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Selecting Democracy Indicators for the modern University

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Abstract

The purpose of the proposed research is the application of suitable indicators, which measure the state of democracy, to the university field. Initially, an in-depth analysis of the features presented in six international organizations measuring democracy worldwide was performed. This revealed a sizeable set of significant and complementary indicators that constructed a conceptual framework for democratic institutions. Then, a model of the 'democratic' university was established with respect to its mission, operations and interactions, comprising a set of democratic characteristics. Interviews with academics from several European countries helped select those primary democracy indicators that can be best associated with the university characteristics. Interviews were analyzed using a Text Network Analysis algorithm, which represents texts as network graphs. Results show that monitoring these associations can reveal discrepancies and flaws that may degrade the university's democratic operation and, also, helps to resolve conflicting demands when interacting with societal actors and the state. The size and variety of the examined datasets overcomes data bias, and the novelty of our approach lies in the fact that the graphical representations of the texts does not impose external semantic structures, thus avoiding subjectivity. This can have significant implications in assisting the complex policy formation processes within the university.

Keywords

Democratic indicators, university, Text Network analysis.

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Introduction

Generally, democracy is based on a set of independent and functioning institutions that, in order to ensure the legitimacy and efficiency of democratic operation, should inspire confidence in the people (Sarris, 2015), and advocate respect for human freedom, social and individual autonomy. In an ideal democracy, values and rules are self-instituted, that is, they are created by society itself, and in this way, citizens are creatively contributing to the democratic process while respecting their own institutions (Castoriadis, 1987). Key elements such as: trust in the institutions (Fukuyama, 1989), the participation of all ‘citizens’ in public and electoral processes, the protection of the secrecy of the vote, the protection of freedom of expression and personal freedoms, the clear distinction between legislative, judiciary and executive bodies, and the efficiency of public administration (Coppedge et al., 2020; Skaaning, 2018) are important characteristics that contribute to the objective determination of what is meant by a democratic constitution of a society, something that is independent of the varying social practices. Based on these theoretical concepts of democracy, it is feasible to measure a country’s quality of democracy at a given point in time (Blalock, 1982; Munck et al., 2002). Especially nowadays, there is an abundance of enthusiasm about how societal actors at all levels can make use of big data, algorithms and artificial intelligence (e.g. *Computational Sociology* develops and tests theories of complex social processes through bottom-up modeling of social interactions (Redden, 2018)). In this sense, collecting data for democracy harnesses the powers of big data for civic good.

Currently, the main objective of specialized international organizations is the systematic creation and support of time-spanning databases using variables and indicators and composing global reports that record and highlight the quality characteristics of democracy, both locally and globally, as it will be shown analytically in section 2 of the paper. In this way they construct a regulatory conceptual framework of the objective and true essence of the concept of ‘*Democracy*’ as this is constituted by facts and data. The aim of this research is to choose, and transfer to the field of the university, indicators that have been internationally established for the measurement of democracy and are monitored and stored in such databases, after appropriate adaptation with respect to its mission and the functions it performs.

A new approach to conceptualizing and measuring democracy in university is adopted. Initially, multidimensional and disaggregated datasets for indicators that reflect

the complexity of the concept of democracy as a system of rule that goes beyond the simple presence of elections, are thoroughly examined. They span all high-level principles of democracy such as the electoral, liberal, participatory, deliberative, and egalitarian principles. Then, an attempt is made to transfer such indicators to the field of universities and their related institutional characteristics. Interviews with academics from several European countries help us select those primary democracy indicators that can be best associated with the university characteristics. Interviews are analyzed using a *Text Network Analysis* algorithm, which represents texts as network graphs. Although such indicators have long been used for measuring democracy, it is, to our knowledge, the first time such an attempt has been made for universities. It is considered of significant importance since, traditionally and worldwide, the university's role has to do with *"the ability to discover new knowledge"* (Duderstadt, 2016:328) and to transfer it to society, *"to render individuals such that one might reasonably postulate that their opinions all have the same weight in the political domain"* (Castoriadis, 1997:11).

A significant advantage of the proposed approach is that it is based on facts and data, so the difficulties arising by the possible subjective ways of perceiving and interpreting the indicators are overcome, while at the same time the diversity, variety and pluralism of these databases eliminate the risk of selective interpretation of data (Bush, 2017; Coppedge et al., 2016). One should be critical in choosing the sources of the data since a certain degree of criticism has been exerted to possibly biased datasets concerning social phenomena (e.g. discrimination, civil rights (Shorey et al., 2016)). Attempting to combine information from multiple datasets can overcome this skepticism, as indeed is the case in the proposed research work. Also, another novelty of our approach lies in the fact that the graphical representations of the texts do not impose external semantic structures, thus avoiding subjectivity. Overall, it is argued that transferring *'Democracy'* indicators to the university field will have significant benefits, as it will allow analogies to be drawn and it will inform and guide the decision-making processes.

The rest of the paper is structured as follows: Section 2 offers an in-depth analysis of the features presented in six international organizations measuring democracy worldwide, together with a set of significant and complementary indicators for democracy. Section 3 presents the construction of a common framework for democracy indicators and the establishment of the university model. Thus, it presents the two conceptual frameworks used in the research. Section 4 provides the

Methodology used for data collection (interviews with the experts) and a comprehensive overview of the *Text Network analysis Algorithm* used to associate democracy indices to university characteristics. Section 5 presents the results and an extensive discussion on them and, finally, Section 6 discusses conclusions, implications, limitations and suggestions for further work.

Organizations measuring Democracy

Democracy has long been viewed as the optimum form of government. Due to its paramount importance a number of organizations study and monitor its characteristic features, along with political scientists and researchers. Some of the most important organizations are presented as follows:

'Varieties for Democracy' (V-Dem) is a database that defines five fundamental types of Democracy, which are also the main variables measuring its quality: *Electoral, Liberal, Participatory, Deliberative* and *Equalitarian* Democracy. To measure them, data from 202 countries in the world were collected and studied for the period from 1879 to 2019 (Coppedge et al., 2020). It uses more than 250 indicators measuring Democracy, as well as its additional institutional features. Data comes from official national documents, as well as from social scientists' evaluations, regarding formal political practices and *de jure* compliance to rules.

'The International Institute for Democracy and Electoral Assistance' (International IDEA) is a transnational organization involving 158 countries with the common aim of promoting democracy. Published reports, called the *'The Global State of Democracy 2019, Addressing the Ills, Reviving the Promise'*, portray the democratic tendencies of a country both at regional and global level, covering a wide range of different qualitative characteristics of Democracy over the period from 1975 to today, for 158 countries of the world. The data underlying the indices is based on 97 indicators developed by various scholars and organizations (Skaaning, 2018). The fundamental features of Democracy that are being studied by this organization are five: *Representative Government, Fundamental Rights, Checks on Government, Impartial Administration* and *Participatory Engagement*. Figure 1 shows the basic quality measurement variables for Democracy on the IDEA basis, along with their respective subcategories.

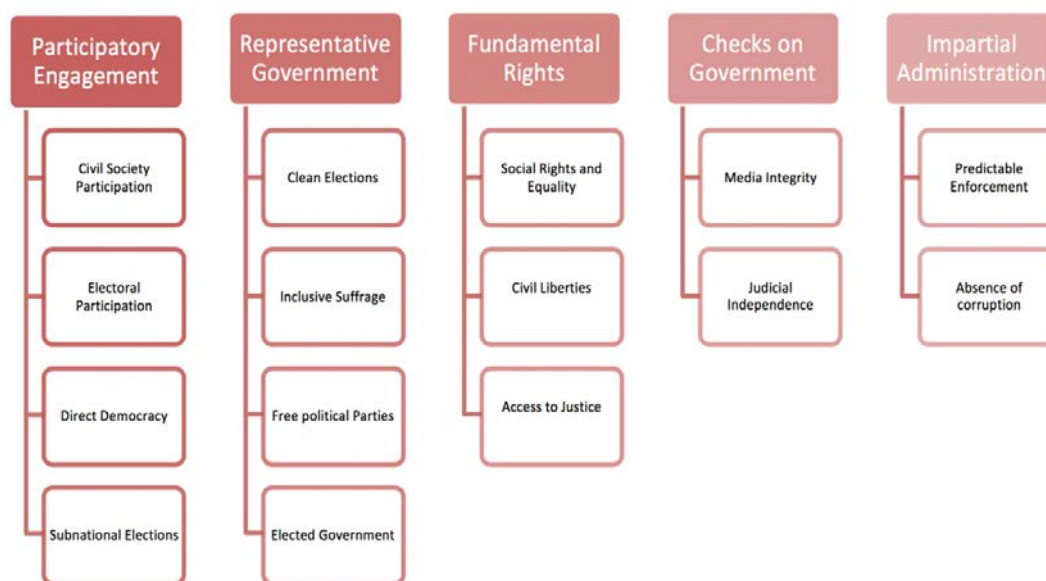


Figure 1: Basic quality measurement variables for Democracy on the IDEA basis, with related subcategories.

The research center named '*Center for Systemic Peace*' (CSP), has been recording elements of political behavior in countries with a population of more than 500,000, since 1997. In the context of the '*Polity*' program, a database of codified information was created, based on scientific research with respect to the collection and quantitative analysis of data, in many thematic areas related to the fundamental issues of *Political Violence*, the *Fragility of Governance* and their impact on the social development of these countries. The uniqueness of its conceptual framework lies in the fact that it examines, concurrently, multiple qualitative features of Democracy, focusing mainly on formal governmental institutions rather than on informal expressions of government. "*It examines concomitant qualities of democratic and autocratic authority in governing institutions rather than discreet and mutually exclusive forms of governance*", (Center for systemic peace, about Polity 2018).

The non-governmental organization '*Freedom House*' publishes an annual survey entitled '*Freedom in the world*', since 1973 (Bradley, 2015). In this report an evaluation on the state of freedom, as it is being experienced by people in different countries of the world, is attempted (195 countries and 14 territories are included in the 2019 report). Two main numerical ratings about political rights and civil liberties are used to determine whether the country or the territory has an overall status of *Free*, *Partly Free* or *not Free* and, thus, the level of its democracy. The political rights questions are grouped into three subcategories: *Electoral Process*, *Political Pluralism*

and Participation, and Functioning of Government. The civil liberties questions are grouped into four subcategories: *Freedom of Expression and Belief, Associational and Organizational Rights, Rule of Law and Personal Autonomy and Individual Rights*.

'Democracy Barometer' is a research program measuring the quality of democracy (Merkel et al., 2018a). A theoretical framework has been developed for this assessment in 30 countries with democratic government, measuring and recording the subtle differences that exist between them. It allows comparative assessment among countries with established democratic governments and, since it perceives democracy as a continuous process, it allows for a critical follow-up of the democratic evolution of these countries over time (Merkel et al., 2018b). The fundamental principles of democracy explored by the Barometer focus on the central concepts of *Freedom, Equality and Control* and are depicted, along with more detailed features for each of them, in Figure 2.

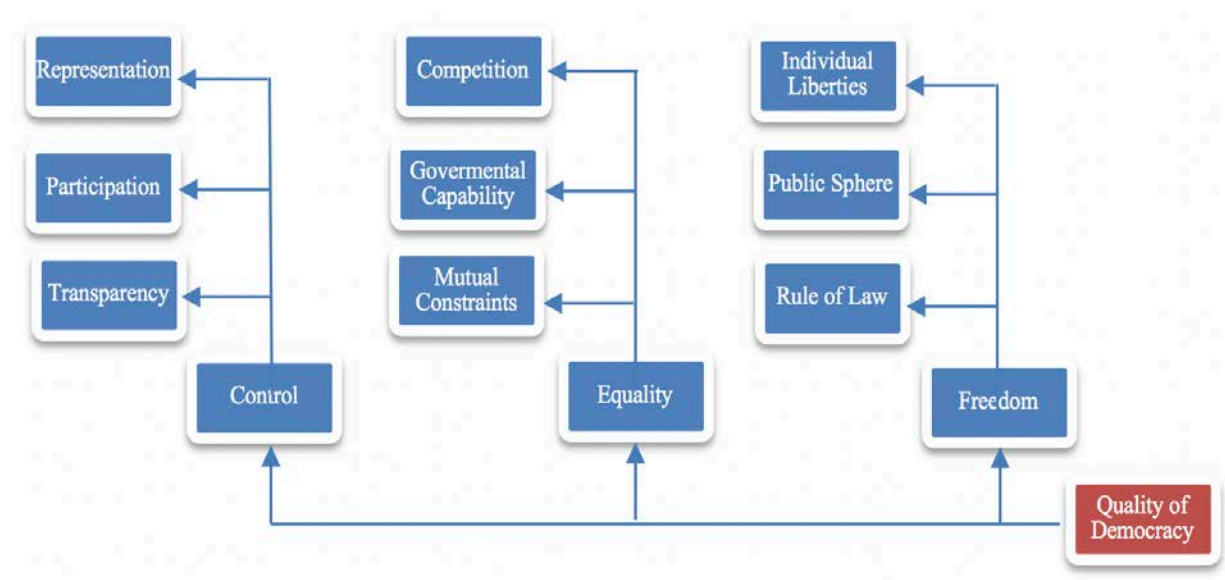


Figure 2: Main democracy principles in Democracy Barometer

The 'Economist Intelligence Unit' (EIU) has since 2006 compiled an index called *The Democracy index* (Kekic, 2007), with updates for 2008, 2010 and the following years since then. The latest edition is called: '*Democracy Index 2019. A year of democratic setbacks and popular protest*'. The report states that the index of democracy on a 0 to 10 scale, is based on the ratings for 60 indicators, grouped into five categories: *Electoral Process and Pluralism; Civil Liberties; the Functioning of Government; Political Participation; and Political Culture*. Each category has a rating

on a 0 to 10 scale, and the overall Index is the simple average of the five category indices (Kekic, 2007:8).

The large datasets used in the proposed methodology may capture diverse experiences of democracy worldwide, allowing us to assess their potential relevance across countries and regions and to incorporate them into an expanding body of comparative knowledge on democracy (Blackwell et al., 2018). Moreover, they allow us to explore the challenges to democratization by conducting research in areas that are highly relevant for policymaking or reform processes (e.g., ‘*state failures*’). By tracking baseline conditions and appropriately displaying general trends in societal-system performance at the global, regional and state levels of analysis in the key dimensions of social conflict, governance and sustainable human/physical development, political change can be meaningfully understood in its proper context. These have significant implications for universities: in this study we argue that determining these sets of indicators and transferring them to the university’s domain allows us to compare and contrast international experiences, and to combine them into a common knowledge framework specifically designed for universities. Moreover, knowledge extracted from these multidimensional datasets can guide research into critical policymaking and reform processes specifically for universities. It might also reveal discrepancies and flaws that may degrade the democratic operation of the university and resolve conflicting demands with respect to its interaction with stakeholders and the state.

The Democracy indicators framework and the establishment of the university model

The basic conceptual characteristic features of democracy presented in all databases are summed up in Table 1, providing a theoretical framework that allows for direct comparisons and discussion on the similarities and differences each approach is adopting. As it is evident in Table 1 for all six systems, each one provides a unique road map with a distinctive conceptual range at a global level and a large time span, the core of which is the understanding, interpretation and measurement of ‘*Democracy*’. Moreover, in the six systems of measurement of Democracy, a crucial element is the concept of the *political identity of the individual* with respect to the *participation in the public sphere*, the *protection of the fundamental freedoms of individuals*, the *exercise of control* over the forms of governance and the *effective exercise of power in the interest*

of the citizens. The *participatory component* is also fundamental in all databases, with only subtle differences in quality among them. In any case, when combining all main categories of indices from all databases shown in Table 1, we get a full view of all aspects of democracy and how they can be measured and monitored. Thus, these sets of significant and complementary indices provide the basis for the construction of a common theoretical body for democratic institutions. The size and variety of the examined datasets overcomes any possible skepticism regarding data bias.

Table1. Key principle components of the combination of the distinctive approaches defining Democracy in databases

Databases measuring Democracy	Varieties of Democracy (V-Dem)	International Institute for Democracy and Electoral Assistance	Economist Intelligence Unit (EIU)	Freedom House	Democracy Barometer	Center for Systemic Peace
Key principle/ components that offer distinctive approaches to define Democracy and the quality of Democracy in the databases	Electoral component of Democracy	Representative Government	Electoral process and pluralism	Political Rights	Equality	Fragility Index is measured by:
	Deliberative component of Democracy	Impartial Administration	Political Culture	1. Electoral Process 2. Political Pluralism and Participation 3. Functioning of Government	1. Transparency 2. Participation 3. Representation	A. Effectiveness 1. Security 2. Political 3. Economic 4. Social
	Liberal component of Democracy	Fundamental Rights	Civil liberties	Civil Liberties	Freedom	B. Legitimacy 1. Security 2. Political 3. Economic 4. Social
	Participatory component of Democracy	Participatory engagement	Political Participation	1. Freedom of Expression and Belief 2. Associational and Organizational Rights 3. Rule of Law 4. Personal Autonomy and Individual Rights	1. Individual liberties 2. Rule of Law 3. Public sphere	
	Egalitarian component of Democracy	Checks on Government	Functioning of Government		Control 1. Completion 2. Governmental capability 3. Mutual Constraints	

It should be noted that Table 1 shows the most representative categories of the indices used in each database respectively. The vast number of indicators (without even showing the full number of them) and the resulting complexity of Table 1 is the price to pay when trying to sustain objectivity in datasets and avoid selective interpretation of the data. An overall number of more than 500 indicators are shared among the databases, covering almost any measurable aspect of democracy. Table 2 presents only some characteristic subsets of indicators (around 60 of them), grouped within contextual sets (indices) corresponding to the respective sets of Table 1. In some cases in Table 2, indicators are not fixed and specified (e.g. *Openness and Transparency*) but rather, related questions guide the selection of appropriate indicators for the specific issue.

Table 2. Characteristic subsets of indicators, grouped within contextual sets corresponding to the respective sets of Table 1.

<p>Accountability index</p> <ul style="list-style-type: none"> -Electoral regime index -Head of state appointed by legislature -Relative power of the Head of state -Election management body autonomy -Election voter registry -Multiparty -Election free and fair -Barriers to parties -Opposition parties autonomy -Government censorship effort -Media Internet censorship effort -Media bias -Harassment of journalists -Print/broadcast media critical -Print/broadcast media perspectives -Media self-censorship -High court independence - Lower court independence -Compliance with high court 	<p>Civil liberties index</p> <ul style="list-style-type: none"> -Physical violence index -Autonomy -Freedom of academic and cultural expression -Engaged society -Freedom of discussion for men / woman -Civil Society Organization entry and exit -Civil Society organization repression -Freedom of assembly -Effective property rights -Freedom of speech -Effective access to power for minorities 	<p>Academic Freedom Index</p> <ul style="list-style-type: none"> -Freedom to research and teach -Freedom of academic exchange and dissemination -Institutional autonomy -Campus integrity -Freedom of academic and cultural expression -Funding for public institutions free from political manipulation? -Government pressures, influences, or controls the content of curricula?
<p>Rules of Law</p> <ul style="list-style-type: none"> -Compliance with High Court -Compliance with Judiciary -Rigorous and impartial public administration -Transparent laws with predictable enforcement -Judicial accountability -Public sector corrupt exchange -Executive bribery and corrupt exchanges 	<p>Impartial Administration</p> <ul style="list-style-type: none"> -Absence of corruption -Predictable enforcement <p>Exclusion by Socio-Economic Group</p> <ul style="list-style-type: none"> -Power distributed by socio-economic position -Social class equality in respect for civil liberty -Access to public services distributed by socio-economic position -Access to state jobs by socio-economic position -Access to state business opportunities by socio-economic position 	<p>Exclusion by Political Group</p> <ul style="list-style-type: none"> -Political group equality -Access to state jobs <p>Openness and Transparency</p> <ul style="list-style-type: none"> -Do citizens have the legal right and practical ability to obtain information about state operations -Does the government publish information online, for free, and is this information accessible by default? -Are civil society groups, interest groups, journalists, and other citizens given a fair and meaningful opportunity to comment on and influence pending policies or legislation -Is the budget-making process subject to meaningful legislative review and public scrutiny?
<ul style="list-style-type: none"> -Do freely elected representatives determine government policy? -Do special political, religious or other powerful domestic groups exercise significant political power, parallel to democratic institutions? 	<p>Functioning of Government</p> <ul style="list-style-type: none"> -How pervasive is corruption -Perceptions of Democracy -Is the legislature the supreme political body? -Are sufficient mechanisms and institutions in place to ensure government accountability to the electorate? 	<ul style="list-style-type: none"> -Perceptions of the extent citizens have control and free choice on their lives -Foreign powers do not determine important government policies -Is the civil service willing and capable to implement government policy? -Public confidence in government

The paramount importance of the associated indicators is depicted vividly in Table 2. If one examines the *Accountability Index*, always bearing in mind that this

would need to be extended to the university field, analogies can be detected between the *Head of State* and the *Rector*, and questions can be asked on the relative power of the Rector. Similarly, this index raises questions on whether a multiparty, fair election of the Rector takes place, and on the autonomy of the Rector's election management body. It would also be very interesting to examine possible media and internet censorship efforts, if any. Additional analogies can be sought for the *Civil liberties index* of the Democracy databases within the university and especially freedom of cultural and academic expression, freedom of speech and effective access to power for minorities, to name only a few. Indices for *Impartial Administration* operate against corruption whereas political group equality should be guaranteed within the university as well. Indices for *Openness and Transparency* are absolutely needed if an academic environment based on mutual trust and solidarity is to be established. This is especially true for budget allocation within departments and the distribution of academic positions. Finally, the Functioning of Government in a democracy shares a lot in common with the functioning of a university's *Senate* or *Rectorate*. For example, one could ask whether special political, religious or other powerful domestic groups exercise significant political power, parallel to democratic institutions, within the university. Or is there enough confidence of the public (professors, staff members, even students) to the university's governance? And as a final example, how about the analogies that hold with the *Rules of Law*? Is there a rigorous and impartial university administration, with transparent laws with predictable enforcement (as in Table 2)?

Obviously, it would be chaotic to try to present the full body of indicators to expert academics and administrators, in order to use their experience to select the most important of them. A model of the university and its operation is required in order to narrow down significantly the overall search space, if meaningful associations are to be made. Then, the crucial question of the proposed research can be stated as follows: *which of these indicators would be suitable to transfer to the university field in order to guide and promote the democratic operations within it and its interactions with stakeholders?* Based on the proposed model, university experts will determine, select and adapt those indicators out of the vast majority of more than 500 indicators that are appropriate within the university concept. The development of such a model of the university is presented below:

The university is a multifaceted social institution with strong interactions with many and diverse sectors of society. However, the democratic establishment of the

university itself is neither obvious nor given. Although its role and contribution to the general democratic societal operation have been studied to some extent (Gallagher, 2018; Glaeser et al., 2007; Higgins, 2017; Straume, 2015), the way and specific processes of creation, establishment and interaction of the institutions that act internally in the university and its democratic operation, have not been sufficiently studied at all. Issues of autonomy, accountability, legal independence and institutional dispute are raised, while there exist, in analogy to society, formal and informal institutions and bodies. As democracy is in recession over the last decade (Diamond, 2015), this has a direct and powerful impact on the university as well. At the same time, the so called ‘*Knowledge Society*’, with its rapid technological evolution and development, exerts great pressure on the university’s organization and operation (Frank et al., 2007; Valero et al., 2016; Weymans, 2010). The university’s role as the traditional primary creator and promoter of new knowledge requires an adaptation to the needs of the society that awaits for high-quality research and education, broad access to knowledge and equal for all opportunities through lifelong learning (Eurydice, 2018; Snellman, 2015).

In order to successfully transfer the indicators of democracy to the university field, particular reference should be made to the basic characteristics of a democratic university, to its vision, mission and basic functions, as well as to its complex interaction with all social actors and other institutions. In this paper, after conducting an extensive literature review, we consider that the structural qualities of a democratic university should include, among others, the following:

1. Autonomy in the institutional organization of its governance, its ‘laws’ and rules of operation (Estermann et al., 2011; Fukuyama, 1989; Groof, 1998). This implies a professional *self-regulation* under which academics independently run their research and teaching operations, under a *representative democracy* that grants participatory rights to them in institution decision-making processes.
2. Accountability towards all stakeholders and all citizens (Bleiklie & Kogan 2007; Dunn, 2003; Fukuyama, 1989; McLendon, 2006; Shore, 2005). Accountability calls for a refocusing of attention on outcomes of the university rather than inputs alone. In scrutinizing such outcomes, state policy makers have sought to influence institutional behavior for the purpose of improving performance. This has led to performance funding policies.
3. Inspiring a high prestige, as a well-established institution of promoting knowledge and research, and preserving moral values, independence and respect for every

individual and his ideas (Groof, 1998; Fukuyama, 1989; Kohler et al., 2006). Higher education should be a site of moral and political practice whose purpose is not only to introduce students to diverse intellectual ideas and traditions, but also to delve into those inherited bodies of knowledge through critical dialogue, analysis, and comprehension.

4. Students as "citizens" in a democratically organized university. Strengthening the commitment and dedication of students to the democratic institutions of the university (De Boer et al., 2007). 'Citizens' in current societies have been accused of being largely depoliticized, reduced to shadow-like participants in the polity. Matters of power and inequality give way to highly managed media spectacles organized by the market economy. A crucial role of the university is to prepare students to be well-informed and engaged citizens.
5. A regulatory and legislative framework for the legal and disciplinary issues of its members and collective bodies, as well as for the administration of justice (Groof, 1998). The legal and disciplinary regulations of universities may seem overstated in the past – being overregulated – and urgently needing reforms leading towards deregulation by devolving such powers to the institutes themselves. However, their radical abolition would put both institutions and individuals into serious trouble as regards standards, financing, qualifications, transparency and compatibility, mobility and employability, etc. if special care is not taken.
6. Separation of powers at central administration level, as well as at faculty, departmental and student organization levels (De Boer et al., 1999). Concerns about the dangers inherent in the concentration of powers are also to be found in the literature on institutions of university governance, with anything approaching a monopoly of power becoming the greatest single danger in the operation of a system of higher education.
7. Economic and institutional autonomy from the government and the external pressures of technology, economics and marketing (Estermann et al., 2011; Etzkowitz et al., 2000; Kohler et al., 2006). A university's ability to generate additional income relates to the degree of institutional autonomy granted by the regulatory framework in which it operates. This link was established for all dimensions of autonomy, including organizational, financial, staffing and academic autonomy. It has been shown that financial autonomy is most closely correlated with universities' capacity to attract income from additional funding sources (Estermann et al., 2011).

8. Assuming control on the operating procedures, the expected learning outcomes from teaching and research (McLendon, 2006). This is about the freedom of the institution to select future students, the creation and elimination of curricula, the definition of fields of research and their aims and methodologies, as well as the implementation of appropriate mechanisms for quality assurance.
9. Control on Quality assessment and effective management (Bendixen et al., 2017; Hoech, 2006; Snellman, 2015; Tam, 2001). Whereas academics seem not to have any problem with the principles of accountability, transparency and fairness, when these are reflected in quality assessment, some may perceive them as a change from being trusted to being controlled, and feel it affects not only academic but personal relations as well.
10. Equality, fairness and justice towards multiculturalism and diversity among its 'citizens', respecting different social origins and classes, language, ethnicity, gender, religion, people with disabilities (Giroux, 2010). A culture of inclusion where cross-cultural capabilities should be integrated with global perspectives. After all, globalization, migration, initiatives for social justice, and other developments have made the representation of diverse groups and relations among them an important issue for universities.
11. Tolerance towards heretical approaches and in questioning existing ideas structures. Providing protection of speech and thought. Freedom and promotion of critical thinking and expression (De Boer et al., 2007; Giroux, 2010). Critical pedagogy is required to open up a space where students should be able to come to terms with their own power as critically engaged citizens, by providing a sphere where the unconditional freedom to question and assert is central to the purpose of higher education.
12. Learning processes and curricula as pillars supporting democratic operation (Giroux, 2010; Şen, et al., 2012). These democratization operations include ownership, the practice of sharing the authority and responsibility, group decision-making, horizontal network organizational structure and long-term employment practices of university management.
13. 'Excellence' based on equal opportunities and 'Virtue' in research and teaching (Hoech, 2006). Spiritual devotion and commitment by the academics, overcoming their individual interest for the sake of serving the broader public good (Dunn, 2003; Giroux, 2010). Higher education, accordingly, must become a site of ongoing

struggle to preserve and extend the conditions in which autonomy of judgment and freedom of action is informed by the democratic imperatives of equality, liberty, and justice.

14. Creation of real communities and fair leadership at the central governance level but also at the level of faculties and departments (Bates, 2014; Kohler et al., 2006). Another argument in favor of the distribution of powers is based on the presumption that decisions based on joint decision-making are more generally accepted.
15. Adopting indices that may detect the impact of certain behaviors, especially divergent ones (Şen, et al., 2012; Shields, 2007). For example, academic misconduct is a systemic problem that manifests in various ways and requires similarly diverse approaches to management, with a focus on preventive education. As universities function in an increasingly complex environment such behaviors are unlikely to be easily mitigated.

These characteristics form a theoretical framework that narrows down the vast search space of democracy indicators and can guide our analysis on the selection of democratic indicators by the academic experts, as will be shown in the next section.

Methodology

An International Workshop entitled: '*The Democratic University of the Future: Facing challenges on the creation of a new University*', was held at the International Hellenic University in 2019, lasted for a week and gathered more than 30 academic experts from 18 European countries. The researcher presented the two conceptual frameworks on *Democracy Indices* and *University Characteristics* discussed in the previous sections, in successive presentations at the beginning of the workshop week. Each presentation lasted for an hour and was followed by an hour of group discussions. Then during the rest of the week, the researcher carried personal interviews with each expert focused on the selection and adaptation of appropriate indicators for the democratic university, using the proposed university model. Each interview lasted for an hour and 25 interviews overall were taken. Experts responded mainly using their own professional experience and the knowledge of their country's higher education systems, as well as systems of other countries they have visited mainly through the Erasmus program. Discussions were also held on the attributes of both the indices framework and the university model presented to them, mainly rearranging crucial factors that resulted

from the group discussions. Former Rectors and academics among them focused more on governance, autonomy, academic freedom and student as ‘citizen’ issues, whereas heads of administrative departments focused on quality assurance, external economic pressures and new public management techniques. Their views, as expressed in the interview texts, were aggregated in a single text, undistorted in order to inform data production. The analysis of the text is presented as follows:

The methodology was based on a *Text Network Analysis Algorithm*, which represents any text as a network and identifies the most influential words in a discourse based on the terms' co-occurrence (Paranyushkin, 2011; Paranyushkin, 2019). The words are the *nodes* in the network graph and their co-occurrences are the *edges*. These edges are given the proper weight during analysis and visualization (depending on the word proximity in the text, the closer they lie the higher the edge weight). The words that appear most often on the shortest paths between any two randomly chosen words in the network are central for meaning circulation and can be considered as the *meaning junctions*. These are identified by an appropriate algorithm, they are shown bigger on the graph and are called nodes of highest *Betweenness Centrality*.

Another algorithm is used to detect the groups of words that are more densely connected together than with the rest of the network (a concept known as *modularity*). The number of connections a word has within such a cluster is called its **Degree**. As a result, we obtain the groups of nodes (words) which tend to appear together in the text: *Topical Clusters*. Then, the graphical representation capabilities of the proposed algorithm provide a visual network representation of the text with a clearly defined community structure (using both color and network topology). As it is clear, *Betweenness Centrality* shows the variety of contexts where the word appears, while *Node Degree* shows the variety of words next to which the word appears.

By representing the text as a graph we can easily identify the structure of the discourse i.e., whether topical clusters of interconnected notions exist, how densely connected are their meanings, what are the most influential terms for meaning circulation, if influential words are concentrated around one subject or they are distributed, etc. For example, based on the university characteristics presented in the previous section, one would expect *democracy* and *autonomy* to be strongly connected in the same cluster, or the word *accountability* to be considered a meaning junction, since it appears often in sentences connecting different characteristics such as quality assurance, performance evaluation, stakeholders etc. In this sense, meaning is generated

through the dialectics between distinct contextual clusters. An important advantage of the proposed approach is that it uses exclusively the proximity of concepts and the density of their interconnections, without referring to meaning or affective relations. Thus, with no external semantic structures or ontologies imposed as in other text mining methods, the proposed approach avoids subjectivity, filtering, generalization and distortion of concepts (Paranyushkin, 2019). The interpretation by the observer is only attempted after the graph representation. Text is presented holistically and not sequentially, as in other approaches. Representing text in this manner, as a '*Gestalt*', opens up more possibilities for interpretation (Paranyushkin, 2011).

Results and Discussion

Figure 3 displays in graphical form the resulting network structured around the influential *Topical Clusters* of words for the text containing the views of all participants. In addition, Table 3 lists these clusters and also the most influential words, according to the proposed algorithm. In the graph presented in Figure 3, one can see a highly pronounced community structure, consisting of clusters (in different colors). Additionally, the most influential words are distributed among the different communities. This is evident in the structure, density and size of the nodes (size of a node corresponds to its Betweenness Centrality) in Figure 3. Therefore, the discourse on democracy indices has several topics, each of them has a relatively high number of words in the graph and the topics are connected. The arithmetic and statistical calculations of the proposed algorithm produce the *Most Influential Elements* of the discourse (based on combined metrics of Betweenness Centrality, Node Degree, Diversity, Frequency etc. (Paranyushkin, 2019)). In our case these elements are: *University-Academic-Autonomy-Administration*. The major influential *Topical Clusters* (clusters of nodes together forming the major topics in the discourse of the text) as calculated by the application of the proposed algorithm are listed in Table 3 and are clearly visible by the color, size and interconnections of their respective nodes in Figure 3. Further to the top *Most Influential Elements* discussed above, the rest of the most Influential Elements are also presented on Table 3.

14. Democracy in the curricula
Top Most Influential Elements University-Academic-Autonomy-Administration
Rest Most Influential Elements Executive Bodies, Trust, Freedom, Accountability, Mission, Operation, Social responsibility, Critical Thinking, Decision support, Promote democracy, Rector-elections, State Intervention Political parties, Legal framework, Power discrimination, Quality evaluation, independence

Overall, the data on Table 3 provide a powerful means of interpreting the graph in Figure 3, allowing us to draw meaningful conclusions for the meaning of the interviews text, its primary and secondary focal points and the importance associated with specific democratic indices selection. As argued in the previous section, each participant contributed according to their expertise. Former Rectors and academics among them focused more on governance, elections, autonomy, academic freedom and students as ‘citizens’ issues, whereas heads of administrative departments focused on quality assurance, external economic pressures and new public management techniques. The proposed algorithm can also operate in reverse, in the sense that it can search the text to identify sentences belonging to the highest Topical Clusters. A characteristic extract fulfilling this criterion is given as follows: *‘When good administration and financial management is exercised with a sense of responsibility, autonomy on one hand and accountability on the other will create excellence in Universities.’*

After the application of the graphical analysis by the proposed algorithm, 10 indicators are selected out of the vast overall number of indicators, indices and variables in the databases measuring ‘Democracy’ features, in such a way that they can be correlated to the 15 fundamental democratic characteristics of the university. Their suitability is determined mainly by the meaning they convey and circulate among the basic university characteristics (the *Topical Clusters*) and the influence and variety of contexts within which they appear (*Most Influential Elements*). Additional criteria for the selection of these indicators (when a choice is available, according to features reported within the respective databases) are their diachronicity in the databases, their representativeness, and their qualitative differences as they measure different conceptual dimensions of the democratic establishment of society (Beetham 1994; Hadenius et al. 2005; Skaaning et al., 2015).

We consider that the choice of these indicators provides a comprehensive, pluralistic representation of the concept of democracy, by capturing its various and

diverse aspects. When interpreting the findings with respect to the theoretical background on democracy conveyed in the databases, one can clearly detect their immediate relation to its dimensions: Some of the most influential notions in the results are those related to the confidence in the institutions democracy index, that has a straightforward implication regarding the trust and prestige a university should inspire. The empowerment of executive body decisions and the independent and functioning administration in the conceptualization of democracy, a major issue covered by most databases is directly reflected in the university governance and also strongly related to the type of elections, composition of the electorate etc. As implied by the Topical Clusters, this must be accompanied by less State and Political Parties' Intervention. The separation/distinction of powers as a democratic index has direct implications for the university field through assigning different roles and decision powers to the Rector/Senate, and possibly to external Councils, where these exist.

This leads us to the Autonomy and Accountability notions that, in a way, counterbalance themselves when reflected in the university, with the former leading to freedom of choice for curricula, research directions, choice of professors and even students and the latter providing quality assurance schemes, in order to further promote transparency, auditing and performance measures. The analogy to the Accountability, Academic freedom and Impartial administration indices found in the theoretical concept of democracy described in the databases (Table 2) is obvious. Finally, democratic autonomy, as applied to the university, leads to the demand for independence from market forces and consumerism.

Concepts of paramount importance to democracy, such as the protection of civil and personal rights, promoting social responsibility and moral values, free thinking, and freedom of speech, are shown within the most influential clusters, for their application to the university field. They are of undisputed importance since, as a matter of fact, such indices are used to measure whether democracy advances or retreats in a country, on a yearly basis, and are published in respective reports internationally (as described in section 2). Within universities, these characteristics support the cultivation of students (and staff) as 'citizens', participating in all democratic processes, promote critical thinking in the curricula and are against prejudice and discrimination.

Finally, in order to provide a more accurate association to the university characteristics of the democracy indices of lesser importance, Table 4 depicts all 10 selected democracy indicators that can be best related to the fifteen quality

characteristics of the theoretical university framework, also shown on the same table for comparison purposes. In order to directly associate the selected indicators to the *Topical Clusters* resulting from the interviews text, numbers within brackets next to each indicator are used, each corresponding to the respective number of a Topical Cluster in Table 3.

Table 4. The ten selected democracy indicators related to the fifteen university characteristics

Democracy indicators	Democratic Characteristics of the University
Confidence in Institutions (12,8)	Inspiring trust as an institution
Composition of the electorate and its constituent members (2,4)	Student citizenship
Participation in electoral processes (2,4)	Autonomy
Election procedure (secrecy of vote) (2,4)	Fair leadership
Legislative restrictions on the Executive Body (9,8)	Appropriate regulatory & legal framework
Separation/Distinction of powers (1,2,6,11)	Separation of powers
Freedom of expression (14,5,3)	Protection of free thinking
Personal autonomy and protection of individual freedoms (10,3)	Support to equality, fairness, multiculturalism, identity rights
Functionality of the administration (13,11,8)	Quality assurance procedures
Accountability (7,6)	Accountability
	Autonomy from government and the market
	Curricula supporting democracy
	Supporting excellence based on equal opportunities
	Full control in learning and research
	Detection of diverging behaviors

The correlation and interdependence of the democracy indicators to the university characteristics is made obvious in Table 4 for most cases, however it is not intended to provide an exact mapping, since more than one indicator may affect the same university characteristic and vice versa, and further work is required to determine an appropriate analytical correlation scheme, based on more data and case studies.

Conclusions

Significant indicators for democracy, based on the features of several independent databases and organizations worldwide studied in this paper, are those reflecting the electoral, participatory, liberal, egalitarian and representative elements of democracy. These must be accompanied by a political culture supporting human rights and civil liberties, obeying the rule of law and supporting the effective functioning of the government. These broad categories can be further subdivided into more manageable groups of indicators focused on autonomy, accountability, academic freedom, impartial administration, openness and transparency, rules of law, expulsion by socio-economic or political group etc. Such indices are used to measure whether democracy advances or retreats in a country, on a yearly basis, and are published in respective reports internationally.

In order to select the most influential and meaningful out of them for application in the university field, a model of the 'democratic' university was constructed based on its mission, operations and interactions, producing a set of vital democratic characteristics: autonomy to choose curricula and research directions, freedom of thought and speech, high trust and prestige adopting moral values, cultivation of students into 'citizens'. Additionally, the university should be free from market and consumerism on one hand, whereas, on the other, it should be accountable to societal stakeholders, promote transparency and fairness. The expertise of a group of European academics and administrators was used to inform the selection of the important characteristics above, as well as to best associate them to existing democratic indicators from the databases. Their views were analyzed using a *Text Network Analysis algorithm* and results show that monitoring these associations can reveal discrepancies and flaws that may degrade the university's democratic operation and, also, it helps to resolve conflicting demands when interacting with societal actors and the state. If these indicators' values retreat, then an alarming situation must have been reached, either with respect to the democratic operation of the executive bodies, or concerning excessive state intervention (for example, this would have been strongly detected in Hungary, where the state has driven the Central European University out of the country (Corbett et. al., 2018)). It is a similar case when curricula are restricted by non-academic interventions, and degraded, (CEU again, trying to establish curricula on gender studies) or when deterioration in the respect of human and minority rights is

evident (e.g. Turkish academics being arrested (Corbett et. al., 2018)). These alarms call for immediate action to be taken if democracy is to be preserved. The size and variety of the examined datasets overcome data biasing, and the novelty of our approach lies in the fact that the graphical representations of the texts do not impose external semantic structures and they avoid subjectivity. Thus, they may assist in the complex policy formation and decision-making processes within the democratic university, and based on them, a common body of comparative knowledge on universities can be built.

Once selected, their range values and periodicity of monitoring should be specified, however this requires further study depending on specific conditions for each university (social, cultural etc., Messick, 1988.) In any case, if monitoring such indicators is to be of some value, an appointed academic body should be responsible for measurements and should provide periodic reports. One such body in Greek Universities could be the well-established *Quality Assurance Unit*, whose role is to collect and process information concerning a large number of other indices. Alternatively, a '*Democracy Observatory*' should be initiated within the university.

References

- Bates, S.B. (2014). Committee effectiveness in higher education: The strengths and weaknesses of group decision making. *Research in Higher Education*, 25: 1-9.
- Beetham, D. (Ed.). (1994). *Defining and measuring democracy*. London: Sage.
- Bendixen, C., & Jacobsen, C.J. (2017). Nullifying quality: the marketisation of higher education. *Quality in Higher Education*, 23(1): 20-34.
- Blackwell, M., & Glynn, A. (2018). How to Make Causal Inferences with Time-Series Cross-Sectional Data under Selection on Observables. *American Political Science Review*, 112(4): 1067-1082.
- Blalock, H. M. (1982). *Conceptualization and measurement in the social sciences*. Beverly Hills: Sage.
- Bleiklie, I., & Kogan, M. (2007). Organization and Governance of Universities. *Higher Education Policy*, 20(4): 477-493.
- Bradley, C. (2015). International Organizations and the Production of Indicators: The Case of Freedom House. In S. Merry, K. Davis, & B. Kingsbury (Eds.), *The Quiet Power of Indicators: Measuring Governance, Corruption, and Rule of Law*

- (Cambridge Studies in Law and Society, 27-74). Cambridge: Cambridge University Press.
- Bush, S. (2017). The Politics of Rating Freedom: Ideological Affinity, Private Authority, and the Freedom in the World Ratings. *Perspectives on Politics*, 15(3): 711-731.
- Castoriadis, C. (1987). *The Imaginary Institution of Society*. Cambridge: Polity Press.
- Castoriadis, C. (1997). Democracy as Procedure and Democracy as Regime. *Constellations*, 4(1): 1-18.
- Center for Systemic Peace. *About Polity* (2018). Retrieved May 1, 2019 from <http://www.systemicpeace.org/polityproject.html>.
- Coppedge, M., Gerring, J. Knutsen, C.H., Lindberg, S.I., Teorell, J. Altman, D. & Ziblatt D. (2020). "V-Dem 759 codebook v10". Varieties of democracy (V-Dem) project.
- Coppedge, M., Lindberg, S., Skaaning, S.-E. & Teorell, J. (2016). Measuring high level democratic principles using the V-Dem data. *International Political Science Review*, 37(5): 580–593.
- Corbett, A., & Gordon, C. (2018). Academic Freedom in Europe: The Central European University Affair and the Wider Lessons. *History of Education Quarterly*, 58(3): 467-474.
- De Boer, H., & Denters, B. (1999). Analysis of institutions of university governance in: Jongbloed B., Maassen P., Neave G. (eds) *From the Eye of the Storm*. Dordrecht: Springer.
- De Boer, H., & Stensaker, B. (2007). An Internal Representative System: The Democratic Vision, in P. Maassen & J. P. Olsen (eds). *University Dynamics and European Integration*, Dordrecht: Springer, 99–118.
- Diamond, L. (2015). Facing Up to the Democratic Recession. *Journal of Democracy*, 26(1): 141-155. Project MUSE.
- Duderstadt, J. (2016). Adapting the University to the Constraints, Responsibilities and Opportunities of a New Age (eds.) Weber L. and Duderstadt J., *ECONOMICA*, Glion Colloquium Series, No 9, London, Paris, Geneva.
- Dunn, D.D. (2003). Accountability, Democratic Theory, and Higher Education. *Educational Policy*, 17(1): 60-79.
- Estermann, T., Nokkala, T., & Steinel, M. (2011). *University Autonomy in Europe II — The Scorecard*, Brussels: European University Association.

- Etzkowitz, H., Webster, A., Gebhard, C., Regina, B., & Terraad, C. (2000). The future of the university and the University of the Future: evolution of ivory tower to entrepreneurial paradigm. *Research Policy*, 29(2): 313-330.
- Eurydice (2018). The European Higher Education Area in 2018: Bologna Process Implementation Report. Luxembourg: Publications Office of the European Union.
- Frank, D.J., & Meyer, J.W. (2007). University expansion and the knowledge society. *Theory and Society*, 36(4): 287–311.
- Fukuyama, F. (1989). The end of History?. *The National Interest*, 16: 3-18.
- Gallagher T. (2018). Promoting the Civic and Democratic Role of Higher Education: The Next Challenge for the EHEA?. in: Curaj A., Deca L., Pricopie R. (eds) European Higher Education Area: The Impact of Past and Future Policies. Springer, Cham.
- Giroux, A. (2010). Bare Pedagogy and the Scourge of Neoliberalism: Rethinking Higher Education as a Democratic Public Sphere. *The Educational Forum*, 74(3): 184-196.
- Glaeser, E.L., Ponzetto, G.A.M. & Shleifer, A. (2007). Why does democracy need education? *J Econ Growth*, 12: 77–99. <https://doi.org/10.1007/s10887-007-9015-1>.
- Groof, Jan de. (1998). *Democracy and Governance in Higher Education*. Boston: Kluwer Law International.
- Hadenius, A., & Teorell, J. (2005). Assessing Alternative Indices of Democracy, C&M Working Papers, IPSA.
- Higgins, J. (2017). Universities and Constitutions: What does research-based knowledge and higher education mean for constitutional democracies? in Constituting Higher Education, Kasigano 11, Council on Higher Education, Pretoria.
- Hoech, A. (2006). Quality Assurance in UK Higher Education: Issues of Trust, Control, Professional Autonomy and Accountability. *Higher Education*, 51(4): 541–563.
- Kekic, L. (2007). The Economist Intelligence Unit's index of democracy. *The Economist*, 21: 1-11.
- Kohler, J., Huber, J., & Bergan, S. (2006). *Higher education governance between democratic culture, academic aspirations and market forces*. Council of Europe Publishing.
- McLendon, K.M., C. Hearn, C.J., & Deaton, R. (2006). Called to Account: Analyzing the Origins and Spread of State Performance-Accountability Policies for Higher Education, *Educational Evaluation and Policy Analysis*, 28(1): 1-24.

- Merkel, W., & Bochsler, D. (project leaders); Bousbah, Karima; Bühlmann, Marc; Giebler, Heiko; Hänni, Miriam; Heyne, Lea; Juon, Andreas; Müller, Lisa; Ruth, Saskia; Wessels, Bernhard (2018a). Democracy Barometer. Codebook. Version 6. Aarau: Zentrum für Demokratie.
- Merkel, W., & Bochsler, D. (project leaders); Bousbah, Karima; Bühlmann, Marc; Giebler, Heiko; Hänni, Miriam; Heyne, Lea; Juon, Andreas; Müller, Lisa; Ruth, Saskia; Wessels, Bernhard (2018b). Democracy Barometer. Methodology. Version 6. Aarau: Zentrum für Demokratie.
- Messick, S. (1988). Meaning and values in test validation: The science and ethics of assessment. *ETS Research Report Series*, 1988(2): 1-28.
- Munck, G. L., & Verkuilen, J. (2002). Conceptualizing and measuring democracy: Evaluating alternative indices. *Comparative political studies*, 35(1): 5-34.
- Paranyushkin, D. (2011). Identifying the pathways for meaning circulation using text network analysis. Nodus Labs.
- Paranyushkin, D. (2019). Infranodus: generating insight using text network analysis. In *The World Wide Web Conference, IW3C2*, (pp.3584-3589), ACM ISBN 978-1-4503-6674-8. <https://doi.org/10.1145/3308558.3314123>.
- Redden, J. (2018). Democratic governance in an age of datafication: Lessons from mapping government discourses and practices. *Big Data & Society*, 5(2), 2053951718809145.
- Sarris, N. (2015). Constitutional amendment: Confronting the crisis of trust in institutions and democracy in *The political portrait of Greece: and the Dislocation of the Political* (eds.), Georgakis N. and Demertzis. Athens: Gutenberg, National Centre for Social Research, 589-611.
- Şen, A., Kabak, E. K., Tüys, F., & Kuzaliç D. (2012). Democratization of University Management for Quality Higher Education. *Procedia - Social and Behavioral Sciences*, 58: 1491-1504.
- Shields, C. (2007). *Aristotle*. Routledge Philosophers. London: Routledge
- Shore, C. (2005). Getting the Measure of Academia: Universities and the Politics of Accountability. *Anthropology in Action*, 12(1): 1-10.
- Shorey, S., & Howard, P. (2016). Automation, big data and politics: A research review. *International Journal of Communication*, 10: 5032-5055.
- Skaaning, S.-E., Gerring, J., & Bartusevičius, H. (2015). A Lexical Index of Electoral Democracy. *Comparative Political Studies*, 48(12): 1491–1525.

- Skaaning, S.E. (2018). The Global State of Democracy Indices Methodology Conceptualization and Measurement Framework. Version2. International Institute for Democracy and Electoral Assistance. Stockholm.
- Snellman, L. (2015). University in Knowledge Society: Role and Challenges. *Journal of System and Management Science*, 5(4): 84-113.
- Straume, I. (2015). Democracy, Education and the Need for Politics. *Studies in Philosophy and Education*, 35(1): 29- 45.
- Tam, M. (2001). Measuring Quality and Performance in Higher Education. *Quality in Higher Education*, 7(1): 47-54.
- Valero A. & Reenen, J.V. (2016). The Economic Impact of Universities: Evidence from Across the Globe, CEP Discussion Papers dp1444, *Centre for Economic Performance*, London School of Economics.
- Weymans, W. (2010). Democracy, knowledge and critique: rethinking European universities beyond tradition and the market. *London Review of Education*, 8(2): 117-126.