Exploring the Feasibility of using Video Communication within Local Government Services: The Case of Advisory Services for Potential Entrepreneurs

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Abstract

This research assesses the feasibility of using video communication in an existing local e-government service, which advises entrepreneurs on how to set up a new business. In line with this aim, we conducted focus groups and in-depth interviews with the municipality staff presently advising the entrepreneurs in the current form the service is offered, and citizens (i.e. potential entrepreneurs) using these advisory service to find out more information about their needs and requirements a video communication service should have. The results highlight the necessity of having a good infrastructure, clear communication protocol and the necessity to address trust and confidentiality issues prior to deploying such a service. A key conclusion of this study is that neither the entrepreneurs nor the municipality staff expected the video service fully replacing the face to face communication, but complementing it and providing a better and more flexible access to citizens.

Keywords: local e-government service, entrepreneurs, video communication, adoption, business advisory services, smart cities.

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Introduction

Governments globally are trying to encourage the creation of new businesses with the aim to improve local and national economies (Acs, 2006). This is typically done through the creation of publicly funded advisory services, which coach the potential entrepreneurs and the newly created businesses that would not otherwise afford a similar service (Cumming et al., 2014). Almost every developing country offers these services either free of charge or partially funded (Cumming and Fischer, 2012). Considering the importance of start-ups and small and medium business to the economy (Acs, 2006), there is no surprise that local governments aim to improve these services and make them accessible to as many citizens as possible. In this respect, the introduction of Information and Communication Technologies (ICT) was seen as having the potential to open up further opportunities for local governments to improve the services that they offer to their citizens.

Introduction of ICT in governments started more than a decade ago, and had a mixed success outcome (Cordella and Contini, 2012; Hofmann et al., 2012; Norris and Reddick, 2013, Räckers et al., 2013, Royo et al., 2014). This may be due to the fact "that the average citizen often prefers to have face to face contact when dealing with public services" (Weerakkody et al., 2012). It is likely that for some services the citizens were attempting to use them but failed and ended up using other means (Andersen et al., 2011). This could be attributed to the lack of involvement of relevant stakeholders from initial phases that has led to services which were not meeting their needs and reticence from the relevant stakeholders to use them and hence leading in slow adoption (Currie, 2012; Goel et al., 2014).

This research seeks to explore feasibility and critical factors for successful adoption of the usage of high definition video communication in public services, in particular focusing on advisory services for entrepreneurs and enterprises. Video communication is seen as a solution to alleviate the lack of personalisation that the online services often face (Weerakkody et al., 2012). In order to address the feasibility and critical factors we first determined the relevant stakeholders, who in this case are the municipality staff which facilitate the service and the potential entrepreneurs. Both these stakeholders will use the service and their opinion is important in making the service successfully adopted. We conducted in-depth interviews and focus groups with the municipality staff and citizens (in this case focusing on potential entrepreneurs in Spain), which was performed in the context of the LiveCity project, which is funded by the European Commission (EU FP7 CIP grant agreement No. 297291).

The following section presents the background of using technology in public services in general and focuses on usage of ICT to provide support for entrepreneurs in particular. Afterwards the evaluation performed as part of this study is presented. Finally, the paper concludes by presenting the discussions, and highlighting the future work of this study.

Background

There are several factors cited in the literature as drivers towards e-government adoption, including: rising efficiency and reducing the cost of providing services, availability of the service regardless of the citizen location, being able to provide citizen centric solutions, and improving transparency and accountability (Affisco and Soliman, 2006; Dunleavy et al., 2006; Dwivedi et al., 2012; Gupta, et al., 2008; Molnar et al., 2013). Citizen adoption of an e-government service also reflects the service success (Yonazi et al., 2010; Sivarajah et al.,

2014). Yet, despite the above mentioned benefits e-government adoption failed in many cases (Chadwick, 2009; Cordella and Contini, 2012; Ferro and Molinari, 2010). In some services poor adoption has been seen as a direct consequence of poor understanding of the context in which the service will be used and low or lack of involvement of the potential stakeholders from the initial stages. This has led to systems that are not fully designed to meet the expectations of the citizens and as a consequence their resistance in adopting the new service (Currie, 2012; Goel et al., 2014). In this article we present the results of involving the stakeholders in the early stages of the implementation of ICT in a local e-government service aimed at offering help potential entrepreneurs to set up a business.

Prior research has been performed on the introduction of Internet in remote communities to spur entrepreneurial activities (Cumming and Johan, 2010). This has been seen as a way to provide better access to information, customers and suppliers and hence reduce the effect of distance (Cumming and Johan, 2010). Other research focused on the creation of business incubators that aim to foster innovation and assessing their effectiveness (Klonowski, 2007; Tang et al., 2014). However, to set up a business and to make the business a success, most entrepreneurs need help and access to information. This often needs to be provided on a personalised basis, which is based on entrepreneurs' business needs, or involves discussing sensitive issues. Moreover, in the initial stages of setting up a business, entrepreneurs generally do not have the financial resources to pay for consulting services (Hjalmarsso and Johansson, 2003). Advisory services for entrepreneurs are one of the most ubiquitous forms of government support for the new entrepreneurs (Cumming and Fischer, 2012). Getting the needed support is mostly realized by setting up an appointment with the municipality representative and being physically present at their office. However, in sparse communities, this would imply long commute times, and hence face difficulties in accessing the information needed. Therefore, complementing existing services through video communication could help encourage more entrepreneurs to set up their own business, or at least allow for an easier access to such a service. It has been highlighted that using advisory services provided by the government is positively associated with growth in sales, patents and alliances of the newly set up businesses (Cumming and Fischer, 2012). Moreover services can help business develop internationalisation related knowledge and competences (Cumming et al., 2014) and can help enhance business organisational innovation (Sawang et al., 2014). However, in order to introduce a new service, there is a need to understand the stakeholders' needs and to anticipate and alleviate the possible difficulties.

In our study we focus on introducing video communication as it has been seen as a solution for providing both personalised services and also to offer help for citizens that have difficulties using current local government services (Chochliouros et al., 2014; Weerakkoddy et al., 2013a). Although assessing criteria for successful video usage has been considered for other e-government services (Molnar and Weerakkody, 2013; Popleteev et al., 2013; Weerakkody et al., 2013b; Weerakkody et al., 2014), to the best of our knowledge these studies have not assessed criteria for successful introduction of video communication in existing advisory services for entrepreneurs. We acknowledge that some of the already defined successful criteria for the usage of video communication may be common across all the services, however a proper understanding of the context on which this service is to be deployed could signify the difference between the success and the failure of the service (Molnar et al., 2015). With this aim, we have involved the relevant stakeholders and found the needs for a video communication service to complement the face-to-face advisory services for entrepreneurs, focusing on municipality of Valladolid as a case study.

Video Usage For Advisory Services for Entrepreneurs

This research is done in the context of the LiveCity project that seeks to provide high definition video over public infrastructure (Weerakkody et al., 2013a). This project is aimed at improving existing core government services through the introduction of high video to video communication on the public Internet for essential government services such as education, public administration, health and city experience (Molnar et al., 2013).

Introduction of video communication for the advisory service for entrepreneurs and enterprise initiatives could make it more cost effective and more convenient for the potential entrepreneurs to benefit from existing services without the necessity to travel to the municipality facility. This is particularly true in sparse community (such as Valladolid), which requires some of their potential users to travel in order to benefit from the existing support as currently the service offered for potential entrepreneurs in Valladolid is done face to face. The services offered consist of guiding the entrepreneurs through the process of setting up a business and associated regulatory issues and helping them with the issues that may arise when setting up a new business. Even after the new company is created, the entrepreneurs can still seek on-going support if needed. Having video communication facilities available as complementary to the existing service will allow entrepreneurs to ask for support when problems arise, regardless of their location.

Study

The aim of this study was to determine whether the relevant stakeholders (in this case the municipality staff helping the entrepreneurs and the potential entrepreneurs) will accept the use of video communication, and what criteria will be important for the successful adoption of these services, if they were to be offered.

Methodology

Inductive exploratory research was chosen due to the scarcity of empirical work related to the usage of video communication in the public sector for this particular service. Case research is useful when dealing with broad and complex phenomenon, and the existing body of knowledge is insufficient to permit posing casual questions (Yin 2003). Due to the lack of understanding and the complexity involved in the area, semi-structured interview and focus group were used. It was not necessary to design a structured interview agenda to ask questions in a specific order (Yin 2003), but literature reviews provided the themes to be explored during the empirical work. Semi-structured interviews and focus groups are useful in providing the necessary focus needed to probe a research domain that is exploratory at present (Harding 2013, Whitman and Woszczynski 2004, Yin 2003). Interviews were recorded, and notes were taken, with the consent of the participants as this allows for an easier analysis of the information (Crane 2005). Thematic analysis process (Boyatzis 1998) was used for the analysis following both an inductive and deductive approach, where emerging issues were linked to the criteria identified through literature and documenting any new issues and assigning labels to these.

Permissions for these interviews and focus groups were obtained through completing the necessary ethical approval procedures at Brunel University as well as from the affiliated institutions. Furthermore, the participants were given an information sheet containing information about the project, what is expected from the participants and their rights to

withdraw from the study anytime without any prior notice or explanation or not to respond to the questions that they do not feel contented to respond. Participants' demographic data (i.e. age group, gender) were collected prior to the interview in a questionnaire format. However, the participants did not have to disclose their demographic data if they did not want to. The Valladolid municipality, who has also facilitated the interviews, facilitated access to the participants. The participants were involved on a voluntary basis in this study. The interviews were performed in English or Spanish depending on the languages that the participants felt more comfortable with. The recordings of the study were translated into English for analysis purposes.

Participants

We interviewed two members of the municipality staff who helped with the entrepreneurs to set up their business. Both participants were women, who have a postgraduate university degree and worked for more than 10 years in local government services. One of the members of the staff was in the age group of 26-35 and the other was between the ages of 45-55 years.

We also held a focus group with three potential entrepreneurs that volunteered to participate in the study. They were all males between 26 and 35 years of age, two of them having finished postgraduate degrees and the other having completed secondary school. They had varying levels of experience with local government services from less than one year to more than five

Results

Considering the importance of involving relevant stakeholders in the implementation of ICT in public services (Goel et al., 2014; Currie, 2012), this study involved the service providers (municipality employees) and the citizens (potential entrepreneurs). With this respect it was important to find out the feasibility of introducing such a service and what criteria was necessary for these services to be successfully adopted. The results of the interviews and focus groups are presented below.

Potential Entrepreneurs

The entrepreneurs mentioned privacy as one of their main concerns as some of them did not feel confident in speaking through the video-to-video service about more sensitive issues such as money. However the video service was perceived positively overall, the entrepreneurs were hoping to obtain instant help from the municipality staff wherever they are, and thereby saving time and money for travelling in to the municipality. However, they mentioned however that if they did not like the service they would like to also have the option to discuss with the municipality staff through face-to-face method. Easy installations, as well as having a good connectivity, and video quality were mentioned as being vital for the usage. Table 1 outlines the criteria for successful video use discussed during the focus group.

Success Criteria	Proposed Description
Increase access to	Perceived entrepreneur access to municipality employees for
municipality employees	help and support
Communication	Communication between potential entrepreneur and the municipality staff
Number of persons who continued using the service after the first interaction	How many users continued using the service after the first interaction?
Easiness to install	How easy it is for the potential entrepreneur to install the video-to-video application?
Privacy	How the video to video is affecting the privacy (i.e. whether the entrepreneurs feel confident about discussing over the v2v in the same way as face to face)?
Money	Money saved as a result of not having to travel to the municipality facilities where this service is offered
Time	Time saved as a result of not having to travel to the municipality facilities where this service is offered
Convenience	The service is accessible regardless of the location of the citizens accessing it
Connectivity	The quality of connectivity between the citizens and municipality
Video quality	The perceived video quality when the video communication service

Table 1: Summary of the Success Criteria based on Potential Entrepreneurs View

Municipality Staff

Two interviews were held with the municipality employees who advise the potential entrepreneurs. One of them was a frequent user of video communication services such as Skype while the other was an occasional user.

The municipality staff also mentioned technical parameters such as the connectivity video quality and delay, which could impede the communication. One of the most highlighted concerns was the lack of privacy for potential entrepreneurs when using video services, as the information discussed between the municipality employee and municipality staff is confidential. The interviewee mentioned that some of the citizens might be using the computer from a library or they may need help for using it and hence they will not have the privacy to discuss sensitive issues. However, the service is being seen as extremely beneficial for people living in distant areas especially because of the dispersed population in the Valladolid area, which otherwise would have difficulty in having access to the service. Improvements in the communication and the entrepreneurs being able to contact the municipal employee whenever they need information are seen as both beneficial and as a drawback. It seemed beneficial for the entrepreneurs, but the municipality staff posed concerns related to their availability to answer questions. As one of the municipality staff stresses, "when potential entrepreneurs might want to have constant communication, if people call and you cannot attend to their call, you can give them an appointment for another day, but the people managing the online programs are used to immediate attention and response.

Table 2 presents what criteria should we measured in order to determine that the service was successful according to the municipality staff.

Success Criteria	Proposed Description
Number of remote citizens	How many remote citizens, who otherwise will not access
reached	the service, are using the video service?
Number of citizens giving	Number of citizens using the application once and then
up on the application	giving up.
Communication	Increase and facilitated communication between potential
	entrepreneurs and the municipality staff
Expectation	Making sure that the potential entrepreneurs are aware of the expectations the municipality staff have when using this kind of service
Access to municipality employees	Perceived entrepreneurs' access to municipality employees.
Privacy	How the video to video is affecting the privacy (i.e. whether the entrepreneurs feel confident about discussing over the video to video in the same way as face to face)?
Connectivity	The quality of connectivity between the citizens and municipality
Video quality	The perceived video quality when the video communication
	service
Delay	The time elapsed from the moment the information is
	transmitted until it reaches its destination

Table 2: Summary of the Success Criteria based on Municipality Staff Views

Discussion and Conclusion

Summary

This paper presents a possible use of video communication in public services that are focusing on advisory services for entrepreneurs. A focus group and two in-depth semi-structured interviews were performed with the municipality staff helping entrepreneurs to set-up their own business and potential entrepreneurs. The results show that all the participants are positive towards the introduction of the video communication service. The entrepreneurs and municipality responsible for the program saw it as a way to reach remotely living citizens and also to gain access to the information when they need it without the need to travel to the municipality. Both the entrepreneurs and municipality staff mentioned privacy as a key problem for this kind of service, especially when sensitive information is discussed. Both mentioned connectivity and good quality of video transmission as a must in the acceptance of the technology and trust was seen as an obstacle in the adoption of video communication technology. Table 1 and Table 2 summarises the factors for each services and Figure 1 groups the factors that were obtained from both the entrepreneurs and municipality across four dimensions: technical specifications required (network and application level), cost, service improvements as a result of improving the service and possible risks to be considered and monitored during the service.

Technical Network: Connectivity Delay Application: Video Quality Easiness to Install

Cost Time Money

Service Improvements

Increase access
Improved communication
Convenience
Remote living citizens reached

Risks

Privacy
Different communication
expectations
Citizens giving up the service

Figure 1: Factors to be considered in Development of a Video Services for Advisory Entrepreneurs Services

Discussion

Most often the usage of ICT is seen as a solution to reducing cost (Dorsey et al., 2013; Lawston et al., 2010) and increasing the productivity of the municipality staff (Andersen et al., 2010; Löfstedt, 2005). In this research, a blended form of online service is presented in which the municipality staff and volunteers are co-producing the service using synchronous video communication (Millard, 2010). Although the workload of the municipality staffs will not be reduced, they will be able to reach out to those living in remote locations, far away from municipality facilitates. Therefore, most of the cost saving appears to be for the potential entrepreneurs who will not necessarily need to travel to meet the municipality staff.

The results show that, at least for the moment, neither the municipality staff nor the potential entrepreneurs saw the introduction of the video service as a replacement but rather as a complementary service for face-to-face communication method. In person service is still considered preferable especially when discussing about sensitive issues. However, the service is seen by both parties as a way to reach citizens not living close to municipality, which otherwise may not have easy access to such a service, or by entrepreneurs by reaching the municipality staff when they need help but they are not in the position to come to the municipality.

The study highlighted the necessity of providing a clear communication protocol on video services between the municipality staff and citizens using the service, in order to avoid misunderstandings and disappointments. It has been clear from the entrepreneurs interview that they see video communication as a mean to being able to reach the municipality staff when they need it, while municipality staff expressed concerns that this will lead the entrepreneurs to expect municipality staffs to be available at all times when they contact them, which it is not always case. This was not a problem in the case of in-person service as when

coming to the municipality, citizens could see that the municipality staffs are already engaged in a different conversation, an insight which will not be accessible online.

Privacy is an issue mentioned by both municipality staff and entrepreneurs. Municipality staff mentioned that some of the citizens that come to them, do not have their personal computers and use a public computer, which were available in a library. Most entrepreneurs do not want to share their business idea with others, which lead to video communication not being a suitable solution for all the conversations that the municipality staff and the potential entrepreneurs might want to discuss. Moreover, the entrepreneurs mentioned that when discussing sensitive issues such as those related to money, they felt more confortable discussing them in a face-to-face meeting rather than online. Therefore, although video communication could be use to facilitate some of the communication, at least to the sample of entrepreneurs we consulted, it will not be a solution for all of the communication.

Although some of the criteria identified in this study were not identified across other government services for which video communication was introduced (e.g. privacy issues and clear communication protocol), others helps to reinforce points made in the literature about other services using video communication. Several technical issues were mentioned, both related to the network but also to the easiness of use of the application, highlighting the need for a good infrastructure but also easiness of use and usability as an important factor into adoption. The importance of a good infrastructure and having good video quality was identified as a factor for the introduction of video communications in education (Molnar et al., 2014; Morse, 2014; Weerakkody et al., 2014), health (Molnar & Weerakkody, 2013; Weerakkody et al., 2013b) and museum services (Popleteev et al., 2013). The potential benefits derived from the introduction of this service such as the savings in terms of money and time and convenience were also mentioned in the above study. Moreover ease of use appears in different well-established adoption models (Davis, 1989; Venkatesh et al., 2012).

Theoretical and Practical Implications

This study adds to the state of the art by providing an overview of factors that maybe useful to consider when deploying video communication in a local e-government service, in particular business advisory for entrepreneurs. To the best of our knowledge this is the first study to explore success criteria for using video communication for entrepreneurial services.

The results presented in this research can be used either by policy makers or managers who provides advisory services in order to determine the factors that needs to be considered for successfully deploying a similar service, as well as risk factors that need to be monitored.

Limitations and Future Work

As all research, this study has some limitations. The study is performed in the context of a city in Spain. Although some of the factors determined in this study were common across different services that aimed to introduce video communication (studies that took place sometimes in different countries) care should be taken when trying to generalise the results, as cultural factors could lead to different results. This study was also performed before the introduction of the video service. Although all the participants have some experience with similar video services and use them for personal use, it could be the case that when the service is introduced further factors could be identified and some of the identified factors could be obsolete. Therefore further studies are needed to identify the stakeholder's needs when a similar service is deployed. The cross-sectional nature of the data should also be taken into

account when interpreting the results. Further research is needed on longitudinal data to confirm these results.

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