Open Data and High-Tech Startups Towards Nascent Entrepreneurship Strategies

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INTRODUCTION

Open data can be defined as freely, accessible, online data, which are available and can be reused. They are provided under open access allowance so that the data can be reused without restrictions (Jetzek et al., 2014). They can be used for the development of applications which improve citizens' life. A way to boost the development of innovative applications is by hosting hackathons, workshops and conferences (Zuiderwijk et al., 2015).

A definition for a hackathon determines hackathon as an event where people come together in order to engage in creating and launching a new or finished application, which will solve citizens' problems (Rosell et al., 2014). Hackathons are designed to support the use of open data which will benefit both government and citizens (Sieber & Johnson, 2015). Governments desire to scrimmage both citizens and developers to expand an application using open data which are developed, promoted and distributed through hackathons. According to researchers, there are many motivations to persuade developers to participate in a hackathon (Komssi et al., 2015). By hosting these competitions, governments wish to inform about the concernment and the use of open data while they are also supporting the expansion of new applications. These hackathons are frequently consolidated with prize money for participants (Johnson & Robinson, 2014).

Open data are free and accessible, so is beneficial for researchers, government and society. The benefits of open data could be categorized into political and social. Providing the sharing of scientific data is not only a technological issue. It also includes organizational models and research practices, as well as it contains institutional, legal and economic factors (Sa & Grieco, 2016). Several scientific journals support the reveal of experimental data thus data can be reused, reproduced and confirmed (Hossain et al., 2016). Some examples of these benefits are the increased transparency, the accountability, the participation and self-empowerment of citizens to economic growth and the stimulation of competitiveness and innovation (Viscusi et al., 2014). There are two significant benefits concerning the release of open data. The first regards the increased participation of citizens in government, the transparency and melioration of decision-making and the understanding of smarter government tactics through data. The second benefit is the release of data by startups and new businesses in order to expand innovative applications (Conradie & Choenni, 2014).

Open data contains an ecosystem, which displays the relationship among government and innovators and citizens, which is furthermore involved within the larger environment, such as the economy, legal system, and policy expertise (Zuiderwijk & Janssen, 2014).

Previous researchers only describe the activities which are necessary to host the contest (Grabowski et al., 2015, Lee et al., 2015, Rosell et al., 2014). There is limited previous research not only on what motivates the developers to participate in open data competitions, but also on the benefits and challenges which are caused from the use of open data. Furthermore, researches focus on factors that affect nascent entrepreneurs' decision to create a startup but researchers in the field of open data and hackathons relative researches are limited.

The objective of this chapter is to present a framework in order to examine the impact of motivations, benefits and barriers of the use of open data in the participation in hackathons and to develop a startup based on their applications.

The structure of this chapter is as following: After the introductory section, a theoretical background is provided about open data and hackathons. Results of previous surveys support this background. The chapter ends up with conclusions, suggestions for future research and limitations.

BACKGROUND

Open Data

According to Worthy, (2014), open data are defined as the reuse of information and the publishing of government data in a reclaimable form. Data which have been published in an open data format would be available to the public to be reused without limitations (Attard et al., 2015). So developers in hackathons will have the opportunity to use them in order to develop their applications for citizens.

Open data contains an ecosystem, which displays the relationship among government, innovators and citizens. Also, it is involved within the larger environment, such as the economy, legal system, and policy expertise. The open government ecosystem contains relationships between government and innovators from technology sectors, private industry, and academic institutions. Their aim is to transform the form of new data

standards, to investigate new designs of information systems and new technology platforms that permit the expansion of information or technology resources for the future.

The major actors, who contribute in open data are data providers, open data legislators, open data facilitators and many different kinds of open data users, such as citizens, researchers, journalists, developers, entrepreneurs and academics. These actors have various interests and these interests may vary (Viscusi et al., 2014).

The first actor named "Data Providers", consists of the organizations that provide free data. They are commonly public administrations that have many data but they do not have the abilities or resources to use them in the form of data or expand services with them. These organizations provide data to improve the national economy, allowing businesses and citizens to take advantage of them. The second actor is "Service Providers". They offer services related to data and can improve the revenue by the treatment services. The third actor is "Application Developers". They cooperate with partners developing applications related to open data or use open data as completed with their own data in their applications. They develop applications and service using data dispensing by the previous actors. The next actor is "Application Users". They consume data. This process can be done with the development of applications and services. A user can be a customer, a citizen or a business. A customer is defined as a user who has acquired a commercial application from an application store. A citizen can be defined as a user who uses the application personally as a citizen. A business can be defined as a user who uses the applications in his own business. The final actor is "Infrastructure and Tool Providers". They provide the necessary tools supporting the expansion of applications based on open data. These tools are tools providers, cloud service providers, market place providers (Immonen et al., 2014).

The purpose of a good government is to interact with users or citizens, business, and civil sector organizations. Other relationships are referred among public managers and citizens, civil society

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