category mistakes, together with issues of the organization's cognitive capacity as well as governance, can show the capacity of universities to identify and deal with unsustainable practices and fragilities that may threaten its viability. The survey presented and discussed in reflection papers in this volume will be the base for further research on how to improve campus sustainability by eliminating unsustainabilities.
Originality / value of the article: While the traditional approach towards campus sustainability is what action should be undertaken in order to support this aim, in this paper focus is on what not to do. It can be expected that this approach leads to less undesired side-effects than an interventionist approach

Keywords: campus sustainability, sustainability management, fragility, methodology
JEL: Q01, B40, I23

History: received 2016-11-30, corrected 2016-12-05, accepted 2016-12-05

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Introduction

The contribution of institutions of higher education to sustainable development has become a field of increasing importance in the discourse on sustainable development (e.g. Thomas, Depasquale 2016). The issue is not only whether an institution of higher education itself contributes to sustainability by, for example, increasing energy efficiency, proper waste management, procurement of sustainable products, etc. (Sintov et al. 2016), but also whether it has a positive influence on the social, environmental and economic sustainability of the external environment (Platje 2015). The approach towards so-called campus sustainability seems often to be based on the idea, which also can be found in business, that activity has to be undertaken to improve the situation. In other words, what should be done in order to create a more sustainable campus and a more sustainable society. While reading Nassim Taleb's Antifragile (2012), the idea appeared to look at campus sustainability from an opposite perspective: what not to do in order to achieve an improvement (Platje 2015a).

Important for processes supporting campus viability and sustainability are learning processes and learning-by-doing. Or better, learning what not to do. The capacity for creating such knowledge, about what not to do in order to prevent threats to the existence of the organization and/or its external environment, may be the bottom-line of campus sustainability.

As this is a relatively new approach towards campus sustainability, first a methodological basis needs to be established. The aim of this article is to present ideas regarding the development of indicators of campus unsustainability. These ideas were developed through literature study and discussed during three explorative research workshops organized in May and June 2016 at the WSB University in Wrocław (Poland), the University of Sonora (Hermosillo, Mexico) and Siauliai University (Lithuania). Reflection papers of participants of the three workshops can be found in the rest of this special volume of the WSB University in Wrocław Research Journal. The ideas developed are the basis for future research on the issue.

The article is structured as follows. First, the general background of the explorative workshops is provided. Then, the theoretical background regarding notions and theories behind the development of questions elaborated at the workshop is presented. After the discussion of the questionnaire as well as outcomes of the workshops, conclusions will be drawn.

General background

The general aim of the explorative research workshop was to discuss and exchange opinions regarding the contribution of universities to sustainable development. This should be a starting point for achieving the following specific aims by way of deeper research in the future:

- Develop indicators measuring organizational fragility.
- Develop indicators measuring the fragilization of society by way of an organization's functioning.
- Create such a set of indicators making an international comparison of universities functioning in a different institutional setting possible.
- The indicators should enable the application of subtractive epistemology – eliminate what makes an organization or its external environment fragile.

The focus was on identifying fragilities – weaknesses in the organization or the system, that can lead to irreversible losses. This is in particular important in complex and tightly knit

systems, where fragilities, bottlenecks, etc. can lead to chain effects with unpredictable, irreversible and non-linear damage due to the strong interconnectedness (Perrow 1999, Harford 2011, Taleb 2012).

In the discussion on campus sustainability and fragility, the following issues were considered:

- The university as such is a complex system. However, it is not such a tightly knit system, that a break down somewhere in the organization will quickly lead to collapse. In this context, fragilities need to be identified that threaten the functioning of the university, but maybe more important, activities that fragilize the external environment, and/or negatively influence local sustainable development. In particular indicators should be developed showing the organization's capacity to enable such identification of fragilities, learn from mistakes and the ability to support sustainability by elimination of, for example, bad practice instead of undertaking interventive action.
- During the workshop, the relevance of different indicators and statements for identifying fragilities were discussed. These indicators and statements were developed based on theoretical considerations (a general outline is presented below) as well as the questionnaires filled out by all the participants in the preparation phase of the workshop.

The workshop held in May 2016 in Wrocław (Poland) was divided into three sessions The first session, for which 90 minutes was planned, was structured as follows.

a. All participants individually filled out a questionnaire where they had to assess to what extent they disagree or agree with statements in the context of their impression of their own home university.
b. Then they assessed whether they consider indicators to be relevant or irrelevant for the identification of fragilities.
c. The indicators assessed as relevant had then to be assessed on the seriousness and likeliness of threats for the organizational viability or the university as well as the sustainability of the external environment. Focus was on challenges and threats, as the assumption is that the bottom-line of viability and sustainability is survival (lack of irreversible damage that increase the probability of collapse scenarios). While opportunities are for improving viability and sustainability are relevant, they were not considered in this research due to the specific methodological approach – look at what can be eliminated in order to improve viability and sustainability.

The following general definitions were emphasized, that the participants should keep in mind during the workshop.

- Organizational viability – the organization can function and develop without creating weaknesses and fragilities threatening its long-term existence.
- Sustainability of the external environment – to what extent can an action of the organization related to the indicator/statement have a negative impact on the rest of society.

The second session (90 minutes) started after a 30 minutes break. The participants were divided into focus groups. The aim of the discussions in the focus groups was:

a. To assess the indicators the individual participants considered to be irrelevant, and exchange opinions on this issue. Discussion could concern the correctness of decisions on irrelevancy of statements, but also focus on developing new ideas.

b. To discuss the importance of the indicators that were considered to be relevant, and discuss whether something should be added. In particular this should concern the indicators of phenomena that may cause irreversible damage to organizational viability and/or the sustainability of the external environment.

The third session (90 minutes) was an open discussion with all participants on the results of the focus group discussion, and reflection on the possibility of using the indicators and statements discussed for an international comparative study on campus viability and sustainability.

The workshops in Siauliai (Lithuania, 12 students and 6 lecturers engaged in studies on sustainable business) and Hermosillo (Mexico, 19 students and 7 staff members engaged in a post-graduate sustainability certificate course) were organized along similar lines as the Wrocław workshop. In the Wrocław workshop, a mixed group of students and staff from a wide range of countries took part (24 Participants from Poland, Germany, The Netherlands, Mexico, Lithuania, Kazakhstan, Turkey – 12 lecturers and 12 students). The participants of the workshops received in advance some theoretical background (described below) in order to get acquainted with the ideas behind the workshop. This should lead to a better understanding of the reasons behind the questions in the questionnaire, and make the participants better prepared for a critical discussion. The discussion had an open character, where the organizers did not intervene in the process.

Some theoretical background – notions and theories behind the development of indicators

When assessing fragilities threatening organizational viability and/or the sustainability of the external environment, the following issues should be kept in mind. The bottom line of viability and sustainability is survival. In this context, the aim of science is to eliminate lies, nonsense, threats to human existence, etc. It is about eliminating mistakes and problems that can destroy us, as well as enabling people, organizations and society to deal with such mistakes and problems when they cannot be prevented. This means a change in the approach as the world is too complex to engineer top-down. If we undertake policy, we should know what not to do. This is related to the idea that truth is difficult to establish (lack of information in complex systems), and policy outcome is difficult or impossible to predict due to complexity related to many potential side effects (see Kahneman 2011, Taleb 2012). Furthermore, what is good is probably more normative than what is bad, and it tends to be more difficult to obtain agreement on what is good than what is bad (Taleb 2012).

This approach requires a change in the way people think as well as worldviews (mental models), as well as organizational and societal goals – it is not about bringing us into heaven, but keeping us out of hell.[1] A Leitmotiv of the approach is: "The road to heaven may be worse than hell." So, the basic idea is that it is better not to interfere with small everyday peoples' issues. Let them try and error as this is a source of direct knowledge. However, be precautious about large scale top-down experiments as well as top-down intervention and regulation, as this tends to have more negative effects than leaving people free choice.

[1] This is a paraphrase from Dag Hammarskjöld, the Secretary-General of the United Nations from 1953 to 1961, who said "The UN was not created to take mankind to heaven, but to save humanity from hell." (https://en.wikipedia.org/wiki/Portal:United_Nations/Selected_quote).

It is not about choosing a second-best or optimal solution, but a least bad/evil or not the worst situation. So, it is not only about creating safeguards, buffers, etc. in order to reduce unsustainability (and manage negative Black Swans, discussed below). It also concerns the acceptance that the priority should be survival of a system in order to obtain a kind of sustainability, while individual mortality is a requirement for system sustainability. This brings about the problem that individual casualties are directly visible and immediately become stories for people giving them incentives to try to eliminate these casualties (compare Kahneman 2011). Top-down intervention often leads to "unexpected side effects" (Sterman 2000) where costs are often not considered as they are indirect, long-term, uncertain, non-linear and difficult to measure (Kahneman 2011, Taleb 2012, Platje 2011). As mentioned, the bottom-line of sustainability is to prevent complete system collapse. One approach to this is the so-called Black Swan Strategy (Taleb 2007, 2012). Preventing the negative Black Swans to appear, or be ready to deal with them, and create options to catch the positive Black Swan.

A negative Black Swan is a low probability and often unexpected event that leads to irreversible destruction. An example is related to the development of the Internet and the strong reliance on IT. Access to the Internet replaces traditional libraries, changes traditional ways of administering universities, etc. The moment that the Internet would break down due to one or the other reason, society may break down (see Casti 2013). Internet and IT has brought huge developmental advantages and efficiency gains in many types of business, but society in probably most of the countries in the world is so dependent on it, that without the Internet and IT incredible problems will appear.

Another example concerns the lack of students or good lecturers. While the effects of a demographic boom or decline on the number of students can be predicted, it is more difficult to foresee the demand for individual study programmes. Here, the question appears whether universities are prepared for such phenomena. Do they have the resources available to find new students, start new study programmes, find new sources of funding, etc.? While as such not being a Black Swan, when following the logic of Taleb (2007), they are a Black Swan for those who fail to foresee the possibility of such developments. When an organization lacks cognitive capacity (Alvesson and Spicer 2012), i.e., reflectivity, justification and substantive reasoning, it seems to be more likely that such negative Black Swans appear.

Generally speaking, slack, redundancy and buffers are instruments to deal with negative Black Swans. While contradicting more traditional approaches to efficiency, it is a low cost strategy to prevent collapse. This can be compared to system theory (Meadows 1998, 1999, Sterman 2000), where positive feedback loops create non-linear dynamic effects that can bring a system out of balance. Reducing slack, redundancy and buffers may lead to small benefits, with the threat of irreversible destruction due to a weakening in an organization or system. Organizations may reduce the threat of negative Black Swans by transferring risks and threats to other stakeholders, in this way fragilizing the system in which they function in the environmental, social and/or economic sphere, in turn contributing to unsustainable development.

A positive Black Swan is a low probability and often unexpected event that leads to very dynamic positive effects for an organization. This element of a Black Swan Strategy relies on creating a wide range of options in order "to be

there" when, for example, a technological breakthrough takes place. An example is companies that invested in different countries of the former Socialist bloc, in order to be there when a dynamic development would take place. Another example is companies that invest little amounts of money in a wide range of risky ventures. While the loss may be likely, these losses are small and do not threaten the existence of the company. But when one of the investments works out, this may be the Goose with the Golden Eggs. A theoretical problem is that this strategy focuses on innovations that may bring serious gains to an organization. However, these innovations as such may cause serious negative effects, for example regarding the use of natural resources or may replace manual labour, creating structural unemployment for the less educated. This focus on technological advance may lead to permanent exclusion of low educated manual labourers from the labour market, as new jobs appearing can, for example, be robotized (Gates 2014).

When analyzing the positive and negative Black Swans, the use of system theory is required. Positive feedback loops may be triggered by fragilities that can lead the system to get out of control, and finally collapse. Another concept, an institutional equilibrium (where informal rules, including mental models and worldviews, support the formal rules of a system (see Platje 2008)) can be used for analysis of the capability and willingness to think critically, be open minded, etc. This can be connected with the concept organizational stupidity (Alvesson and Spicer 2012), which embraces the three mentioned aspects of cognitive capacity: reflectivity, justification and substantive reasoning. The following hypotheses are considered for the research: a. Lack of cognitive capacity leads to reduced viability of organizations. b. Lack of cognitive capacity leads to fragilizing behaviour of organizations which contributes to the unsustainability of society.

The questionnaire and some results

The questionnaire discussed at the workshops was the basis for the discussion (for the questions, see the Annex). The questions were developed based on the theoretical ideas discussed earlier, as well as open questionnaires carried out among some scholars and students from Poland, Germany, Mexico and Denmark. As the groups of participants were small and diversified, the answers as such cannot be analyzed in detail when aiming at drawing conclusions. This was not the intention of the questionnaire. The aim was to create a basis for discussion, as well as the reflection papers published in this special issue. These discussions and reflections can be helpful for developing a shorter questionnaire. The questions concerned the following categories: knowledge and education, mistakes and learning-by-doing, governance, different types of fragilities, honesty and trust and the job market.

Regarding knowledge and education, the main issue is whether there is focus on knowledge creation or not. When focus is on knowledge creation, it this knowledge creation focused on sustainable development? Mistakes and learning-by-doing embrace learning processes enabling the elimination of mistakes, as well as finding new solutions for problems. It is also an element of creating knowledge, and as such related to the category "knowledge and education." The aim of the questions about governance is to obtain a picture of the strength of the organization to deal with different problems, and in combination with questions asked in the category "mistakes and learning-by-doing" a picture of the level of cognitive capacity of the

organization. The questions on different types of fragilities aim at finding out whether there are weak links in the university organization that can lead to a crisis, as well as some information on the university's impact on the sustainability of the external environment. Honesty and trust is related to the problem of lying and cheating, which reduces organizational viability as well as the probability of having a positive impact on the sustainability of development (the impact may rather be the other way round). Finally, the questions about the job market focus on the issue whether knowledge is required for finding and keeping a job. This is important for internal incentives for students to study and obtain knowledge.

The answers to the questions and the discussion showed a few important things to be considered for further development of indicators of organizational fragility and the capacity to deal with such fragilities as well as to eliminate different negative impacts on the external environment. In order to obtain a good picture of fragilities and the university's capacity to deal with sustainability issues, students may be a limited source of information on, in particular, governance issues. The research on fragilities should include all internal university stakeholders (administration, lecturers, students, management) who can shed a light on different types of fragilities and may possess different levels of information on specific issues.

It may be a good idea to analyze outliers in the answers. The statements in the questionnaire could be assessed from 7 (strongly agree) to 1 (strongly disagree), while the option "don't know" was given. Complete agreement or disagreement may be, for example, based on knowledge, strong opinions, over-optimism about something or blindness to certain problems. An in-depth interview with these people could possible lead to more information about potential fragilities. However, in this case the problem of lack of anonymousness appears, likely to reduce the response rate while negatively influencing the honesty of answers.

In particular, an interesting category for analysis, besides the mentioned extremes, is the answer "don't know". There are issues which are difficult to assess for stakeholders, like the internal functioning of university management for new students or workers. When such a groups of stakeholders expresses strong opinions about issues they probably do not possess much knowledge about, this requires serious deeper research. Also, strongly differing opinions among different stakeholders about issues like mistakes and governance can be a sign that serious fragilities exist in these areas.

Concluding remarks

While the task during the workshops was to identify what was not really important and could be eliminated, focus remained on what is important and what action to undertake to support sustainability. This according to the idea that most issues are important, but some are more important than others. Furthermore, multiple interpretations of the meaning of potential indicators lead to discussion on the level of negative impacts of different phenomena, like lying.

Deeper research on a set of indicators regarding campus sustainability is required. The question needs to be addressed whether it will be possible at all to create such a set of indicators that makes international comparison of universities possible. A well-known issue is that the institutional and physical environment in which universities function differ. Regarding outcome indicators presenting the impact

on, for example, transport sustainability, it will be difficult to compare a university in cities relying mainly on road transport (like Hermosillo) with a city where public transport is pretty well developed (Wrocław). These cities will be difficult to compare with Amsterdam, known for the large amounts of cyclists. Universities also use different resources and face different climatic conditions, influencing their resource intensity. Maybe a starting point for comparison is at the organizational level, identifying the organization's cognitive capacity. Putting it very simply, this concerns the capacity to learn from mistakes, identify and deal with current problems as well as potential negative Black Swans. The category mistakes, together with issues of the organization's cognitive capacity as well as governance, can show the capacity of universities to identify and deal with unsustainable practices and fragilities that may threaten its viability.

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ANNEX – THE QUESTIONNAIRE

Part 1. Please individually fill out the questionnaire and assess to what extent they disagree or agree with statements in the context of their impression of your own home university.
Please assess to what extent you agree or disagree with the following statements. Assess from 7 (strongly agree) to 1 (strongly disagree).[2]

Knowledge and education
1. The world increases in complexity so fast, that increase in knowledge cannot keep up.
2. It can be very costly to speak the truth at your university.
3. Creating knowledge is less important at our university than obtaining a diploma.
4. In teaching system approaches are hardly used.
5. Knowledge can be obtained when reading summaries of scientific articles.
6. Teaching staff considers websites to be a reliable scientific resource.
7. Teaching staff considers the Internet to be a reliable source of information.
8. The study programme is very business oriented.
9. The study programme is very labour-market oriented.
10. The study programme is focused on environmental protection.
11. The study programme is focused on sustainable production and consumption.
12. I haven't got the slightest idea what sustainable development means.

Mistakes and learning-by-doing
13. Critique from students / teachers is ignored by the university management.
14. Students at our university ask a lot of questions during classes.
15. Teachers at our university appreciate students asking questions during classes.
16. At our university mistakes are considered a deviation that should be punished.
17. There is hardly any information available about mistakes made by the university authorities.
18. The majority of our lecturers classes are less useful than reading the textbook.
19. At my university, it is better not to make a mistake, as at least it leads to inconveniences with the boss / teacher.

[2] Also the option „don't know" was provided.

20. When making a mistake, people often get angry at our university.
21. A failure in a research project financed by the government can lead to lack of funding in the future.
22. We do not talk about mistakes at our university.
23. When making a mistake at our university, in general there is a positive atmosphere to find a solution.
24. Mistakes can be made because rules at the university are flexibly enforced.

Governance
25. There is a lot of secrecy at our university.
26. It is possible to doubt / criticize about management ideas / decisions at our university.
27. There are many closed networks of family and friends at our university.
28. Changes in the rules at our university are openly discussed.
29. It is common that questions are asked and discussions take place during meetings with the university authorities.
30. There is a large group of "untouchables" at our university.
31. The university authorities and decision makers often provide reasons and explanations for their decisions.
32. Labour unions have a lot of influence at our university.
33. The employment of lecturers depends on relations with family and/or friends.
34. There is a small powerful group at our university that heavily influences policy.
35. There is a lack of access to information at my university.
36. There is a huge political pressure on the selection of the rector, deans etc.
37. At our university there is much corruption.
38. There are a lot of conflicts at my university.
39. There are different strong groups struggling and quarreling at our university.
40. The flow of information between workers at our University is a mess.
41. Organizationally, our university is functioning very well.
42. In general, there are too many changes at our University, and too little time to introduce and manage these changes.
43. The management style of our University is authoritarian.
44. The organizational structure of our university is very centralized.

Different types of fragilities
45. Firing the least capable half of the professors would certainly improve the quality of research at our university.
46. Firing the least capable half of the academic teachers would certainly improve the quality of teaching at our university.
47. Our university has a negative impact on sustainable development.
48. Our university has a negative impact on urban development.
49. There are a few professors and/or academic teachers without whom the quality of education would drop significantly.
50, There are a few professors and/or academic teacher whose leaving would significantly improve the quality of teaching.
51. If all our teaching staff would leave, and be replaced by other teachers/lecturers, this would not lead to a deterioration of the quality of teaching.
52. There are too few parking lots at my university.
53. There is a huge political pressure on the contents of the study programme.
54. Things are so bad at our university, that it cannot get worse.
55. Science at our university contributes to sustainable development.

56. There is a lot of administrative support for developing grants for funding of research projects.
57. Our university is very heavily dependent of a few people obtaining most of the external financial resources / grants.
58. Informational problems in combination with the complexity of our University organization can lead to a serious threat to the existence or functioning of our University in the future.
59. Our IT personnel can be easily replaced at our University.
60. Our IT personnel is crucial for the functioning of our university.
61. Our University tries to reduce the cost of teaching too much (less teaching hours, employment of free lancers, etc.).
62. There is a lack of knowledge of foreign languages among supporting staff (e.g. security workers) and technical staff, which creates danger for foreign students in case of an emergency.

Honesty and trust
63. Lecturers at our university are in general honest.
64. Professors at our university are in general honest.
65. Administrative workers at our university are in general honest.
66. University management (rectors, deans) at our university is in general honest.
67. People are in general honest.
68. At our university, people in general do not cheat.
69. At our university teachers seldom or never sell good marks for money to students.

Job market
70. Contacts are more important than knowledge to find a job after studies.
71. Without knowledge and skills, one can keep a job when having the right connections.
72. For students, in order to enter the labour market (find a job) connections and acquaintances are much more important than knowledge.
73. In order to keep a job, knowledge is very important.
74. In order to keep a job, critical thinking is very important.
75. Employers often headhunt students at our university while still studying.
76. Critical thinking is appreciated by employers in my country.

Part 2. Please assess whether you consider the following indicators to be relevant or irrelevant for the identification of fragilities. Please assess the indicators you think are relevant on the seriousness and likeliness (probability) of potential threats related to the indicators for the organizational viability of the university as well as the sustainability of the external environment. Please assess seriousness and likeliness with H (high) or L (low).
The following indicators were assessed:
1. Lack of knowledge.
2. Hiding the truth.
3. Lack of critical discussion.
4. Lack of openness to critique.
5. High level of secrecy.
6. Existence of closed networks of family and friends.
7. Ignorance of critique by university management.
8. Students not questioning teachers during classes.

9. Lack of discussion among university authorities.
10. Existence of strong interest groups.
11. Lack of explanation of decisions by the university management.
12. Lack of system approach in teaching.
13. Punishing people for minor, relatively harmless mistakes.
14. Hiring bad teachers.
15. Lack of honesty.
16. Lack of information on mistakes made.
17. Dependency on a few very good lecturers.
18. Dependency on a few very good scientists.
19. Employment of family and friends.
20. Low quality of teaching staff.
21. Low quality of administrative staff.
22. Lack of high class IT personnel.
23. Lack of use of scientific resources for scientific papers and publications.
24. Corruption.
25. Lack of understanding of sustainable development.
26. Making mistakes.
27. Lack of access to information.
28. Political influence on employment of lecturers and administration.
29. Lack of labour market oriented studies.
30. Lack of environmental elements in the study programme.
31. Lack of social elements in the study programme.
32. Lying and cheating.
33. Conflicts between internal university stakeholders.
34. Lack of parking space for students and staff.
35. Lack of scientific research on sustainable development.
36. Lack of administrative support for developing grant proposals.
37. Lack of discussion about mistakes made.
38. Management focus on cost reduction.
39. Authoritarian management style.
40. Lack of knowledge of foreign languages among university staff and administration.
41. Lack of proper energy management.
42. Lack of proper labour conditions for university staff.
43. Lack of proper education for students.
44. Lack of proper waste management.
45. Lack of facilities for the physically challenged.
46. Employment of many free-lance teachers.
47. Too quick changes in rules, procedures, etc.
48. Lack of trust.

Oparte na kruchości podejście do zrównoważonego rozwoju kampusów – rozważania metodologiczne

Abstrakt

Cel: Niejednokrotnie dążenia do wkroczenia na ścieżkę zrównoważonego rozwoju wymagają interwencji, co może prowadzić do niepożądanych efektów ubocznych. Niniejszy artykuł przedstawia idee dotyczące poszukiwawczych badań nad zrównoważonego rozwoju kampusów. Celem jest stworzenie

podstaw rozwoju metodologii pozwalającej na identyfikację kruchości, zagrożeń wydolności organizacyjnej oraz zrównoważonego rozwoju środowiska zewnętrznego.

Układ / Metody badawcze: Idee zaprezentowane w artykule opracowano na podstawie przeglądu literatury oraz dyskusji podczas trzech warsztatów badawczych, zorganizowanych w maju i czerwcu na WSB we Wrocławiu (Polska), na Uniwersytecie w Sonorze (Hermosillo, Meksyk), a także na Uniwersytecie Szawelskim (Litwa). Idee te stanowią podstawę przyszłych badań nad analizowanymi zagadnieniami.

Wnioski / wyniki: Kategorie błędów, wraz z kwestiami zdolności poznawczej organizacji oraz współrządzenia, mogą ukazać zdolność organizacji do identyfikacji i radzenia sobie z niezrównoważonymi praktykami i kruchościami mogącymi zagrozić jej wydolności. Ankieta przedstawiona i omówiona w zawierających przemyślenia artykułach opublikowanych w tym tomie będzie podstawą dalszych badań nad wzmocnieniem zrównoważonego rozwoju kampusów poprzez wyeliminowanie niezrównoważonych aspektów.

Oryginalność / wartość artykułu: Tradycyjne podejście do zrównoważonego rozwoju kampusu opiera się na działaniach, jakie należy podjąć, aby osiągnąć zamierzony cel. Natomiast niniejszy artykuł wskazuje, czego nie należy robić. Można oczekiwać, że podejście to przyniesie mniej niepożądanych efektów ubocznych aniżeli podejście oparte na interwencjonizmie.

Słowa kluczowe: zrównoważony rozwój kampusu, zarządzanie zrównoważonego rozwoju, kruchość, metodologia