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Core Elements Affecting Sharing: Evidence from the United States

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Abstract: The new phenomenon called sharing or collaborative consumption emerged a decade ago and is continuously growing. It creates new possibilities for society, and especially for business, is beneficial for the environment, makes more efficient use of resources, and presents a new competitive business model. The scientific literature lacks a more in-depth analysis of the factors influencing sharing activity growth; therefore, the paper's authors attempt to fill this gap. The authors aim to identify the factors affecting the use of sharing platforms. To reach the goal, the authors developed a regression model and constructed a list of 71 variables. The study used monthly United States data from January 2017 to June 2020 from the publicly available Federal Reserve Economic Data (FRED)and Google trends databases. The comparison to other indexes proves that the proposed index, representing the number of visits to sharing platforms (SEP), is a unique one. The first index allowed us to revise the sharing activity monthly. The authors identified that variables such as wage level, social network users, import level, and personal consumption are critical in affecting the number of visits to sharing platforms. The presented framework could be helpful for practitioners and policymakers analysing the stimulation of sharing or collaborative consumption. It includes indicators representing different areas, such as society, technology, and country, and allows for monthly investigations. Such activity was evident for a long time when online platforms contributed to its wider accessibility. The results help to forecast the number of visits monthly. Sharing is still an emerging area for research; thus, the authors tried to explore the phenomenon of sharing to expand the conceptual level of knowledge.

Keywords: sharing platforms; consumer behaviour; number of visits; core elements

Citation: Burinskienė, A.; Leonavičienė, E.; Grybaitė, V.; Lingaitienė, O.; Merkevičius, J. Core Elements Affecting Sharing: Evidence from the United States. *Sustainability* **2021**, *13*, 3943. https://doi.org/10.3390/su13073943

Academic Editor: Lester Johnson

Received: 15 February 2021
Accepted: 26 March 2021
Published: 2 April 2021

1. Introduction

Sharing or collaborative consumption has been growing fast since 2008. According to the authors of [1], this phenomenon can be seen as a new business model that violates traditional companies' regulative and normative rules. It follows the Sustainable Development Agenda (SDA) goals to promote the necessary changes towards collective consumption patterns. However, to reach the SDA, collaborative consumption is required, and the tools to achieve this are needed.

Information and communication technology (ICT) applications allow for the fast exchange of information and facilitate collaborative consumption options [2,3]. Therefore, the ICT role is becoming necessary to use the sharing activity's services [4,5]. The Internet's growing use and availability play a significant role in sharing consumption in the economy [3]. Bencsik, Horváth-Csikós and Juhász [6] noted that young people, particularly the new generation born in the period of 1980–1995, have high digital skills and can quickly learn how to use ICT to share information.

The study aims to identify the macroeconomic variables influencing sharing activity. One of the indexes focusing on sharing (i.e., the sharing economy index (SEI)) was first developed by Bergh, Funcke, and Wernberg in 2018 to compare countries' progress

field [7]. SEI takes the components from the economic freedom indexes, and its values are published once a year [7]. They include variables such as GDP per capita, freedom to trade internationally, regulatory freedom, and social trust in the index. In this paper, the authors construct the index representing the number of visits to sharing platforms, and define the main factors influencing those visits, which are investigated monthly.

The study consists of several parts—the presentation of the literature review and the methods is presented at the beginning of the study. Herein, the methodology for the activation of sharing activity and the core elements essential for visiting sharing platforms is described. The key elements affecting the number of visits to sharing platforms are identified using a constructed dynamic regression model, which the authors applied using U.S. data. On the basis of the case study results, the researchers constructed the index representing the number of visits to sharing platforms. Discussion and conclusion sections are provided at the end of the paper.

2. Theoretical Background

2.1. The Evolution of ICT Applications for Sharing Activity

The ICT market has grown so fast that consumer skills and service delivery have changed dramatically for their benefit. Social media's fast development has changed the way people engage in social dialogue and communication [8]. People can do their bank services, find a ticketing centre, a shopping mall, and many other functions via mobile Internet and mobile applications [9]. Additionally, social networks have a significant impact [9,10]. Social networking effecting the impulse of sharing. Such happens due to a social change in attitudes, also related to people' communication, information sharing, and social interaction. These services offer transparency and create a trust for sharing activities. Technological aspects, including information quality and technology fit, are also essential for consumers [11,12].

Technological advances have opened a myriad of new business opportunities for mobile operators worldwide [12]. It is possible to develop digital platforms serving peer-to-peer (P2P) sharing activity, called sharing caused by consumer habit changes [13]. Sharing platforms optimise the use of available resources [14]. Especially when traditional providers' offerings seem limited, unaffordable, expensive, or substandard, consumers broaden their concerns to include sharing platforms [15].

Collaborative or sharing platforms have shown a tendency to grow in the U.S. over the past few years and, among other things, to influence and change the way people communicate. One of the successful examples in the U.S. is Airbnb, which acts on a sharing platform [16]. After scanning Airbnb data across the U.S. cities, we found out where and when Airbnb offers are presented. By comparing information from this list with hotel data, we identified socio-economic conditions in the U.S. that genuinely benefit from hospitality. Airbnb's supply and demand have changed over time, but studies have failed to respond to these changes [17].

The P2P models give consumers the possibility to be involved in the business on a part-time and temporary basis with a certain flexibility, and allow customers to use practical marketing tools comparable to those of business companies. Price waterhouse Cooper (PwC) predicts [18] that sharing economy sectors can generate USD $335 billion in revenues by 2025. The demand is accelerated by creating a possibility for consumers to access services they could not naturally afford.

From a technological development perspective, the sharing activity has the potential to grow. It is an entirely new tendency of today's business, even though the sharing activity has been around people for more than a decade.

2.2. Materials and Methods

The activation of sharing activity that meets the sustainability requirements is related to understanding the complex and dynamic phenomenon. This requires the revisions of scientific studies in the area, the analysis of macroeconomic variables, and the identification

of the popularity of sharing platforms, including consumer behaviour patterns and the acceptance of different technologies. The framework of methodology for the activation of sharing activity includes some structural layers presented in Table 1. The application of methods is required to perform theoretical and statistical data analysis, supporting complex sharing activity functionality.

Table 1. The structure of methodology for the activation of sharing activity.

Layers of the Methodology	The Evaluation of Functionality	Application of Scientific Methods	Results Application and Validation	Compliance with Sustainable Development
I layer (Infrastructure for sharing activity)	The revision of the evolution of technologies and business interests.	The analysis of literature and contemporary patterns.	Informational infrastructure development satisfying the convenient sharing activity.	Achievements in infrastructure and behaviour development required going forward to reach the savings of natural resources.
II layer (Behaviour of consumers)	The revision of the popularity of sharing activity and motivation for consumers to buy from sharing platforms.	Comparative analysis of key aspects stimulating sharing activity.	Validation of consumers' behaviour and their technological literacy.	
III layer (Macroeconomic environment)	Selection of macroeconomic variables influencing the activation of sharing activity.	Evaluation of macroeconomic variables and selection of the most important ones.	Supporting the formulation of the dynamic regression equation and index construction.	Implementation of macroeconomic conditions enables sustainable development requirements.

All layers of analysis meet the sustainable requirements of the sharing consumption process. In particular, sharing consumption reduces energy consumption and the production process's pollutions, and saves materials and the environment [19].

The infrastructure involves multisided digital online platforms that link the seller and buyer. Digital platforms enable individuals and businesses to share goods and services for a fee or for free [20]. Sharing digital platforms can be grouped into capacity-constrained assets (e.g., products) and capacity-unconstrained assets (e.g., services) [15]. These services have become increasingly popular with the emergence of ICT, through which businesses can offer consumers an easily accessible platform.

Scientific fields' interest in collaborative consumption is continuously growing [21]. Sharing activity is an original concept for saving natural resources and human power. Whether it is C2C (consumer-to-consumer), B2B (business-to-business), or B2C (business-to-consumer), convenience and accessibility are increasingly important factors for any business success; such business models built on technology platforms link the vendor to the customer and facilitate their exchange of products and/or services.

The population enjoys using social networks, which involve communication and media means. Experts in social media and e-commerce report that sharing business and social networks, two different and heterogeneous areas, are now integrating. In principle, business models such as sharing would not be possible without social media platforms. All sellers and customers can be brought together by using professional ICT solutions. The social networking phenomenon largely determined the remarkable success of start-ups in sharing business [22,23]. Social media remains in the spotlight and is vital to our experience with the sharing activity's services.

From the macroeconomic perspective, it is essential to link household purchasing power and unemployment. People are keen to reduce their expenditures, save money, and seek supplementary income [2,24,25].

2.3. The Impact of Sharing Activity on the Economy

The sharing economy has a significant impact on sustainability as it promotes responsible consumption by leveraging the idle capacity of goods. The ecological aspect as one of the main motives for fostering a collaborative or sharing consumption was identified

by the authors of [26]. The sharing model is advantageous to the environment because it makes more efficient use of resources and contributes to the potential energy savings that would result from sharing assets. Xufeng Liu and Hongmin Chen [27] highlight the sharing potential in promoting sustainable development by changing consumers' patterns, leading to the effective use of resources, which positively impacts the environment.

Researchers [28–30] note that factors such as population density, technological knowledge, entrepreneurial spirit, and the growing popularity of the sharing mindset have a significant impact on the growth of sharing economy. According to the authors of [31,32], one of the stimuli to become a participant in the sharing activity is the lower transaction cost. According to the authors of [33], the economic aspects that act as a motivator for keeping the sharing activity are meeting new people, social responsibility, employment, and caring about the environment.

A sharing model encourages individual innovation and entrepreneurship, stimulates consumption, and increases productivity and overall economic growth [34]. Furthermore, the sharing activity can stimulate economic growth as it creates new and different consumer experiences [34]. Labour is used more efficiently, which impacts productivity growth; digital platforms used for sharing can spur entrepreneurship innovation. Moreover, it can be seen as a shift in asset markets as the sharing activity creates more opportunities to access goods and services when needed. On the one hand, consumers are reluctant to buy things when there is an opportunity to borrow them when needed. For example, it is unnecessary to buy a car when there is access to short-term rentals facilitated by digital platforms. On the other hand, seeing the opportunity to earn extra money, consumers can decide to buy a car and join the peer-to-peer rental marketplace.

The sharing economy has grown fast since 2008 and has contributed to job creation and new experiences for society and business. It plays a role in environmental protection, has an ecological aspect, makes more efficient use of resources, and increases potential energy savings. The sharing economy creates digital markets and expands them to other markets by involving traditional service providers. Authors have highlighted that users might benefit from the sharing activity by accessing new services, new demand opportunities, and reduced prices [24].

2.4. The Core Elements for the Index of Visits to Sharing Platforms

Different authors have investigated the consumption patterns that promote sharing and the factors that determine the orientation toward the sharing platforms [35]. Liu, Zhuo, and Shuanming analysed the income process and stated that the earned wage directly affects the level of lifetime consumption [36]. The sharing activity is growing following the level of wages and the economic situation in the country. According to the authors of [25], sharing activity is influenced by unemployment rates, consumers' purchasing power, the level of wages, and social networks. Analysing scientific literature [28] reveals the sharing phenomenon's critical factors. Different authors have proposed to use elements of knowledge, technology, social aspects, economic benefits, attitude, trust, and intention to engage in sustainable consumption. Some of them, such as utility, trust, savings, and awareness, were essential in B2B and B2C studies, and service quality and community affiliation were found only in B2C research.

Factors that are important for sharing activity are grouped into society-related factors, business-related factors, technology-related factors, and country-related factors.

Moreover, other evaluable factors (Table 2) are the factors of population density and consumer segments based on demographics and behavioural criteria. Various authors have researched satisfaction from the products/services of the sharing efforts and the intention to access such products and services in the future [2,37]. Many studies show that motivation based on self-determination is a good predictor of specific behaviour [35,37,38]. Therefore, the likelihood of re-choosing the sharing option is primarily explained by factors that benefit consumers [4]. According to the authors of [39], the key segments for which

sharing is important are pensioners (27%), employees (16.7%), students, and homemakers (12.5%).

The authors concluded that the literature lacks an investigation of the factors that intend to expand the sharing activity. One possible solution is the revision of elements that affect the development of the sharing itself.

Table 2. The factors that are essential for the construction of the index.

Index	Components	Authors
1. Country	GPD per capita	[7]
	Economic freedom	[3,7,15]
	Limited government	[7]
	Legal integrity	[7]
	Sound money	[7,25,37]
	Freedom of trade	[7]
	Regulatory freedom	[7]
	Level of imports	[7]
	Globalisation	[7,31,33,34]
2. Society	Using online platforms	[2,5,15,31,40,41]
	Social network site (SNS)	[2,8,11,15,32]
	Personal consumption	[3,15,20,22,36]
	Sustainable consumption	[19,28,35]
	Share time and resources	[13,15,21,25,34,39,42]
	The popularity of sharing platform	[1,2,12,13,28,29,34,38]
	Consumer behaviour	[1–3,9,15,17,19,22,26,28,31,33,35,37]
	Collaborative consumption	[4,13,16,20,26,29,35,38–40,43]
	Social, consumer trust	[3,5,24,33]
3. Business	Business activities, models	[12–15,23,25,27,30,31,37–40,43]
	The amount the transaction costs	[14,21,24,26,31,34]
	Consumer purchasing power	[2,8,19,25,32,40]
	Pre-purchase search motivation	[8]
	Focus on sustainability in business	[2,9,10,27,32,37]
	Flexible jobs	[14]
4. Technologies	Digital process, service	[1,9,10,14,23,34,38,44]
	Technological development	[1,12–14,17,30]
	Development of social media	[1,5,9,10,15,17,20,22,23]
	Development of internet networks and communication	[9,11,13–15,17,31]
	Digital, technological innovations	[23,27,32]
	Innovative economy, technologies	[6,9,13,14,17,30,35,45]

3. Empirical Research

3.1. The Review of Macroeconomic Variables

The research aims to identify the main macroeconomic factors that influence sharing activity and to construct a regression model. The selected variables from the publicly available Federal Reserve Economic Data (FRED) database for the 42 monthly periods between January 2017 and June 2020 were retrieved to analyse the dynamic interactions. For identifying linear relationships, the authors took 71 macroeconomic variables for 42 data units and tested the significance of correlation. Later, statistically insignificant variables were removed, and the procedure was applied only to 33 variables, whose variance probability was significant.

The authors applied a dynamic linear model proposed by Petris, Petrone, and Campagnoli [46]. The paper's authors used a simple regression analysis procedure to modify the regression coefficients and applied time series transformations for 10 periods to a model representing the linear relationship between the dependent variables and the regressors. Nonetheless, the model satisfied all the simple linear regression models as it tests dynamic interactions.

This analysis revealed the dynamic trends and allowed us to make assumptions about the existence (or non-existence) of links in pairs. The authors selected the dependent variable as the number of visits to 36 sharing platforms (eBay, Airbnb, Uber, Car Next Door, Better Caring, Lime, UpWork, Fiverr, and others) in the U.S. [23,40,42,43]. These data were collected for the first week of the month from the Google trends (2020) [41].

The regression model was developed to evaluate how macroeconomic variables impact the number of visits to sharing platforms. The following shows how the index equation was constructed:

$$\begin{array}{c} \text{sep}_t = \beta_0 + \beta_1\, ahepr_{(t-n)} + \beta_2\, ahert_{(t-n)} + \beta_3\, ahels_{(t-n)} + \beta_4\, ahepv_{(t-n)} + \\ \beta_5\, fcnvno_{(t-n)} + \beta_6\, frkvno_{(t-n)} + \beta_7\, impus_{(t-n)} + \beta_8\, pcspnd_{(t-n)} + u_t \end{array} \quad (1)$$

where: sep_t is the logarithmic dependent variable of the number of visits to the sharing platforms in the U.S. in year t; β_0 is the intercept; $ahear_{(t-n)}$ is the dlog of average hourly earnings for production and nonsupervisory employees, with goods-produced in dollars per hour per month, seasonally adjusted in the U.S. in year $t-n$; $ahert_{(t-n)}$ is the dlog of average hourly earnings for all employees, with retail trade-in dollars per hour per month, seasonally adjusted in the U.S. in year $t-n$; $ahels_{(t-n)}$ is the dlog of average hourly earnings for all employees, with leisure and hospitality in dollars per hour per month, seasonally adjusted in the U.S. in year $t-n$; $ahepv_{(t-n)}$ is the dlog of average hourly earnings for all employees, with the total private data in dollars per hour per month, seasonally adjusted in the U.S. in year $t-n$; $fcnvno_{(t-n)}$ is the dlog of the numbers of Facebook users in the U.S. in year *t-n*, taken monthly; $frkvno_{(ont-n)}$ is the dlog of the numbers of the Fark users in the U.S. in year $t-n$, taken monthly; $impus_{(t-n)}$ is the dlog of U.S. imports of goods by customs basis from the world in millions of dollars per month, seasonally adjusted in year $t-n$; $pcspnd_{(t-n)}$ is the dlog of personal consumption expenditures, with nondurable goods in billions of dollars, per month, seasonally adjusted in the U.S. in year $t-n$; u_t is the random model error; and $\beta_1,\ \beta_2,\ \beta_3,\ \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$ are the elasticity coefficients, reflecting the impact of the independent variables on the sharing.

Based on the regression equation, the authors constructed the index representing the number of visits to sharing platforms (SEP). The formation of the index consisted of six stages:

(1) The theoretical framework setup stage was used to clearly understand multiple measurable phenomena and structure the various subgroups of the phenomenon and compile a list of critical variables;
(2) The data selection stage consisted of analytical reliability, measurability, country coverage, and the phenomenon's adequacy. The available data's quality was checked

by reviewing its strengths and weaknesses and checking the data sources and the required data's availability;

(3) The normalisation step was performed to compare variables by the percentage of monthly differences. The percentage of monthly differences shows the percentage change from the previous month;

(4) The uncertainty and sensitivity analysis step was used to assess the composite index's strength, constructed following the normalisation scheme;

(5) The assessment of positive or negative effects was used, going back to the data stage when it was necessary to review the index and its correlation and causation (if possible), to assess the composite index's influence and assess the relative importance;

(6) To determine the correlation (or its dimensions) of a composite index with existing (composite or straightforward) indices, a review of references and correlations with other indexes is needed. The composite index needs to be combined with other essential tools, considering sensitivity analysis and phenomenon representation.

3.2. Results of the Analysis

Following the six main stages, the authors constructed (1) the theoretical framework and presented it under Equation (1); (2) selected the data on the basis of the correlation coefficients and probabilities based on a constructed matrix of variables, shown in Appendix A; (3) normalised the data by using a logarithmic process (Equation (2)); (4) presented an uncertainty and sensitivity analysis and provided it under Equation (3); (5) constructed the composite index allowing us to forecast the number of visits to sharing platforms monthly; and (6) investigated the links between SEP and other indexes evident in the U.S., including the consumer price index of services (CPI for serv.), the producer price index for all commodities (PPI), and the business manufacturing sentiment index (BMSI). The results are provided in below. The authors delivered a specific regression model, which is formulated as Equation (2):

$$\begin{aligned} \text{sep}_t = \beta_0 + \beta_1\, ahepr_{(t-10)} + \beta_2\, ahert_{(t-7)} + \beta_3\, ahels_{(t-9)} + \beta_4\, ahepv_{(t-9)} + \\ \beta_5\, fcnvno_{(t-9)} + \beta_6\, frkvno_{(t-7)} + \beta_7\, impus_{(t-6)} + \beta_8\, pcspnd_{(t-1)} + \\ \beta_9\, pvno_{(t-2)} + \beta_{10}\, pvno_{(t-7)} + \beta_{11}\, pvno_{(t-11)} + u_t \end{aligned} \quad (2)$$

The correlation coefficient of the constructed dynamic regression model was 0.93, and the adjusted R^2 was 0.88. The constructed model is presented below in Figure 1 and Table 3.

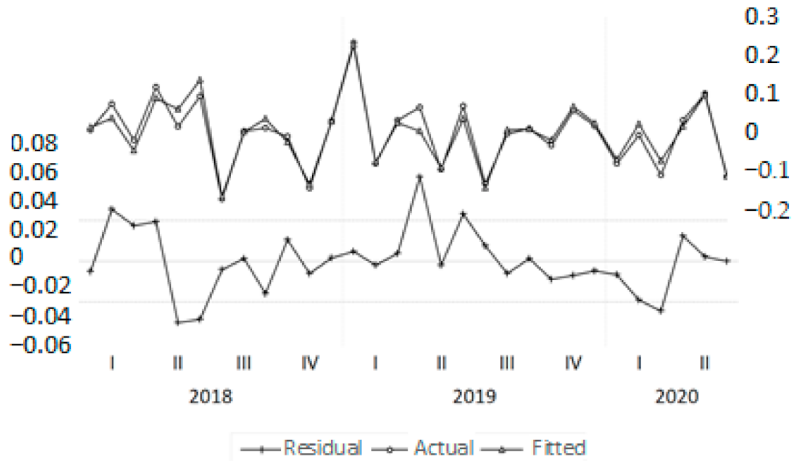

Figure 1. Forecasting number of visits to sharing platforms. Source: own research.

Table 3. The probability of dynamic regression.

	c	$ahepr_{t-10}$	$ahert_{t-7}$	$ahels_{t-9}$	$ahepv_{t-9}$	$fcnvno_{t-9}$	$frkvno_{t-7}$	$impus_{t-6}$	$pcspnd_{t-1}$	$pvno_{t-2}$	$pvno_{t-7}$	$pvno_{t-11}$
dln sep_t	(−0.65)	(−1.93)	(–4.07)	(3.29)	(3.66)	(–4.86)	(–3.83)	(3.27)	(–2.43)	(–1.14)	(1.02)	(1.60)

This dynamic regression model showed the following results:

$$\begin{gathered} \text{sep}_t = -0.012 - 7.11\ ahepr_{t-10} - 13.49\ ahert_{t-7} + 10.18\ ahels_{t-9} \\ +18.43\ ahepv_{t-9} - 0.27\ fcnvno_{t-9} - 0.05\ frkvno_{t-7} \\ +1.39\ impus_{t-6} - 0.47\ pcspnd_{t-1} - 0.009\ pvno_{t-2} \\ +0.06\ pvno_{t-7} + 0.01\ pvno_{t-11} \end{gathered} \quad (3)$$

The authors delivered statistical validity tests. Probability t and Probability χ^2 of testing statistics showed no significant autocorrelation and heteroskedasticity. All other results of the performed dynamic regression analysis are provided in Table 4.

Table 4. Values of statistics.

Statistics	Values
1. Formation of equation	
Durbin Watson statistics	1.61
2. Analysis of residuals	
Mean	0
Standard deviation	0.02
Jarque—Bera statistics	0.77
3. Autocorrelation analysis: Breusch–Godfrey Serial Correlation Lagrange Multiplier (L.M.) test (Null hypothesis: no serial correlation at up to two lags)	
Probability of F statistics	0.65
Probability of Chi-Squared	0.45
4. Heteroskedasticity analysis: Autoregressive conditional heteroskedasticity (ARCH) test	
Probability of F statistics	0.93
Probability of Chi-squared	0.92

The results proved that other values are also crucial for indexing visits to sharing platforms, which were not included in early research papers dedicated to sharing. The authors identified that variables such as wage level, social network users, import level, and personal consumption are critical and affect the number of visits to sharing platforms. The data presented a monthly pattern, which is advantageous compared to other similar indices with only yearly measures. The data was normalised using a logarithmic process. All elements had the same weight rate in a constructed index. Furthermore, as described in the regression model, the composite index's relative performance stayed the same.

The SEP index was constructed by removing the autocorrelation correction values from the regression equation accordingly (Equation (4)):

$$\begin{gathered} \text{Sep}_t = -0.012 - 7.11\ ahepr_{t-10} - 13.49\ ahert_{t-7} + 10.18\ ahels_{t-9} + \\ 18.43\ ahepv_{t-9} - 0.27\ fcnvno_{t-9} - 0.05\ frkvno_{t-7} + 1.39\ impus_{t-6} - \\ 0.47\ pcspnd_{t-1} \end{gathered} \quad (4)$$

The authors revised the composite index links with other indexes (Figure 2) using a dynamic regression model, presented in Table 5.

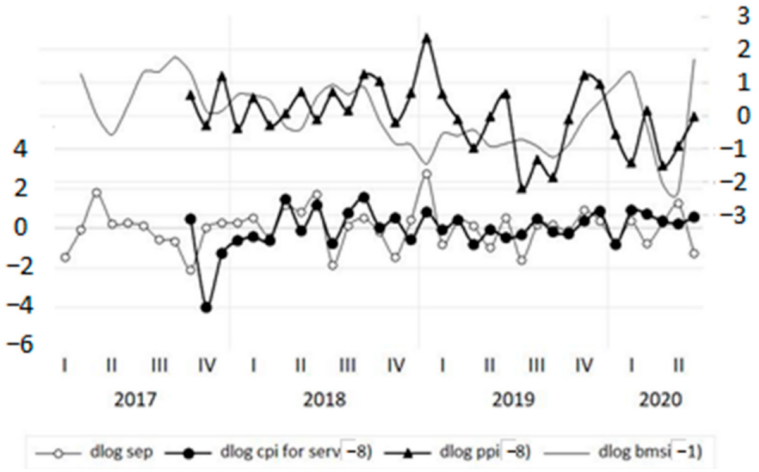

Figure 2. References of sharing platforms (SEP) to other indexes. Source: own research.

Table 5. Correlation coefficients and probabilities from a revision of references to other indexes.

Variables	Statistics	Dlog BMSI (−1)	Dlog PPI (−8)	Dlog CPI (−8)
Dlog SEP	Corr. coefficient	−0.3368	0.314	0.351
	Probability	0.0387	0.085	0.053

Both indexes, the consumer price index for services and producer price index, showed a low to medium correlation with the new proposed index after eight months. The business manufacturing sentiment index was negatively correlated with the sharing activity index with a lack of one month.

The comparison of the SEP to other indexes proves that the proposed index is a unique one, and the first one that has allowed us to forecast the status of sharing activity monthly. Over the last years, the sharing economy has grown significantly. The index is an essential policy guide representing the relation between the sharing platforms, social networking, wages, personal consumption, and imports in the U.S.

Such a tool could be helpful for policymakers aiming to stimulate sharing if necessary. As soon as the monthly results are evident, policymakers could take corrective actions during the year, i.e., without waiting until the annual results are apparent.

4. Discussion

The development of sharing activity for today's needs is quite complex and dynamic. The research results were obtained by developing the activation methodology, which covers some layers of analysis, including the links among them. The solutions responding to the development of sharing activity are very needed for reaching goals of sustainable development. It can be stated that one of the reasons for the rise of sharing activity is sustainability. Sharing activity responds to all three dimensions of sustainability: the economy, society, and the environment. It is beneficial for society as it creates meaningful connections, trust, and social inclusion for the economy as it leads to cost savings, as well as increasing business opportunities, lowering transaction costs, and increasing resource efficiency for the environment.

The need for this research is based on a demand to promote sharing activity and increase the effectiveness of this process, impacting a particular country's sustainability. Alongside developing the sharing platforms, the Internet, social media, and technological literacy also face challenges. The question is, given the direction forward, how can actors stimulate the growth of sharing activity. Such a problem requires a revision of critical factors such as the wage level, import level, and personal consumption level.

The tools used for developing sharing activity have a sense for sharing products and services. The tools are addressed to and must be relevant to all parties, which creates contemporary, good access to unified infrastructure, guaranteeing sharing among various parties (B2B, B2C, C2C) together with increasing the sustainability of a particular country.

The study presents practical implications where monthly data involvement and the construction of an index presenting the number of visits to sharing platforms allowed for the forecasting of monthly values, which is more accurate than the yearly values presented by previous investigations. More accurate results are beneficial for evaluating the development of a particular country's sharing activities and creating the possibility to organise this process more effectively, an added value for the Sustainable Development Agenda's implementation goals.

This paper's macroeconomic variables must be examined in a more straightforward style in future research. The future directions of such research work should consider scenarios of the application of sharing platforms by various sectors and possibilities to examine sector-specific aspects.

5. Conclusions

With the latest ICT decade, the sharing platform has contributed significantly to sharing activity's rapid spread and popularity. Sharing activity is continuously growing and contributes to job creation and new opportunities for consumers and entrepreneurs. It plays a role in environmental protection, has an ecological aspect, makes more efficient use of resources, and increases potential energy savings that correspond to the sustainability goals. Consumers may benefit from sharing through new services, increased supply, and lower prices. In general, sharing creates new markets, expands existing ones, and extends to markets where traditional service providers have previously provided services. Still, it raises questions about how to measure this process and how to increase its efficiency.

The number of visits to sharing platforms and the number of sharing platforms continues to grow. Even in countries that focused on the sharing activity from the early beginning, the data shows that it is not easy to forecast the sharing market size or share platforms' growth. Scientific literature that analyses the sharing activity's growth lacks quantitative investigations of the factors that ensure the tendencies and capabilities to expand the sharing economy. To fulfil this lack, the authors investigated the number of critical elements essential for visiting sharing platforms and presented a dynamic regression model.

The authors presented the composite index and compared its references to other indexes, such as the consumer price index, producer price index, and business manufacturing sentiment index, and provided a tool to forecast the number of visits to sharing platforms, consisting of the following six stages:

(1) The theoretical framework setup stage was used to clearly understand multiple measurable phenomena, structure the various subgroups of the phenomenon, and compile a list of critical variables;
(2) The data selection stage consisted of analytical reliability, measurability, country coverage, and the phenomenon's adequacy;
(3) The normalisation step was performed to compare variables by the percentage of monthly differences;
(4) The uncertainty and sensitivity analysis step was used to assess the composite index's strength, which was constructed following the normalisation scheme;
(5) The assessment of positive or negative effects was used, going back to the data stage, when it was necessary to review the index and its correlation and causation to assess the composite index's influence and assess the relative importance;
(6) A determination of the correlation of a composite index with the existing indices and a review of references and correlations with other indexes and phenomenon representation was conducted.

The authors identified that variables such as wage level, social network users, import level, and personal consumption are critical and affect the number of visits to sharing platforms. The model helps forecast the number of visits by using monthly data and creates the possibility of analysing the phenomena of sharing with a higher accuracy than previous research. The proposed tool could help policymakers of a particular country aiming to stimulate the growth of sharing and increasing sustainable development. Since sharing is still an emerging area for research and little research has been done, this research results broadens the knowledge of the phenomenon of sharing and expands the conceptual level of knowledge.

There are two significant limitations in this study that could be addressed in future research. First, the study focused on a situation analysis in the U.S. That means research could be extended by reviewing the index of visits to sharing platforms in other countries. Second, the research could be extended by analysing additional components and reviewing different periods. Further on, other directions could be involved in the composite index setup, allowing researchers to forecast visits to sharing platforms.

Author Contributions: Structure and Methodology A.B., Investigations E.L., Conceptualization V.G., Literature review O.L. and Conclussions J.M. All authors have read and agreed to the published version of the manuscript.

Funding: Vilnius Gediminas technical university.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Officially announced data.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Matrix of variables: correlation coefficients and probabilities.

Variables	DLOG	DL	DL(−1)	DL(−2)	DL(−3)	DL(−4)	DL(−5)	DL(−6)	DL(−7)	DL(−8)	DL(−9)	DL(−10)
AHELS	Corr. coef.	0.02	0.31	−0.23	0.04	−0.21	0.10	0.13	−0.01	−0.25	0.36	−0.14
AHELS	Probability	0.91	0.08	0.21	0.81	0.26	0.58	0.50	0.94	0.17	0.04	0.44
AHEPR	Corr. coef.	0.33	−0.26	0.22	0.05	0.00	0.27	−0.11	−0.10	0.04	0.16	−0.38
AHEPR	Probability	0.07	0.15	0.24	0.78	0.98	0.15	0.54	0.59	0.83	0.40	0.04
AHEPV	Corr. coef.	0.04	0.32	−0.24	−0.17	0.03	0.09	0.00	−0.09	−0.34	0.49	−0.19
AHEPV	Probability	0.83	0.08	0.19	0.36	0.86	0.62	0.99	0.62	0.06	0.00	0.31
AHERT	Corr. coef.	0.62	0.38	−0.29	−0.04	−0.07	0.12	−0.05	−0.61	0.25	0.03	−0.17
AHERT	Probability	0.14	0.04	0.12	0.84	0.70	0.52	0.80	0.00	0.18	0.85	0.37
BUSLOANS	Corr. coef.	0.07	0.22	−0.04	−0.23	−0.09	−0.04	0.04	−0.31	−0.02	0.39	−0.13
BUSLOANS	Probability	0.70	0.24	0.85	0.22	0.64	0.81	0.84	0.09	0.92	0.03	0.48
CES1000000003	Corr. coef.	−0.03	−0.09	0.08	−0.24	0.10	−0.02	−0.29	0.47	−0.50	0.03	0.15
CES1000000003	Probability	0.85	0.62	0.67	0.19	0.59	0.90	0.12	0.01	0.00	0.87	0.43
CES2000000008	Corr. coef.	−0.57	−0.30	0.21	−0.02	0.00	0.11	−0.03	0.03	0.04	0.30	−0.41
CES2000000008	Probability	0.24	0.10	0.25	0.92	0.98	0.55	0.87	0.88	0.83	0.10	0.02
CES4142000008	Corr. coef.	0.74	0.33	−0.39	0.01	0.22	−0.38	0.04	0.19	−0.08	0.26	−0.22
CES4142000008	Probability	0.09	0.07	0.03	0.96	0.23	0.03	0.84	0.31	0.68	0.16	0.24
CES4300000008	Corr. coef.	0.19	0.31	−0.36	0.21	0.05	−0.12	0.15	0.12	−0.13	0.19	−0.13
CES4300000008	Probability	0.72	0.09	0.05	0.26	0.81	0.52	0.42	0.53	0.47	0.30	0.50
CES7000000008	Corr. coef.	0.13	0.01	−0.18	0.22	−0.24	−0.07	0.01	−0.05	−0.05	0.25	−0.02
CES7000000008	Probability	0.81	0.96	0.34	0.23	0.20	0.71	0.97	0.79	0.80	0.17	0.92
CONSOLE	Corr. coef.	0.10	−0.03	0.15	−0.24	−0.08	0.06	−0.04	0.15	0.14	0.11	−0.03
CONSOLE	Probability	0.86	0.89	0.42	0.19	0.69	0.76	0.82	0.42	0.45	0.56	0.88
DAUPSA	Corr. coef.	0.21	−0.31	0.21	0.22	0.25	−0.16	0.25	−0.27	−0.14	−0.24	0.24
DAUPSA	Probability	0.69	0.09	0.25	0.22	0.18	0.40	0.18	0.15	0.45	0.19	0.19
DESKTOP	Corr. coef.	−0.11	−0.15	0.11	0.15	0.26	−0.02	−0.11	0.24	−0.01	−0.08	−0.25
DESKTOP	Probability	0.83	0.41	0.55	0.43	0.16	0.90	0.55	0.20	0.95	0.68	0.17
FCBVNO	Corr. coef.	−0.68	−0.19	0.50	−0.66	−0.44	0.79	0.11	0.21	0.45	−0.63	−0.21
FCBVNO	Probability	0.14	0.71	0.31	0.15	0.38	0.06	0.84	0.69	0.37	0.18	0.68
FRKVNO	Corr. coef.	0.77	0.39	−0.24	0.32	−0.08	−0.23	−0.26	−0.39	−0.14	0.71	−0.33
FRKVNO	Probability	0.07	0.44	0.65	0.54	0.89	0.66	0.62	0.45	0.80	0.12	0.53
GOOGLE_PLUS	Corr. coef.	0.43	−0.86	0.63	0.26	−0.04	−0.52	0.33	−0.14	−0.74	0.69	0.19
GOOGLE_PLUS	Probability	0.39	0.03	0.18	0.62	0.94	0.29	0.53	0.79	0.09	0.13	0.72

Table A1. *Cont.*

Variables	DLOG	DL	DL(−1)	DL(−2)	DL(−3)	DL(−4)	DL(−5)	DL(−6)	DL(−7)	DL(−8)	DL(−9)	DL(−10)
HOUST	Corr. coef.	−0.41	−0.39	0.14	−0.27	−0.18	0.93	−0.40	−0.37	0.42	−0.33	−0.14
HOUST	Probability	0.41	0.44	0.79	0.60	0.73	0.01	0.44	0.47	0.41	0.52	0.79
IMPUS	Corr. coef.	0.11	0.47	−0.80	0.23	0.03	−0.31	0.85	−0.09	0.10	−0.23	−0.01
IMPUS	Probability	0.83	0.34	0.06	0.66	0.95	0.55	0.03	0.87	0.85	0.66	0.99
INDPRO	Corr. coef.	0.13	0.07	0.25	−0.59	−0.30	0.33	0.42	−0.08	−0.72	0.62	0.23
INDPRO	Probability	0.80	0.90	0.64	0.22	0.57	0.52	0.40	0.89	0.11	0.19	0.66
INSTAGRAM	Corr. coef.	0.21	0.24	0.09	−0.01	−0.35	0.02	−0.31	0.44	−0.27	0.08	0.21
INSTAGRAM	Probability	0.69	0.19	0.64	0.95	0.06	0.90	0.09	0.01	0.14	0.67	0.26
YOUTUBE	Corr. coef.	0.26	−0.07	0.28	−0.02	−0.27	0.03	−0.03	0.16	−0.24	0.24	0.40
YOUTUBE	Probability	0.58	0.70	0.13	0.91	0.14	0.85	0.87	0.38	0.20	0.19	0.02
LINKEDIN	Corr. coef.	0.08	0.08	0.24	−0.14	−0.12	−0.17	−0.10	0.37	−0.32	0.23	0.37
LINKEDIN	Probability	0.88	0.68	0.19	0.47	0.50	0.37	0.58	0.04	0.08	0.22	0.04
MOBILE	Corr. coef.	0.14	0.21	−0.17	−0.12	−0.24	−0.10	0.20	−0.26	0.02	0.02	0.26
MOBILE	Probability	0.79	0.26	0.37	0.52	0.19	0.59	0.28	0.16	0.90	0.90	0.15
MOBIL_WO_C	Corr. coef.	0.14	0.21	−0.17	−0.13	−0.25	−0.10	0.19	−0.25	0.03	0.04	0.25
MOBIL_WO_C	Probability	0.79	0.27	0.37	0.49	0.18	0.60	0.29	0.17	0.87	0.83	0.17
PCES	Corr. coef.	0.02	−0.29	0.08	0.25	−0.20	0.05	0.27	−0.06	−0.11	0.01	0.16
PCES	Probability	0.96	0.12	0.68	0.18	0.27	0.79	0.14	0.76	0.54	0.95	0.39
PCSPND	Corr. coef.	0.45	−0.34	0.29	−0.13	−0.16	0.36	−0.22	0.15	0.10	−0.02	−0.03
PCSPND	Probability	0.31	0.06	0.12	0.49	0.38	0.05	0.24	0.42	0.60	0.93	0.87
REDDIT	Corr. coef.	−0.42	0.36	−0.07	−0.05	0.12	−0.17	−0.04	0.12	−0.21	0.32	−0.10
REDDIT	Probability	0.35	0.05	0.71	0.79	0.52	0.36	0.83	0.53	0.25	0.08	0.59
TABLET_WO_C	Corr. coef.	0.50	−0.08	−0.07	0.21	−0.03	0.17	−0.10	−0.07	−0.05	0.25	0.26
TABLET_WO_C	Probability	0.25	0.65	0.71	0.25	0.86	0.36	0.59	0.72	0.80	0.17	0.16
TOTALSA	Corr. coef.	−0.23	−0.24	−0.14	0.31	0.03	−0.08	0.18	−0.01	0.09	0.18	−0.42
TOTALSA	Probability	0.62	0.19	0.44	0.09	0.89	0.65	0.33	0.96	0.64	0.33	0.02
TUMBLR	Corr. coef.	0.05	−0.10	0.00	0.15	−0.09	−0.02	−0.13	0.15	−0.35	0.13	0.17
TUMBLR	Probability	0.92	0.59	1.00	0.43	0.64	0.92	0.49	0.41	0.05	0.48	0.36
TWITTER	Corr. coef.	−0.33	0.18	−0.30	0.10	−0.16	−0.18	0.02	0.10	−0.24	0.18	−0.01
TWITTER	Probability	0.47	0.33	0.10	0.59	0.40	0.34	0.90	0.59	0.20	0.32	0.97
UNRATE	Corr. coef.	0.06	0.24	−0.22	−0.06	0.08	−0.12	0.06	0.00	−0.26	0.01	0.15
UNRATE	Probability	0.90	0.20	0.25	0.76	0.68	0.50	0.77	0.99	0.16	0.98	0.43
VKONTAKTE	Corr. coef.	0.52	0.06	−0.14	0.00	−0.19	0.18	0.25	−0.52	0.13	0.47	−0.11
VKONTAKTE	Probability	0.23	0.73	0.47	1.00	0.30	0.32	0.17	0.00	0.48	0.01	0.55

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