Using Automated Decision-Making and Macroeconomic Data Flows for Governance Resilience

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ABSTRACT:

This study is based on an algorithm created for the American stock market to improve closed investment funds' efficiency, which had as a secondary output a suitable and sustainable model that could be scaled to fit solutions for problems with automated decision making at the government level, similar to a fundamental business intelligence solution (that adheres to similar procedures as the IBM Cognos workflow), which provides a solution in creating the best sustainable model. The model is based on businesses that are listed on the NASDAQ and LSE since these markets offer the finest examples of transparency and accurate audits. It also replicates the economic sectors that make up a fictitious national economy. In order to provide a better perspective and to report the main findings of this study, we also created an overview to analyze the development of B.A.D.E.M., an indicator that simulates a national economy, which in 2023 reached its tenth version, and HSS, a micro-indicator that simulates the healthcare sector.

1. Introduction

Economic growth had certain challenges during the beginning of the third century; in fact, the chance of a poor development yield increased with the economy's level of maturity.

What could have been done to develop scalable models that are used to predict crises, develop growth models, and rekindle the financial markets on the side where they nearly failed, the development of derivative funds, in order to create a transparent economic model based on the emulation of an economy, which could also revolutionize the global economy (Bodislav, et al., 2015)?

Throughout the past three decades, economic expansion under capitalism was seen as the way of the future. The growth of wealth and a greater standard of living for future generations has been and is humanity's main objective (Bodislav, 2016). The public and private sectors must collaborate on political development by reviving the capitalist system and setting it on the proper course in order to meet the social pressure that has risen above the political class, which is now required to implement "the change for a brighter future."

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2. Decision Automation and Capitalism

The idea of social inequality, which is based on the earnings gap that, on average, exists between a company's CEO and newly hired employees and represents an unethical situation and highlights social disparities, can be used to cast doubt on capitalism. Additionally, there is the inefficient situation of income re-distribution, which, instead of being distributed for investment in the creation of a better future, is redistributed for the purpose of paying off debt (Negescu Oancea, et al., 2020).

The capitalist system needs change, starting with the healthcare, education, pension, and social insurance systems, to preserve its long-term emphasis (especially when we observe the global perspective – Bran et. al., 2014). From there, we may start the collaboration between the public and private sectors (execution availability) (implementation availability) (Profiroiu et al., 2020).

Meanwhile, there is an international movement to create a corporate and social capitalist model (integrated corporate governance of states) that builds on localized solutions and scales them up for application at the national, regional, union, and global levels, using the government's own establishment of ministries and adoption of economic policies as their channels of implementation (Bodislav, 2016).

Here, it's crucial to think about how soon it will be implemented. In industrialized countries, the public sector's long-term plans for the economy often have a short lifespan before being modified to meet the needs of the private sector (specific for speculative investment – Bodislav, 2011).

A corporate model enhances security for a country, region, or state union by lowering the need for government interference in the economy, according to Schumpeter's theory of the utility of a corporate model in nurturing the long-term health of a rising economy. A linear cyclicity of demand is produced as a result of letting the private sector maintain the connection between market demands and supply. As a result, we must monitor the wellbeing of the public, which, in the larger scheme of things, also includes the welfare of companies, if it doesn't jeopardize the welfare of society as a whole (Sarbu et al., 2021).

Associations are formed between the public and private sectors. We must maintain the links that give capitalist economies their structure and promote economic growth at a level that is sustainable if we don't want the economy to overheat. The idea of "healthy" economic growth, which Schumpeter put forward, is said to be 2% annually (Schumpeter, 2011).

We must bring up the idea of political democracy's effectiveness in the ideal world if we wish to examine whether capitalism can exist without democracy (Becker, 2003). This theory argues that a perfect democracy is comparable to the free enterprise system in each specific market, highlighting the conceptual similarity between democracies and capitalism (Radulescu et al., 2020). The development of this vision is guided by effectiveness in "assuring functioning" (corporate governance) of an economic sector to a greater extent than the state can provide through government action or the political party's ideological position (Bran, et al., 2014). We chose to use just one industry as an example instead of the entire economy because we find parallels between the relationships between an economy and its sectors and those between a corporation and the divisions that create

them—where the division in purpose creates a better way to obtain the output based on specialized governance, which is carried out by individuals from within the corporation.

Simply defined, innovation drives development, creates new possibilities, enhances infrastructure, inspires employees, reenergizes firms, and extends the average lifetime of customers by creating game-changing products and services. Innovation is the lifeblood of a healthy economy (Branson et al., 2010). We can observe a subset of the model based on technological development (both hardware and software), summarize it as a shift from the private to the public sector, and then present some relevant options, or narrow the number of options down to a manageable number, with each remaining option representing a workable solution for the market, using the methodology for selecting and validating generated data (Bodislav, 2016).

In this era of quick technical advancement and the steady advancement of human behaviour, made possible by basic A.I. We prioritize economic growth-related challenges that are developed by the analysis of data from current difficulties (Artificial Intelligence) (Bodislav, 2015).

Problems that are not technical in nature can be filtered out using business intelligence (BI) variables (Boyer et al., 2011). We discuss probable issues that could arise to move beyond a purely technological perspective and its representation in a traditional economic vision (Calin et al., 2022).

The political class and culture are distorting executive vision; there is no direct application of SAAS (software as a service) or BI technologies; there are no functional connections between the properties of these technologies; and the macroeconomic level solutions are disjointed, expensive, and of limited scope. The worth of the investment is not immediately obvious, unlike ROI.

The internal culture of a company or government ministry may hinder the use of experimental business intelligence (BI) solutions, keeping new companies out of the government-directed macroeconomic arena (Bodislav, 2015). Part 2 of the problem is that if we don't follow some of the more fundamental principles of the discipline, we risk losing our way with BI services, which will have a detrimental effect on both efficiency and cost. Many factors, notably, come together successfully in the execution of macroeconomic policies as projects under BI supervision.

3. Business Automated Data Economy Model 2023

The underlying technologies of the Internet are driving a rise of interdisciplinary innovation (Bodislav et al., 2021). We demonstrate how a business trend based on Moore's law can only finish with costs nearing zero by using examples such Gordon Moore's law, which indicates that the power needed to run a processing unit will half every 18 months (Bodislav, 2011). This method was used to solar energy gathering to make it more affordable than electricity from fossil fuels. Carvey Mead, a professor at Caltech, first identified the corollary of Moore's law, which states that computing power would continue to grow exponentially indefinitely. Mead discovered that transistor prices halves every 18 months. With a current Intel CPU utilising octa-core technology, the cost of a single transistor has decreased from tens of dollars in 1960 to less than a cent today. Mead stressed how important it is to avoid wasting transistors.

As awkward as the word "waste" may seem, it wasn't only the 1970s IT industry that had a problem. An entire generation of professionals was indoctrinated with the idea that building computers irrationally was their responsibility. Except for computers, there has never been a free lunch and there never will be. Mead predicted, however, that soon there would be so many transistors (atomic processing units) available that their cost would be zero (Bhide, 2006).

A computer in 1986 would have cost around $20 million; today's iPhone 14 Pro is 17 times faster and 30 times cheaper, providing 450 million times more processing power for every US dollar.

From every angle, it is realistic to anticipate that exponential development will continue at the same rate over the ensuing 25 years, taking the state of the art at that time into consideration as well (Burlacu, 2021).

Huge amounts of money are currently being invested in the IT sector, not just to build automated response systems for when they're required but also to set up a proactive workflow that may perhaps get rid of any potential systemic irregularity (Burlacu, Ciobanu et al., 2021).

When the tractor was first used on farms 100 years ago, economists predicted doom: growing unemployment, a reduction in agricultural employment, and a change in the labour market's emphasis from human to technology capital (Radulescu et al., 2021). What took place there? Contrary to what the general public believes, millions of new employment possibilities have been created (Bodislav, 2015).

Karl Marx argued in favour of evolution's adoption as a way to speed the coming of the future because he foresaw its practical advantages. Although having a foresight into the future, John Maynard Keynes was only able to describe the functional aspect of the future and stress its power at the time (Keynes, 1936).

The new agricultural machine of the future is the computer, not the tractor (Bodislav, 2016). Just as we are moving from mechanics to quantum physics and will soon use quantum processing machines, this (r)evolution will swallow jobs as we see them from our vantage point in 2015, modify them, and generate new compensation channels.

Ray Kurzweil, a prominent futurist, has made two predictions: by 2030, AI would perform better than humans, and by 2045, biological intelligence will self-regulate (Kurzweil, Lane, 2014). What does this mean for how we really use economics? This suggests that service workers like traffic controllers, cab drivers, truck drivers, and waiters would be among the first jobs to be automated (Bodislav, 2015).

The cumulative effects of recessions lead to the replacement of labor with capital, but this is problematic because every time the economy recovers, production returns to its typical pattern, the workload or labor quantity declines, and jobs are permanently lost (Bodislav et al., 2018).

Since Joseph Schumpeter, economists have profited from scientific research in their pursuit of long-term, market-neutral growth that might be targeted at developing countries. Financial growth theories that support the idea that our economy could develop by following the intangible side of the economy, be it financial derivatives, the service side of demand, or even further, the information economy that goes hand in hand with the knowledge society, quickly replaced Robert Solow's well-liked theory, which had gained

traction in the early 1980s. They all come from the same historical economic school, which is over on the Austrian side of the field.

The intangible aspect of evolution is both its perimeter and its drive into the future: the need to ride the innovative wave to move mankind toward its progressive end, which minimizes losses and reduces the variety of potential actions generated at the national, regional, and global levels (Bran et al., 2020).

3.1.   Process methodology

How might a country be established in a realistic way without unification procedures, national identity, and historical reliance?

Macroeconomic performance reveals the spark that ignites a nation's economic progress, but quality of life and standard of living are key determinants of growth.

In a world where customers are presented with investment vehicles that have no real foundation, it is desirable to develop new systems that operate on the basis of the actual economy, with its ground point being the production activity that is covered by the financial side, but in a ratio of one to one [1]. A fake economy was built employing businesses that are representative of sectors that would be active during a rapid economic expansion in order to validate the basis of this idea, which gives a novel viewpoint on the conventional model of economic development.

Also, the Business-Automated Data Economy Model and the following companies were used into the creation of the artificial macroeconomic model (B.A.D.E.M.).

Table 1. Business organizations that form B.A.D.E.M.

No.	Company Name	Indicator	Business Profile
1.	**Schweitzer-Mauduit International**	SWM	Premium paper
2.	**Paramount Gold and Silver Corp.**	PZG	Rare metals mining
3.	**Goldcorp Inc**	GG	Rare metals mining
4.	**First Majestic Silver Corp**	AG	Silver mining
5.	**SPDR Gold Trust**	GLD	ETF
6.	**Telefonica SA**	TEF	Telecom
7.	**Stamps.com**	STMP	Delivery services
8.	**OpenTable**	OPEN	Online Reservations
9.	**Google Inc.**	GOOG	Internet Search & SAAS
10.	**Watsco**	WSO	AC technologies
11.	**Town Sports International Holdings**	CLUB	Fitness
12.	**Steven Madden**	SHOO	Footwear
13.	**Ross Stores**	ROST	Discount Stores
14.	**Nordstrom**	JWN	Fashion Retailer
15.	**Men's Wearhouse**	MW	Men's suits
16.	**Maidenform Brands**	MFB	Fashion & Retail
17.	**LuLulemon Athletica**	LULU	Technical Fashion
18.	**Watson Pharmaceuticals**	WPI	Pharmaceuticals

19.	Techne Corporation	TECH	Biotechnology
20.	On Assignment	ASGN	HR Specialized Solutions
21.	Jazz Pharmaceuticals	JAZZ	Pharmaceuticals
22.	Cross (A.T.) Company	ATX	Writing instruments
23.	Western Refining	WNR	Refining
24.	Sunoco Logistics Partners	SXL	Oil 360
25.	Patterson-UTI Energy	PTEN	Energy production
26.	Exxon Mobil Corporation	XOM	Energy (exploration & production)
27.	Alon USA Energy	ALJ	Petrol (production & distribution)
28.	Templeton Russia Fund	TRF	Financial derivate
29.	Tanger Factory Outlet Centers	SKT	REIT
30.	Rayonier Inc.	RYN	Building materials
31.	Plum Creek Timber Company	PCL	Wood industry
32.	Medallion Financial Corp.	TAXI	Financial taxi business
33.	CME Group Inc	CME	Trading & Investment Banking
34.	Berkshire Hathaway (1/100)	BRK/A	Business Solutions
35.	Bank of America Corporation	BAC	Banking & financial services
36.	American Campus Communities Inc	ACC	REIT
37.	Westinghouse Air Brake Technologies Corporation	WAB	AC technologies
38.	MasTec	MTZ	Building grounds
39.	GSI Group	GSIG	Lasers & Electro-optical solutions
40.	Grupo Aeroportuario del Sureste	ASR	Aeroports
41.	General Electric Company	GE	Technology & Financial Services
42.	Embraer-Empresa Brasileira de Aeronautica	ERJ	Aviation 360
43.	Colfax Corporation	CFX	Pipelines
44.	Boeing Company	BA	Aviation development
45.	Bae Systems Plc	BAESY	Aerospace & Defense Systems
46.	3M Company	MMM	Technology Company
47.	Goldman Sachs Income Builder Fund A Shares	GSBX	Mutual funds
48.	Ultratech	UTEK	Innovation
49.	Stratasys	SSYS	3D printers
50.	Microsoft Corporation	MSFT	IT
51.	j2 Global	JCOM	Cloud Computing & SAAS
52.	International Business Machines Corporation	IBM	BI & Technical Innovation
53.	Intel Corporation	INTC	Microprocessors & chipsets
54.	CACI International	CACI	Enterprise Information Technology
55.	Apple Inc *	AAPL	PCs & multimedia devices
56.	ACI Worldwide	ACIW	Electronic Payments

57.	**3D Systems Corporation**	DDD	3D printers
58.	**American Water Works**	AWK	Utilities - water works

Companies highlighted in yellow had stock market debuts in October 2011 but have since been acquired and taken private again. These include Goldcorp Inc., Stamps.com, Open Table, Town Sports International Holdings, Men's Wearhouse, Maidenform Brands, Watson Pharmaceuticals, Cross (A.T.) Company, Western Refining, Alon USA Energy Inc., Templeton Russia Fund, Plum Creek Timber Company, American Campus Communities Inc, Goldman Sachs Income Builder Fund A Shares, and Ultratech.
Investing pool designed to mimic an economy and encourage organic development. All of the firms are traded on the three major exchanges (LSE, NYSE, and NASDAQ).
Source: re-evaluation after Bodislav, 2016.

Starting from the premise that the global economy is in a continuous muddle through process and considering that the model's execution is based on stock flow on a competitive market created specifically for them, an execution interval for the model was chosen in the period between August and September 2011. The degree of investor confidence and the fact that almost all the selected firms have their headquarters in the United States will have an impact on the stock price. The model was validated and demonstrated attractiveness as a low- to medium-risk investment fund and as a validation model for the intervention of corporate governance in state governance for developing policies and implementing and executing economic models if it produced annual growth of 25% in two stagnant markets (the American and European stock markets) with premises for a new recession.
The rollover of the core model for certifying corporate efficiency was determined to be most effective between October 3, 2011, and October 2, 2022. If you must, why specifically this historical period? In the month of October, the financial operation began with the speculative component generally associated with the stock market (this time of year is known as "Earnings Season," and it presents a great opportunity for market participants to earn quick cash by seeking out annual dividends offered to shareholders).
To test the model's performance and rule out the chance that it was a "black swan" exception, expectations were decreased globally for three and a half years during which the model was made public. Reaching the US debt ceiling in 2013 and lifting the lid on this cap for an arbitrary period of time propelled the entire economy into an irrational boom phase, with the FED playing a significant role. However, achieving economic growth that hovers around zero sends a troubling message to all advanced nations. When the COVID19 virus hit developed countries in March 2020, the Trump administration and Congress approved helicopter money operations to support these macroeconomic measures, but the model was strong enough to withstand this "reverse black swan" occurrence and continue operating in the short term.
After the first year (2012), the model generated a return of 39.88%; its lowest evolution point occurred in the timeframe of 2018–2019 with a negative outcome of -2.6%; this was aided by the recession that struck us in the middle of 2022 with a negative yield of -10.6%; and its overall performance for these ten years was of more than 288%, a resounding success. For the model's maturity and to confirm its performance, the following table displays cyclical developments:

Table 2. A growing or emerging economy's changing makeup as seen via its many industries.

No.	Sector	03.10.2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	Basic Materials	29,70	24,96	-32,47	-18,26	20,18	3,98	-16,33	13,84	-9,61	10,29	-33,55
2	Equity (derivates)	6,92	-26,17	-8,12	-6,64	9,86	1,13	-6,02	24,69	28,01	-11,47	-1,47
3	Communications	48,78	19,72	-35,01	15,48	23,32	37,15	14,61	-6,47	40,51	68,72	-27,23
4	Cyclical Consumption	54,45	4,74	-10,03	2,76	8,17	6,21	41,76	2,12	36,76	15,90	-18,78
5	Non-Cyclical Consumption	39,03	34,04	34,78	-2,66	1,23	19,86	31,44	-9,38	16,07	64,89	-29,48
6	Energy	34,42	11,76	-1,99	-27,70	11,44	-2,86	-0,89	-18,41	-38,96	64,38	32,2
7	Heavy Industry	44,00	27,71	9,33	-0,29	5,06	37,45	17,26	-11,75	-24,50	38,88	-23,19
8	Financial	27,06	26,50	17,04	-4,88	11,10	28,05	17,35	-3,90	2,20	26,93	-1,22
9	Technology	58,11	-6,91	18,94	-5,19	6,49	27,55	35,59	4,15	79,15	19,54	-3,27
10	Utilities	25,79	12,79	15,60	15,87	26,98	17,17	7,58	41,26	13,83	17,58	-20,19

Source: the authors by compiling the data from Bloomberg Professional.

According to the results of this economic simulation model for a country, adopting corporate governance generates roughly 100% larger returns for economic growth (Bodislav, et al., 2015).

Microeconomic restrictions that prohibit unsustainable overcharging of production facilities, chainsaw-like growth of aggregate demand and supply, and a loss in technical yields as a result of an inability to satisfy market demand are conceivable to encounter (Bodislav, 2016).

The basic algorithm is built on the ideas listed below, which may be applied to model a national economy (especially a developing one) utilizing business intelligence research and sound corporate governance practices:

1. One financially skewed outcome: using the developed model to develop a closed investment fund would lead to a fund with returns for high-risk investment funds (returns of more than 25% annually), but one rated Investment Grade (A level) by S&P, Moody's, etc..

2. Second, the outcomes are skewed in favour of the macroeconomy; earlier research has demonstrated a link between the model so developed and the procedures by which a government chooses the subsequent steps to pursue its goal. Due to the model's simulation of a national economy (created with assistance from the NASDAQ OMX platform and a proprietary technical analysis), governmental performance improves at regular intervals of 3-5 years; however, the model itself behaves in accordance with the best-case scenario over a 12-year period.

3.2. B.A.D.E.M. versus top 5 most peformant companies in the Healthcare sector from NASDAQ

The healthcare sector will be examined in this portion of the article by choosing the top five NASDAQ-listed companies based on financial performance and following their development alongside the B.A.D.E.M. indicator's mini-indicator, H5N. (Healthcare 5 NASDAQ).

Table 3. Assessing the healthcare industry's health via the prism of the NASDAQ's top five healthcare performers (the H5N indicator)

No.	Company Name	Indicator	10.2011	10.2012	10.2013	10.2014	10.2015	10.2016	10.2017	10.2018	10.2019	10.2020	10.2021	10.2022
1	CVS Health Corp	CVS	33,59	47,87	58,53	81,33	98,61	90,6	76,92	78,72	62,08	59,4	84,07	95,37
2	UnitedHealth Group Inc	UNH	47,6	56,18	74,27	85,39	119,27	136,66	198,06	269,2	219,8	311,98	392,43	505,04
3	McKesson Corp.	MCK	73,36	86,03	129,29	199,6	189,95	165,82	153,61	132,65	130,68	146,98	200,2	352,65
4	AmerisourceBergen Corp.	ABC	35,78	39,52	62,47	77,42	99,84	79,39	80,48	90,58	81,85	95,38	119,81	137,2
5	Cigna Corp	CI	41,94	47,1	79,6	90,59	137,48	131	190,95	208,25	149,48	176,4	202,6	277,47
	TOTAL		232,27	276,7	404,16	534,33	645,15	603,47	700,02	779,4	643,89	790,14	999,11	1367,73
	DELTA chain		100,00	19,13	46,06	32,21	20,74	-6,46	16,00	11,34	-17,39	22,71	26,45	36,89
	DELTA base				74,00	130,05	177,76	159,81	201,38	235,56	177,22	240,18	330,15	488,85

Source: the authors by compiling the data from Bloomberg Professional.

Both the H5N and BADEM indices have expanded at a practically unparalleled rate since the FED's quantitative easing operations were put into place (see figure above). The transportation industry, on the other hand, is more strongly impacted by supply and demand than other industries, and as a result, it reached a 12-year high of growth of more than 360 percent during this time.

4. Conclusion

As seen by the change from analogue to digitally filtered clients, lower production costs, greater price reductions, and smaller inventories, the Information Economy in the Digital Age offers a complementary competitive super-advantage to these issues. There will be almost no unsold inventory if demand is correctly predicted and the offer is accepted, which will increase the company's competitive super-advantage. In business-to-business transactions, our clients may be small businesses or giant corporations (Bodislav, et al., 2023/in press). On the macroeconomic level, nations sometimes behave like hyper-corporations in need of outside capital. These investors might be foreign nations, businesses, or people eager to benefit from improved job prospects.

Another benefit of the digital information economy is the ability to perfectly match the offer to the anticipated demand. This is true regardless of whether a small, medium, or large firm, a state viewed as a corporation, or another entity makes the offer. By incorporating the behaviour of the organization or the nation, business strategy can be aligned with economic or national strategy to shape the effective execution of proposed goals and with step-by-step adherence for members of the organization or for the population. Everything is automated by applying business intelligence principles.

References

Becker, G. (2003) *The Human Capital*, C.H. Beck Publishing: Bucharest.

Bhide, A. (2006) *How Entrepreneurs Craft Strategies That Work*, Harvard Business School Press, Boston.

Bodislav, D. A., Burlacu, S., Rădulescu, C. V., & Gombos, S. P. (2021). Using a hybid economic indicator (BADEM) to evaluate the retail sector (R5N) and consumption. In *7th BASIQ International Conference on New Trends in Sustainable Business and Consumption. Foggia, Italy* (pp. 34-42).

Bodislav, D.A. (2011) The Birth of the Regulated Company in the Macroeconomic Environment, *Theoretical and Applied Economics,* vol. 18, no. 6, pp. 129-140.

Bodislav, D.A. (2011) The Eco-Innovational Approach for the Energy of the Future, *Quality-Access to Success*, vol. 12, no. 121, pp. 358-363.

Bodislav, D.A. (2015) Decision Automation and the Feasibility of the Resulted Solution at Macroeconomic Level, *National Conference of the Doctoral/Postdoctoral Programme,* 29th of May, Romania.

Bodislav, D.A. (2015) The Synergy between Business Intelligence and Big Data – lowering the gap between the Future and Present Day, *Proceedings of 8th Edition International Conference Financial and Actuarial Mathematics*, 26th of June, Bulgaria.

Bodislav, D.A. (2015) Transferring business intelligence and big data analysis from corporation to governments as a hybrid leading indicator, *Theoretical and Applied Economics*, vol. 22, no. 1(602), pp. 257-264.

Bodislav, D.A. (2016) Business Intelligence for Decision Making in Economics, chapter in *Artificial Intelligence in Financial Markets*, Middleton, P., Karathanasopolous, A., Theofilatos, K., Dunis, C., Eds., Palgrave Macmillan, London, pp. 125-158.

Bodislav, D.A., Bran, F., Popescu, L. (2018) The Business-Automated Data Economy Model, 2018 early update, *Quality Access to Success,* no. s1, vol. 19, pp. 80-84.

Bodislav, D.A., Pascu, L., Pascu, B., Ratezanu, I., Badea, G. (2015) Emulating Business Intelligence filtered with Big Data Analysis. The Private – Public Sector Transfer, *IBIMA International Conference 2015,* 8th of May, Netherlands.

Bodislav, D.A., Popescu, M.L., Oancea Negescu, M.D., Gerogescu, R.I., Stan, S.V., Diaconu, A., Dinu, M. (2023/in press) Governance Resilience developed by using Macroeconomic Data Flows and Decision Automation, *Frontiers*, Special Issue 1, pp. 1-23.

Boyer, J., Frank, B., Green, B., Harris, T., Van De Vanter, K. (2011) *Business Intelligence Strategy – a Practical Guide for Achieving BI Excellence*, MC Press: Ketchum.

Bran, F., Bodislav, D.A., Radulescu, C.V., Ioan, I. (2014) Corporate Governance Intervention for a Sustainable Socio-Economic Model, *Revista de Cercetare si Interventie Sociala*, vol. 46, pp. 216-226.

Bran, F., Rădulescu, C. V., Bodislav, D. A., & Burlacu, S. (2020). Environmental risks in the context of globalization. Economic Convergence in European Union, 350-356.

Branson, R., Bodislav, D.A., Stoynova, P. (8 August 2010) If I Could Do It All Over Again, *The Wall-Street Journal*, p. A4.

Burlacu, S. (2021). IT Governance in Public Administration, *The 29th NISPAcee Annual Conference "Citizens' Engagement and Empowerment - The Era of Collaborative Innovation in Governance" Ljubljana, Slovenia New term: October 21-23, 2021*

Burlacu, S., Ciobanu, G., Troaca, V. & Gombos, C.(2021).The Digital Finance – opportunity of development in the new economy. Proceedings of the International Conference on Business Excellence,15(1) 392-405. https://doi.org/10.2478/picbe-2021-0036

Calin, A.M., Burlacu, S., Mocanu, V.and Popescu, M.L., (2022). Digital Public Management Governance. *8th BASIQ International Conference on New Trends in Sustainable Business and Consumption. Graz, Austria*, 25-27 May 2022. Bucharest: ASE, pp.101-108. DOI: 10.24818/BASIQ/2022/08/012

Keynes, J.M. (1936) *The General Theory of Employment, Interest and Money*, Palgrave Macmillan, London.

Kurzweil, R., Lane, C. (2014) *How To Create a Mind: The Secret of Human Thought Revealed*, Duckworth Overlook Publishing. London.

NASDAQ / Bloomberg Profession Service / EUROSTAT / World Bank databases, 2011-2022.

Negescu, M D; Burlacu, S; Mitriţă, M; Buzoianu, O C A. Managerial Analysis of Factoring at the International Level *Challenges of the Contemporary Society*. Proceedings; Cluj-Napoca Vol. 13, Iss. 1, : 99-102. Cluj-Napoca: Babes Bolyai University. (2020)

Profiroiu, C. M., Rădulescu, C. V., & Burlacu, S. (2020). The Challenges of Smart City In The Context Of Globalization And The Health Crisis. In *Proceedings of Administration and Public Management International Conference* (Vol. 16, No. 1, pp. 4-11). Research Centre in Public Administration and Public Services, Bucharest, Romania.

Rădulescu, C. V., Burlacu, S., Bodislav, D. A., & Bran, F. (2020). Entrepreneurial Education in the Context of the Imperative Development of Sustainable Business. *European Journal of Sustainable Development*, 9(4), 93-93.

Radulescu, C.V.; Ladaru, G.-R.; Burlacu, S.; Constantin, F.; Ioanǎş, C.; Petre, I.L. (2021) Impact of the COVID-19 Pandemic on the Romanian Labor Market. *Sustainability 2021*, 13, 271. https://doi.org/10.3390/su13010271

Sarbu, R., Alpopi, C., Burlacu, S., & Diaconu, S. (2021). Sustainable urban development in the context of globalization and the health crisis caused by the covid-19 pandemic. *Les Ulis: EDP Sciences.* doi:http://dx.doi.org/10.1051/shsconf/20219201043

Schumpeter, J. (2011) *Poate supraviețui Capitalismul? Distrugerea creatoare şi viitorul economiei globale* (Translation: *Can Capitalism survive? Creative destruction and the future of the global economy*). Publica Publishing: Bucharest.