

This is a self-archived version of an original article. This version may differ from the original in pagination and typographic details.

Author(s): Sigala, Marianna; Ukpabi, Dandison

Title: Citizen Engagement and Entrepreneurship : Implications for Sustainable Tourism Development

Year: 2019

Version: Accepted version (Final draft)

Copyright: © Springer Nature Switzerland AG 2019

Rights: In Copyright

Rights url: <http://rightsstatements.org/page/InC/1.0/?language=en>

Please cite the original version:

Sigala, M., & Ukpabi, D. (2019). Citizen Engagement and Entrepreneurship : Implications for Sustainable Tourism Development. In J. Pesonen, & J. Neidhardt (Eds.), *Information and Communication Technologies in Tourism 2019 : Proceedings of the International Conference in Nicosia, Cyprus, January 30-February 1, 2019* (pp. 396-407). Springer.
https://doi.org/10.1007/978-3-030-05940-8_31

Citizen engagement and entrepreneurship: Implications for sustainable tourism development

Marianna Sigala¹, Dandison Ukpabi²

¹University of South Australia, Adelaide, Australia

marianna.Sigala@unisa.edu.au

²University of Jyväskylä, Finland

dandison.c.ukpabi@jyu.fi

Abstract

Research has not investigated the use of competitions-hackathons as a citizen engagement tool to motivate and activate citizen's engagement in entrepreneurship driving sustainable tourism development. This paper fills in this gap by using the SHARE Challenge as a case study. SHARE is a competition-based crowdsourcing project launched by the Government of South Australia aiming to engage citizens in sharing economy entrepreneurial ventures. The competition received 88 eligible ideas from different stakeholders, and the study conducted a content analyses of these ideas for investigating the profile of the citizens and the type of the sharing economy ideas that were inspired by the SHARE. Tourism was found to be the sector attracting most of the submitted ideas for starting-up a sharing economy entrepreneurial venture aiming to make sustainable use of tourism resources. The findings provide evidence on how SHARE has 'educated', inspired, and activated the citizens to engage in sustainable entrepreneurship.

Keywords: hackathons; citizen engagement; entrepreneurship; sharing economy; sustainable tourism development

1. Introduction

Citizen engagement has continued to gain traction in political and corporate circles. Government policies bothering on education, unemployment, marriage equality and structural projects have all properly been shaped through citizen engagement [1;2]. Again, [2] report that citizen engagement has contributed significantly to the United States Environmental Protection Agency's robust framework in water management programmes in different neighbourhoods. Still within the United States, [3] report that citizens have developed a sense of ownership and the protection of natural resources (forest, land and water) around them through citizen engagement. Realising the importance of renewable energy to environmental sustainability, [4] argues that community collaborative movements focused on renewable energy have increased community-wide participation thus boosted cohesion and bonding within the community.

While the dominance of the traditional channels of citizen engagement limited citizen participation, emerging technologies have redefined citizen engagement with the availability of multi-faceted channels through which authorities can engage citizens. As a matter of fact, citizen engagement through hackathons have become commonplace in recent times. Hackathons are coding competitions involving programmers who develop mobile applications within specific time periods [5]. Open data are usually employed during hackathon events. Open data are information freely

available for access [6]. Similarly, sharing economy, that is, “the peer-to-peer-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services” has successfully provided entrepreneurial opportunities to many people [7, p.47]. Thus the need to use hackathon events to develop programs that promote entrepreneurship and sustainable tourism development has become necessary. Though critics have highlighted that no effective, durable and impactful technology could be built within the limited time that hackathons are allocated [8], practitioners and academics have however continuously highlighted the need for hackathons as an opportunity for corporate bodies and governments to engage with the citizens to proffer social, economic and technological solutions [5; 9]. Interestingly, while numerous studies have investigated citizen engagement as a tool for fostering government-citizen relationships [10], academic literature is scarce that have examined the role of hackathons as a citizen engagement tool. Accordingly, this study has two objectives, that is, to examine the role of citizen engagement on instilling entrepreneurship and evaluate the influence of hackathon contexts as a citizen engagement tool in promoting sustainable tourism development.

To achieve the above objectives, a crowdsourcing competition project called SHARE Challenge was used as a case study. SHARE is a citizen engagement hackathon competition organised and managed by the Department of the Premier and Cabinet (DPC) of the State of South Australia in 2017 (<https://share.yoursay.sa.gov.au/>). The SHARE challenge invited citizens to submit entrepreneurial venture ideas for supporting sustainable tourism and economic development in South Australia. A promotion of the SHARE Challenge (through online and offline media and workshops) took place from April – May 2017, the submission deadline was on the 13 June 2018 and 88 eligible ideas were entered and evaluated for the citizen engagement competition. The top 10 ideas were offered the opportunity to participate in an incubation mentorship programme lasting for 3 months, at the end of which they had to pitch their final ideas. Finally, the top three best evaluated ideas at the pitch event were provided with prizes (cash rewards and participation in a mentorship educational program) for enabling and preparing the citizens to implement their ideas. The study analysed the 88 submitted ideas in relation to the profile of the citizens and the type of the entrepreneurial ideas with the aim to examine whether the competition managed to inspire and activate the citizen to engage in entrepreneurship contributing to sustainable development. Findings provide useful implications on policy makers and professionals on how to best design hackathons to instill citizen engagement and promote sustainable tourism development.

2. Literature review on Citizen Engagement

[4] opine that citizen engagement presents the opportunity to those outside the precincts of power to give a voice in the management of the social system. Thus, [11, p.494] define citizen engagement “as the active participation of citizens, in partnership with government, in decision and policy making processes”. To this end, citizen participation imbues a sense of community identification which leads to collaborative action to influence positive outcomes. Interestingly, the diffusion of information and communication technology (ICT) has opened up multiple channels of citizen engagement leading to the emergence of e-democracy. [12] posit that e-

democracy entails citizens' access to ICT to enhance their participation in the decision-making process. To this end, some scholars have pointed out that e-democracy enhances citizen engagement, for instance more integration and collaboration particularly to those who by time and circumstances were unable to participate in government programmes [13; 14; 15].

2.1 Citizen engagement and sustainable tourism development

While destinations compete to attract tourists, there is usually a pressure exerted on both the host destination and natural resources when aggregate number of visitors increase. These usually results to social and environmental challenges [16]. Accordingly, there has been growing practitioner and academic attention in sustainable tourism [17]. Defined as tourism that enhances "the quality of life of the host community, provides a high quality of experience for the visitors and maintains the quality of the environment on which both the host community and the visitor depend" [18, p. 11], sustainable tourism is hinged on a tripod: preservation of the natural environment; high quality of experience for the tourist and a positive impact on the host community [19]. [20] advocated the theory of citizen participation and power redistribution as a form of advancing sustainable tourism. Building on the work of [21], the study contends that citizen participation evolves from three main levels: non-participation (manipulation and therapy); degrees of tokenism (informing, consulting and placating), and degrees of citizen power (partnership, delegated power and citizen control). This theory has many implications for sustainable tourism planning and development. For instance, in the first level, while 'manipulation' represents policy makers' lack of understanding of citizen engagement, 'therapy' entails the use of power to adjust local citizen's views and opinions through the use of force. In the second level, while 'informing' encompass a gradual shifting from the use of brute force to a civilized practice of informing citizens of their rights and responsibilities, 'consulting' represents efforts to convince residents to express their opinions and 'placating' embodies a gradual increase in public influence. Finally, in the third level, first element 'partnership' represents negotiation between citizens and power holders, an evolving form of power redistribution. In 'delegated power', the citizens achieve dominant power in decision making while citizens assume the power of decision and policy making in 'citizen control'. These steps show that citizen engagement for sustainable tourism development evolves through a well-planned and sustained process. To this end, policy makers should put in place measures aimed at getting and harnessing citizens' inputs for critical decisions relating to sustainable tourism development.

2.2 The use of hackathons for sustainable tourism development

Recently, a stream of literature has emerged seeking to align citizen engagement with the dynamism in the information technology [10; 22; 23] whereby citizens develop technological solutions to destination challenges. Consistent with the argument that governments do not have all the solutions to city challenges [23] and that inputs of citizens are fundamental to solving those problems, there is therefore a growing movement of using open data to provide technology solutions through innovation competitions [2]. Open data are information that governments and municipalities freely make available for access to the public [23]. Everyday use of technological

devices generate a huge quantity of urban open data available at government's disposal. Official statistics, sensor-based data, and user- or company-generated content constitutes the three main sources of open government data [23]. In their raw form, this information cannot be used to solve any problem. Open innovation contests usually take the form of hackathons where governments involve citizens to develop mobile applications that create economic and social value for the city dwellers. Hackathons are 'marathon coding competitions' involving teams of computer programmers brought together to develop prototypes of mobile applications under certain conditions [5]. Hackathons take between 24 to 48 hours and sometimes, even more and ends with a pitch where prizes are awarded by the selection panel to the team adjudged to have performed better [22]. Hackathons have been predominantly adopted by corporate institutions for product and service innovation. According to [5], big and leading technology giants like Apple, Android, Nokia, AT&T, Microsoft and Unilever have all benefitted from the knowledge-pull created through hackathons. Interestingly, advances in programming has demystified the coding process, thus, hackathons are no longer exclusively for tech-savvy individuals [5]. It is therefore imperative that destination managers and local authorities must continuously find ways to implement sustainable tourism development policies through the use of existing data on the platform of hackathons.

3. Methodology

The study aimed to examine the impact of SHARE in instilling citizen engagement in sustainable tourism development. To that end, the study analysed the ideas submitted to the SHARE Challenge by doing a content analysis of the submitted projects. The SHARE Challenge attracted 88 entrepreneurial ideas adopting the principles of the sharing economy, and the study analysed all of them. The Department of the Premier and Cabinet (DPC) provided access to the submission files, and the submitted ideas were analysed in relation to the profile of the citizens submitting their idea and the type of the sharing economy project that they were proposing in terms of: the resources to be 'shared'; the sector being affected; the type of social problem being addressed and the value being created. The ideas were also analysed in relation to the economic empowerment (compensation / fee) that they could provide to two types of stakeholders: a) the peer-to-peer platform being used for enabling the sharing of resources; and b) the actors using the platform for sharing resources. The purpose of the content analyses of the submitted ideas was to investigate how the ideas crowdsourced through the SHARE Challenge inspired and activated citizens to get engaged with tourism entrepreneurship contributing to sustainable tourism. The findings from these 88 ideas and their implications are discussed in the following sections.

4. Presentation and Discussion of the Findings

The results of the submitted ideas for the SHARE challenge are presented below. Ideas were submitted by private individuals and corporate organisations. Similarly, ideas covered a wide range of areas including spaces, assets and various types of resources that could be utilised to generate revenue.

4.1 Finding related to the profile and type of stakeholders submitting ideas

As concerns the type and location of the actors submitting ideas to the SHARE Challenge, results confirm the reach and impact on a diversified type of actors. Ideas were submitted by a somewhat balanced percentage between individuals (48.9%) and organisations (51.1%), although the number of ideas coming from for-profit organisations was almost double the number of ideas submitted from non-for-profit organisations (34.1% and 17.0%) (Table 1). These findings confirm research and anecdotal evidence that the collaborative economy is applicable and it does provide an entrepreneurial opportunity to any type of stakeholder. Thus, it is very positive and important that the SHARE Challenge was attractive and provided an economic empowerment opportunity to a wide citizenry base, and specifically to individuals in SA who are increasingly facing problems of under- or un-employment.

Findings also show that the greatest percentage of ideas (83%) were submitted by actors located in SA, with the remaining of the ideas (17%) submitted across all states of Australia apart North Territory and Tasmania. NSW and Victoria were the states from where a significant greater number of ideas were submitted from, but this is not surprising given the greater population living in these states but also the greater economic and entrepreneurial activity taking place in these states [24]. These findings are important because they show that the SHARE Challenge has managed to achieve its objectives in terms of using the competition challenge and the affordances of the collaborative economy to boost entrepreneurial activity in SA and make the SA a test bed for new entrepreneurial ventures by primarily empowering its local citizenry but also by attracting ideas from other states. In addition, the fact that 42% of the submitted ideas were also found to be able to have an impact not only in SA but also in other states and countries, further reinforces the conclusion that SHARE has achieved its goal to make SA the test bed of new entrepreneurial ventures and sustainable tourism development practices.

Table 1. Actors submitting ideas

Participant	No. of ideas	% of ideas
Non-for-profit organisation	15	17.0%
For profit organisation	30	34.1%
Individual	43	48.9%
Total	88	100%

4.2 Findings related to the sharing economy entrepreneurial ideas

As concerns the resource being affected by the entrepreneurial ideas, the findings revealed that there was an almost balanced interest in (re)-using tangible and intangible resources, since 41% of the ideas (36 ideas) represented tangible resources and the remaining 59% (52 ideas) represented intangible resources. However, a more detailed analysis investigating the specific nature of the resources that the ideas proposed to affect (Table 2) revealed that the greatest percentage of ideas focused on (re)-using physical assets (29.5%), space (27.3%) and human resources (12.5% intellectual human resources and 10.2% physical human resources). A substantial

lower percentage of ideas focused on (re)-using waste (6.8%), data (5.7%), natural resources (4.5%) and cultural/heritage resources (3.4%).

Table 2. Type of resource to be (re)-used

Type of Resource	No of ideas	% of ideas
Cultural/heritage resources	3	3.4%
Physical / natural resources	4	4.5%
Data / information	5	5.7%
Waste	6	6.8%
Physical human resources (e.g. physical human activity)	9	10.2%
Intellectual human resources (e.g. know how)	11	12.5%
Space	24	27.3%
Physical assets (e.g. tools, equipment, cars)	26	29.5%
Total	88	100%

These findings may not be surprising when considering that the under-utilised space is one of the major ‘waste’ and issues frequently identified by several stakeholders in SA. In addition, the increased interest on space, cars and human resources can also be attributed to the great controversial public debates as well as international but also Australian presence and appeal of the marketplaces of ‘Airbnb’, ‘Uber’ and ‘Airtasker’. These powerful brands of peer-to-peer marketplace have definitely created an increased citizenship awareness and understanding on how to utilise and monetise ‘unused’ space, cars and human resources for generating economic, social and environmental values. Finally, the fact that the majority of the submitted ideas to SHARE showed a great interest and focus to apply the principles of the collaborative economy in order to utilise and monetize the potential of space and human resources in SA is another ‘success’ for the SHARE Challenge. Subsequently, the economic empowerment and job opportunities provided to under-employed and/or un-employed to provide their physical and intellectual resources through peer-to-peer platforms is critically important to the SA economy and its drive towards sustainable tourism development.

On the other hand, the findings also revealed a myopia of citizenry and a ‘lost’ opportunity for SHARE Challenge to attract ideas and boost entrepreneurship by utilising other important resources such as, data/information. The use of data/information in the collaborative economy has become very important specifically due to the availability of numerous open public data, the resources invested by public bodies to provide it, and the need to use them for increasing transparency, supporting democracy and decision-making. Trends in big data (the huge amount of available data online) also shows a lost opportunity but also lack of awareness of citizenry about the potential to use data/information for developing entrepreneurial ventures and generating value. In addition, the use of the principles of the collaborative economy for (re)-utilising natural and cultural resources can ensure the sustainable utilisation and development of these resources by: generating economic value for maintaining and protecting these resources; and avoiding the over-commercialisation

of the resources by finding a good balance between the achievement of economic, socio-cultural and environmental value.

Findings related to the impact of the ideas submitted provide further evidence about the accomplishment of the objectives of the SHARE Challenge. The ideas were found to solve a great variety of social problems (Table 3), but with a great emphasis on underutilised assets/wastage and unemployment. This is not surprising given the fact that the greatest majority of ideas were also found to focus on (re)-utilising space, assets and human resources. The great interest generated by SHARE on addressing issues of unemployment and wastage/underutilised resources is very positive to SA, as these currently represent to current but also increasing worries in the state. Crime is not a major concern in SA, so, it is not surprising as well as worrying that only a small number of ideas were attracted to solve this issue.

Table 3. Type of social problem being addressed

Social problem	Number	Percentage
Crime	2	2.3%
Old-age related	7	8.0%
Unemployment	19	21.6%
Underutilized assets/wastage	55	62.5%
Total	88	100%

However, ideas aiming to solve the social issues relating to ageing are really too few, and this actually represents a lost opportunity for the SHARE Challenge since ageing and its subsequent social issues and problems that can create are a major concern for the state. Thus, there are plenty of opportunities in this space to further exploit the affordances of the collaborative economy to address such issues by developing a more customised and dedicated project in this context in the near future. Another interesting and supportive finding (in relation to the impact of the SHARE Challenge to raise and instill entrepreneurial activity within industries being important and appropriate to SA) is the fact that a substantial percentage of ideas (but maybe not enough) relate to two critically important but also inter-related industries, i.e. tourism and agriculture (Table 4).

Table 4. Type of industry

Industry	Number	Percentage
Sports/Recreation	1	1.1%
Power and Energy	1	1.1%
Banking/Finance	2	2.3%
Communication/Telecommunication	3	3.4%
Health	6	6.8%
Transportation	8	9.1%
Education	8	9.1%
Real Estate	9	10.2%
Tourism	10	11.4%
Agriculture	14	15.9%
Homecare/Households	26	29.5%

Total	88	100%
--------------	-----------	-------------

Tourism represents an important and competitive industry for SA attracting foreign visitors and income that in turn generate numerous jobs; SA is also known for its sustainable and high quality agricultural products, which are heavily related and contributed to the development of world-wide famous tourism products in SA (i.e. (luxury) wine tourism, (organic/sustainable) food tourism and cuisine, agro-tourism, nature-based tourism). Because of these but also coupled with the high affordances and appropriateness of the collaborative economy to boost sustainable tourism development (i.e. the Airbnb and Uber phenomenon), it is highly recommended that future citizen engagement projects should aim to instill and boost entrepreneurial activity and opportunities within these two important but also interrelated industries. The synergies and multiplier development effects by combining tourism and agriculture can only be too important and beneficial to SA economy and communities, e.g. allow locals to remain in rural areas with an economic activity instead of immigrating to city centre to get a job.

Findings show that 43.2% of the ideas provide a compensation/fee to the owner of the marketplace, and more than half of the ideas (55.7%) allow for a compensation/fee for the stakeholder using the marketplace to share its resource. In other words, either way, all ideas economically empower at least one or frequently both stakeholders. Findings also show that the entrepreneurial ideas empower and provide a solution to a great variety of ‘disadvantaged citizens’ like students, retired, parents, young, unemployed, homeless, communities/groups. These are referred to as ‘disadvantaged citizens’ based on the fact that they cannot easily start up an entrepreneurial venture due to lack of time, expertise, capital and know how. The purpose of the SHARE Challenge was to give the opportunity and resources to such citizen to engage in entrepreneurship. These findings also provide additional support about the socio-economic impact that the SHARE Challenge has managed to generate in specific groups of citizens requiring special attention and support.

4.3 Conclusions and implications

The objective of this study was to examine the role of competitions in motivating citizen engagement in sustainable (tourism) development and entrepreneurship. The case of the SHARE Challenge (a sharing economy competition initiated by the government of South Australia) was used as a case study. Findings about the ownership and control of the resources being affected by the ideas also revealed some interesting findings, but also confirmed some of the above conclusions. A substantial higher percentage of ideas aimed to (re)-utilise privately owned resources than publicly owned resources. In addition, findings revealed that the greatest percentage of ideas focused on (re)-utilising resources controlled by citizens. This is not surprising given the previously identified emphasis on human resources and very low focus on public resources (e.g. natural, cultural and open public data). However, findings also show that there is a good balance of ideas releasing resources controlled by both citizens’ and non-citizens with the latter actors representing a great and balanced diversity of various public, community/social and non-for-profit enterprises.

Indeed, the findings reveal that the submitted ideas propose to release resources controlled by an almost balanced proportion of three different stakeholders namely for

profit enterprises, social/community enterprises and government agents. Thus, although the ideas show a substantial over-emphasis on privately owned over publicly owned resources, on the other hand, the ideas represent a balanced capacity to release resources (for generating socio-economic value) that are controlled by a great variety of social actors coming from both the private and public economic sphere. More detailed findings providing the percentages of ideas based on the type of resources and the social actors controlling the resources also reflect that the SHARE competition attracted a great diversity of ideas spread across various types of resources controlled by various social actors. In this vein, the SHARE Challenge has been successful in inspiring entrepreneurial interest in line with the principles of the collaborative economy in order to release a great type of resources from the control of a diversified pool of social actors.

Though this study is descriptive, it however opens up the following critical insights, which can be leveraged by destination marketing organisations and local authorities to incorporate citizen engagement in their strategic efforts to implement sustainable tourism development policies. Accordingly, three key lessons are derived on how citizen engagement motivates entrepreneurship and sustainable tourism development. First, locals need to be carried along in designing and delivering social services. As posited by [23], government does not have all the solutions to city challenges, thus the contributions of citizens are very fundamental as they have more information at their disposal that can provide solutions to social problems. The engagement of citizens in competitive contests like the SHARE Challenge can unlock ideas which can trigger various entrepreneurial ventures. Second, while governments at all levels including international organisations are drafting different policies and channeling resources to mitigate the effects of human activities on the environment with incommensurate results [25], it is important for governments to begin to focus more on citizen engagement as a veritable means of developing sustainable use of resources. As evidenced from the results, the management of underutilized assets/wastage accounted for the highest percentage of the social problems the identified ideas seek to solve. To this end, utilizing citizen engagement could engender bottom-up approaches to sustainable tourism development [26; 27]. Finally, local authorities and destination management organisations should, as a matter of policy, incorporate citizen participation in driving sustainable tourism development. As argued by [20] when policy planners incorporate locals as critical stakeholders in driving policies, the benefits are often more than when policies are only top-down.

One major limitation of the study is that it did not examine the consequences of the ideas in terms of triggering practical entrepreneurial ventures. Thus, it is proposed that from a developing country perspective, how can the government through citizen engagement motivate citizens to provide solutions to critical social ills such as insecurity, hunger and crime? Furthermore, countries in Europe and the United States have been battling refugee crises for about a decade now. These refugees mainly migrate from Africa and Asia to seek for a better life elsewhere. However, some studies have pointed out that these countries have sufficient natural and human resources to economically transform these countries [28]. From a leadership point of view, further studies can explore how citizen engagement can enhance sustainable

tourism development within the developing country context and how such can mitigate migration to developed economies.

References

- [1] Kraft, M. E., & Clary, B. B. (1991). Citizen participation and the NIMBY syndrome: Public response to radioactive waste disposal. *Western Political Quarterly*, 44(2), 299-328.
- [2] Wagenet, L. P., & Pfeffer, M. J. (2007). Organizing citizen engagement for democratic environmental planning. *Society and Natural Resources*, 20(9), 801-813.
- [3] Carr, D. S., & Halvorsen, K. (2001). An evaluation of three democratic, community-based approaches to citizen participation: Surveys, conversations with community groups, and community dinners. *Society & Natural Resources*, 14(2), 107-126.
- [4] Radtke, J. (2014). A closer look inside collaborative action: civic engagement and participation in community energy initiatives. *People, Place & Policy Online*, 8(3).
- [5] Leckart, C. (2012). The hackathon is on: Pitching and programming the next killer app. Available at https://www.wired.com/2012/02/ff_hackathons/. Accessed on 29.10.2017
- [6] Hartmann, S., Mainka, A., & Stock, W. G. (2016). Opportunities and Challenges for Civic Engagement: A Global Investigation of Innovation Competitions. *International Journal of Knowledge Society Research (IJKSR)*, 7(3), 1-15.
- [7] Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The sharing economy: Why people participate in collaborative consumption. *Journal of the association for information science and technology*, 67(9), 2047-2059.
- [8] Wishnie, J. (2014). Why Hackathons Suck (and don't have to). Available at: <https://www.thoughtworks.com/insights/blog/why-hackathons-suck>. Accessed on 31.10.201.
- [9] Briscoe, G. (2014). Digital innovation: The hackathon phenomenon.
- [10] Desouza, K. C., & Bhagwatwar, A. (2012). Citizen apps to solve complex urban problems. *Journal of Urban Technology*, 19(3), 107-136.
- [11] Olphert, W., & Damodaran, L. (2007). Citizen participation and engagement in the design of e-government services: The missing link in effective ICT design and delivery. *Journal of the Association for Information Systems*, 8(9), 27.
- [12] Lee, C. P., Chang, K., & Berry, F. S. (2011). Testing the development and diffusion of e-government and e-democracy: A global perspective. *Public Administration Review*, 71(3), 444-454.
- [13] Macintosh, A. (2008). E-democracy and e-participation research in Europe. In *Digital Government* (pp. 85-102). Springer, Boston, MA.
- [14] Chun, S., Shulman, S., Sandoval, R., & Hovy, E. (2010). Government 2.0: Making connections between citizens, data and government. *Information Polity*, 15(1, 2), 1-9.
- [15] Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*, 29(4), 446-454.
- [16] Alexis, P. (2017). Over-tourism and anti-tourist sentiment: An exploratory analysis and discussion. *Ovidius University Annals, Economic Sciences Series*, 17(2), 288-293.
- [17] Lee, T. H. (2013). Influence analysis of community resident support for sustainable tourism development. *Tourism management*, 34, 37-46.
- [18] McIntyre, G. (1993). *Sustainable Tourism Development: Guide for Local Planners*. Madrid, Spain: World Tourism Organization.
- [19] Liu, Z. (2003). Sustainable tourism development: A critique. *Journal of sustainable tourism*, 11(6), 459-475.
- [20] Okazaki, E. (2008). A community-based tourism model: Its conception and use. *Journal of sustainable tourism*, 16(5), 511-529.

- [21] Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of planners*, 35(4), 216-224.
- [22] Richard, G. T., Kafai, Y. B., Adleberg, B., & Telhan, O. (2015, February). StitchFest: Diversifying a College Hackathon to broaden participation and perceptions in computing. In *Proceedings of the 46th ACM Technical Symposium on Computer Science Education* (pp. 114-119). ACM.
- [23] Hartmann, S., Mainka, A., & Stock, W. G. (2016). Opportunities and Challenges for Civic Engagement: A Global Investigation of Innovation Competitions. *International Journal of Knowledge Society Research (IJKSR)*, 7(3), 1-15.
- [24] Stimson, R., Baum, S., Mullins, P., & O'Connor, K. (2001). Australia's regional cities and towns: Modelling community opportunity and vulnerability. *Australasian Journal of Regional Studies*, 7(1), 23.
- [25] Burby, R., Dixon, J., Ericksen, N., Handmer, J., May, P., Michaels, S., & Smith, D. I. (2013). *Environmental management and governance: Intergovernmental approaches to hazards and sustainability*. Routledge.
- [26] Byrd, E. T. (2007). Stakeholders in sustainable tourism development and their roles: applying stakeholder theory to sustainable tourism development. *Tourism Review*, 62(2), 6-13.
- [27] Koontz, T. M., & Newig, J. (2014). From Planning to Implementation: Top-Down and Bottom-Up Approaches for Collaborative Watershed Management. *Policy Studies Journal*, 42(3), 416-442.
- [28] Chok, S., Macbeth, J., & Warren, C. (2007). Tourism as a tool for poverty alleviation: A critical analysis of 'pro-poor tourism' and implications for sustainability. *Current issues in Tourism*, 10(2-3), 144-165..