

# **“POLICE – TO PROTECT AND SERVE” ONLINE: FACTORS CONTRIBUTING TO MODERN WAYS OF INTERACTION BETWEEN CITIZENS AND LAW ENFORCEMENT AGENCIES**

*Research paper*

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## **Abstract**

*Web-based communication channels, like social networks, allow a bidirectional interaction between governmental agencies like the police and citizens. The police clearly value the fact that they can reach a vast number of people within a very short time. Existing studies mainly focus on the police's perspective. However, it is unclear what kinds of obstacles prevent citizens from using these new communication channels to help the police and what factors drive the usage. This study is one of the first to examine factors contributing to online citizen-police interactions. Applying the grounded theory methodology, we propose a model that reflects the following three classes: obstacles, enablers, and attitudes, all of which influence the interaction between state agencies and citizens. On the one hand, our results highlight that the fear of losing anonymity or the image of an omnipresent police can be seen as the main obstacles. On the other hand, improvements regarding the usability like adding a filtering function can increase the willingness to interact with the police on the side of the citizens. However, not all aspects can be influenced. Citizens' attitudes which explain their personal impetus to engage in such interactions are virtually impossible to be changed by the police.*

*Keywords: Police, Citizens, Communication, Social Networks.*

## **1 Introduction**

The last years and decades have been characterised by a digital transformation and in tandem by a communication revolution. The latter becomes apparent through the fact that the exchange of information between individuals has become much easier than in earlier periods. Technical achievements such as the Smartphone and the widespread use of web-based communication channels function as a trigger for this facilitation. Compared to traditional channels, such as TV or radios, they allow a bidirectional communication and thus enable and amplify interactions between people. This digitisation has also led to changes within the public sector. Not only governmental authorities wish to interact with the public online for encouraging democratic participation or facilitating e-service delivery like paying taxes online, also within the public security sector, law enforcement agencies such as the police, long for online citizen-police interactions. Given the digital transformation, law enforcement agencies are no longer dependent on journalists or the media as an intermediary to get in contact with citizens. However, it is unclear how the police, as the publisher themselves, can communicate and interact efficiently with citizens online and how an adequate social media strategy could look like. The study at hand aims at contributing to this research gap by detecting and understanding factors determining the new ways of online citizen-police interaction and deriving corresponding guidelines.

As there is, e. g. the constant danger of terrorist attacks in today's world, communication and interaction between the police and the public is of great importance. On the one hand, the police want to protect the citizens and ensure their safety during an attack by delivering information and instructions. On the other hand, citizens might help the police as witnesses, being directly on-site when a crime was committed. For example, after the terrorist attacks in Berlin in December 2016 (Twitter, 2016), in Manchester in May 2017 (Greater Manchester Police, 2017), or in London in September 2017 (Metropolitan Police London, 2017), the police asked citizens to provide photos and videos of the crime scenes to advance their investigations. However, the police do not only seek to interact with citizens in the case of crisis situations, such as terrorist attacks, but also in daily life in order to spread different types of information and to improve public relations via an additional channel. Police departments (PDs) being present online *inform* citizens by, e.g. publishing crime prevention advice, non-crime-related issues such as traffic news, instructions on ongoing or forthcoming events, reports, or information about their departments and job opportunities. In addition, policemen would like *to be informed* by citizens and ask them for assistance in solving crimes or locating missing persons by publishing requests for information. In order to ensure a fast information and data exchange, web-based communication channels are of special importance. Within this study, these channels include social media, RSS-feeds, upload tools and applications on mobile devices.

Besides research on economic consequences of web-based communication like the impact of social media on sales, IS research can also benefit from other research domains which rather focus on non-monetary aspects such as the consequences of social media for the society (Wang et al., 2015). In this paper, we refer to the domains of e-government, law enforcement, and criminology in order to examine the topic of online communication from a different perspective. Communication and interaction between governmental service authorities and citizens has already been addressed in several studies (e. g. Bertot et al., 2012; Lu et al., 2016; Haro-de-Rosario et al., 2016; Ebbers et al., 2016). From these, in general we know that among others personal characteristics, attitudes and habits, accessibility, privacy, security, mood and transparency are open challenges that have to be considered when implementing online citizen-government interactions. However, only Lu et al. (2016) asked citizens personally to include their perspective in the analyses. Compared to classical citizen-government interactions, the citizen-police interaction represents a unique form of interaction regarding action speed, information content, highly sensitive type of information, and the interaction's initiator. Hence, we do not know which findings from e-governmental studies can be transferred to this special case of online citizen-police interactions. Taking a look at law enforcement and criminology studies, we find that so far, little research has been conducted in the area of police online presence, especially police social networking (Aiello and Gumbhir, 2016). In addition, research questions were mostly answered from a police perspective (e. g. Meijer and Thaens, 2013; O'Connor, 2015), although, e. g. in England and Wales, the majority of citizens does not feel comfortable or wish to interact with the police online due to various factors which are currently unknown (HMIC, 2014). In order to get to know and understand these factors, it is important to incorporate the citizens' perspective when trying to implement an effective online communication strategy.

In accordance with the grounded theory methodology (GTM), we interviewed a sample of people from different backgrounds to guide us into deeper understanding. The GTM supports our inductive approach and helps us to construct a theory by analysing the collected data. In this analysis, we code ideas that appear repeatedly and group them into concepts and afterwards into categories (Glaser and Strauss, 1967). The results are of both, practical and theoretical importance. They will help police officers to improve their social media strategy and their overall online communication by taking into account citizens' concerns, desires, and expectations. Moreover, they contribute to the theoretical insights of how social media are changing societal relationships between public authorities and individuals as well as the opportunities and limitations they entail.

This paper is structured as follows: Section 2 gives a brief overview of existing research related to citizen-police interaction online. In Section 3, we present the GTM and the content of the interviews. Section 4 concentrates on the results, which are discussed in Section 5. The latter also derives recom-

mended actions, concludes with limitations of the study, and points out avenues for future research. In Section 6 we present the conclusions of our study.

## **2 Related Work**

Within the e-government literature, several studies exist that examine factors influencing online interactions between citizens and governmental authorities. Bertot et al. (2012) analysed governmental social media usage based on an official regulatory framework in order to find opportunities and challenges for citizen-government interactions. Their findings highlight accessibility, privacy, security, and social inclusion as factors influencing these interactions. Lu et al. (2016) investigated Chinese government microblogging to learn more about potential limitations on the technology and government side based on interviews with citizens. They find that interactivity and information quality as well as content are factors considered by citizens in order to decide whether to interact with governmental authorities or not. Other researchers examined citizens' channel choice and related factors influencing citizens' engagement with governments online (Pieterse, 2009; Haro-de-Rosario et al., 2016; Ebbers et al., 2016). Their results show that transparency, mood, and personal characteristics as well as habits are important factors determining citizen-government interactions. However, it remains unclear whether we can transfer these factors to the special case of online citizen-police interaction. Questions such as which factors are relevant in the police context and are there any other factors contributing to this unique form of interaction still remain open.

Academic literature has recently paid more attention to the police web presence and especially to their social media usage. Crump (2011) published one of the first studies that focused on social media in the police context. He analysed the usage of Twitter within the UK police force and found out that up to 2011 the police had used the service only for spreading different types of information but not for interacting with the public. After the riots in London and Manchester in 2011, further researchers started to explore the police's social media usage by focusing on how British PDs used Twitter during these riots (Panagiotopoulos et al., 2012; Deneff et al., 2013; Procter et al., 2013). These approaches led to additional studies examining different research questions regarding the police's social media usage. For example, Lieberman et al. (2013) analysed how selected US PDs used Facebook and the potentials social networking sites entail. Meijer and Thaens (2013) examined the social media strategies of three North American PDs by conducting interviews and analysing documents as well as social media use. They found out that PDs had used different strategies that Mergel (2013) previously categorised in a system for social media strategies within the public sector: a simple "push strategy", a "push and pull strategy", and a "networking strategy". Voigt et al. (2013) studied the usage of modern communication channels by law enforcements partly based on the results of a Facebook pilot project within a German PD identifying valuable potentials and restrictions.

Way beyond the mere analysis of usage characteristics or promising benefits and downsides of police presences in social media, other studies examined the police's efforts in engaging citizens online (O'Connor, 2015; Perron, 2016; McIntee, 2016). O'Connor (2015) focused on attempts of Canadian PDs to interact with citizens online and found out that Twitter can help the police managing their image and integrating citizens. Perron (2016) stated that so far mainly one-way communication had been analysed. Therefore, he concentrated on the advantages of a two-way communication and its impact on the number of followers, finding that bidirectional communication led to an increased number of followers. McIntee (2016) analysed the topic of public relations also from a police perspective and identified a 'direct and digital' model taking polices from a reactive to a proactive dialogical online service. However, the mentioned studies only aimed at one party of the bidirectional communication – the police. They did not examine citizens' perspectives within the police-citizen online communication.

Yet, several studies have already focused on the citizens as well: Some of them aimed at discovering why people help the police to fight crime finding out that legitimacy, fairness, and respect shape cooperation with the police (Tyler and Fagan, 2008; Murphy et al., 2008). Dirikx and Van den Bulck

(2013) concentrated on media use in their survey and its impact on adolescents' willingness to assist the police concluding that it is an antecedent of police cooperation. Similarly, Lee and McGovern (2013) conducted a survey in order to examine people's attitudes towards the police and police reality television, respectively. Their results reveal that the more time people spend watching police reality television the more positive their attitude towards the police is. However, these studies did not comprise the impact of online communication tools such as social media on people's willingness to interact with the police. The work by Ruddel and Jones (2013) is the one closest to our research intentions. They analysed users' characteristics who use the police's social media services and their perceptions of the police. Their results show that accessing social media tools increases with education and decreases with age as well as that confidence in and satisfaction with the police was rather present among social media users. Nevertheless, they did not examine factors contributing to people's willingness to access the police's online content and what prevents them from doing so as well as conclusions PDs could draw from these findings.

Furthermore, most studies and PDs have used easily obtainable social network data in order to analyse the agencies' presences and derive potential improvements (e.g. Keith, 2015; Mahajan-Cusack, 2016; Dai et al., 2017). The drawback of this method is that if they want to improve citizens' participation or see whether they achieved the desired outcome, they might obtain no or biased information (McIntee, 2016). If at all, they can only deduce facts about citizens who already interact online with agencies such as the police. It is not possible to get any information about citizens who do not follow the agency and their reasons for not doing so. PDs might reach even more citizens via social media channels when knowing about these citizens' reasons for and against police-citizen interaction and addressing their potential impediments through appropriate adjustments. From this point of view, in this study, we ask people personally about their thoughts concerning citizen-police interaction online in order to obtain a comprehensive picture and deduce relevant factors. This approach is emphasised by O'Connor (2015) and Haro-de-Rosario et al. (2016) who explicitly state that actually speaking to the public helps to understand how people perceive the social media usage by the police.

### 3 Research Methodology

In this study, we follow the GTM. As we deal with a new form of communication between citizens and the police nowadays, there has not been much research with regard to our research question. Thus, applying the GTM is a suitable approach in order to accomplish the aim of this exploratory study. The GTM as developed by Glaser and Strauss (1967) constructs the theory from the collected data at the end of its analytical process and not at the beginning, which prevents any possible preconception. We apply this approach in order to get insights into people's opinions about interacting with the police online. The overall process of the GTM consists of an alternation between data collection, the analysis of the data, and the generation of a theory.

**Data Collection and Sampling.** We collected data by conducting semi-structured, face-to-face interviews in German. The interviews were audio-recorded and then transcribed verbatim. Obviously, our research subject refers to the Internet and in order to ask people from a wide variety of backgrounds as well as to ensure obtaining a broad range of factors contributing to online citizen-police interactions, we decided to base the sampling on the results of a study conducted by the *Deutsches Institut für Vertrauen und Sicherheit im Internet (DIVSI)* in 2011. DIVSI is a non-profit organisation aiming at creating more trust and security on the Internet. Their study (DIVSI, 2012) provided evidence that the German population cannot be simply divided into "onliners" and "offliners" but that a more precise classification is necessary. As a result, DIVSI obtained seven so-called "Internet milieus" which are representative of the German resident population from age 14 years on up. These are categories defined by different characteristics with regard to the online behaviour in daily life as well as people's attitudes towards the Internet. Furthermore, each Internet milieu belongs to one of the three following groups: *digital natives*, *digital immigrants*, and *digital outsiders*. Hence, one group can consist of several milieus. Characteristics of these groups are, e. g. that *digital outsiders* feel insecure regarding the

vastness of the Internet, *digital immigrants* use the Internet sceptically, and *digital natives* exploit the multiple options it entails (s. DIVSI, 2012 for more details).

We used the *DIVSI*-classification for our sampling approach and interviewed two persons for each Internet milieu so that in total 14 interviewees participated in this study. Five of them were female and nine male. Six of them belonged to the age group “18-30 years”, three of them to the age group “31-40 years”, further three to the age group “61-70 years”, and two of them were in the age group “71-80 years”. Three interviewees were students, three were pensioners and the remaining eight had different jobs, all having a different educational background.

**Content of the Interviews.** The interviews consisted of three parts. Within the first part, we explored the general interviewees’ personal attitudes towards the police. The idea was to check right at the beginning whether they had a positive or negative attitude towards the police due to good or bad experiences they made with them. Hence, we wanted to make sure that a negative attitude would not be the reason for not being willing to interact with the police at all. The second part aimed at finding out whether the interviewees were willing to help the police in principle and if yes, whether they were willing to do so online as well. For example, we asked: “Which steps would you take when you see a request for information by the police on the Internet and you can provide valuable information to them?” In the third part, the interview partners were asked to state the channels – traditional channels such as TV or radio, and web-based ones – through which the police could reach them easily. Considering the different types of information mentioned in the introduction, we asked them to specify the type of information they would be interested in to receive from the police. Additionally, we asked them to explain how they wished the police to communicate with them. The latter question resulted from the fact that within the German language there are different ways of addressing one’s interlocutor (the “Sie” which is rather formal, and the “Du” which is rather informal), e.g. in order to express a certain level of politeness. While the police address citizens in a formal way in reality, the question of how to address them online arose, since web-based channels like social networks are characterised by a rather informal way of communication.

**Data Analysis.** “Constant comparisons” and “theoretical sampling” are the underlying concepts of the GTM (Corbin and Strauss, 2008). “Constant comparisons” aims at the alternation between analysis and generating a theory following the first data collection. The second concept refers to the aspect of further data collections in order to examine emerged hypotheses and to focus on different fields of research leading to additional findings. Following Strauss, open, axial, and selective coding are the three types of coding employed in the analytical process (Strauss and Corbin, 1996). These types need not to be applied in that strict order as their application alternates as well. Open coding targets the conceptualisation of similar interview statements and the classification of these concepts so that we can identify specific categories. Therefore, we coded the data line by line, which the following example illustrates: “Since I am not anonymous (Anonymity) when using an upload tool, I would prefer the personal contact with the police (Willingness to Participate in W3CPI).” Axial coding aims at linking all categories while proving their connections within the collected data. The third type of coding, selective coding, integrates the categories into a grounded theory. Thereby, one category emerges as the core category, which can be associated with all other categories. In order to validate that the theory is grounded in the data, open and axial coding are applied again to verify the constellation of the related categories. Moreover, based on theoretical sensitivity – i.e. the ability to confer meaning to the data and to distinguish between important and less important aspects (Strauss and Corbin, 1996) –, our understanding has deepened thanks to what emerged from the data during this whole process.

## 4 Presentation of the Results

Figure 1 presents our model which we obtained at the end of the coding process and its analyses. It shows the different categories that we have recognised in the interview data. First of all, at the top of Figure 1 you can find the core category “Willingness to Participate in Web-based Citizen-Police Interactions”. Secondly, “Concerns”, “Stress and Overload”, “Individual Desires and Expectations” as well

as “Personal Initiative” are its associated, so-called “main categories”. They influence the core category, which is expressed by corresponding arrows. Each main category covers one or more of the following sub-categories: “Privacy and Data Protection”, “Anonymity”, “Authenticity”, “Inexperience with Modern Technologies”, “Flood of Information and Omnipresent Police”, “Filtering Function”, “Form of Address and T-V Distinction”, and “Personal Added Value”. We highlight the relation between each sub-category and its corresponding main category by means of a simple line. To go one step further, we interpret our model by grouping the main categories together with their sub-categories into three different classes. In Figure 1, these classes are visualised by dashed lines. “Concerns” as well as “Stress and Overload” can be seen as “Obstacles”. “Individual Desires and Expectations” represent “Enablers”, just as “Personal Initiative” reflects the class “Attitudes”. First, we focus on the main categories and their corresponding sub-categories. Then, we explain their relation to the core category.

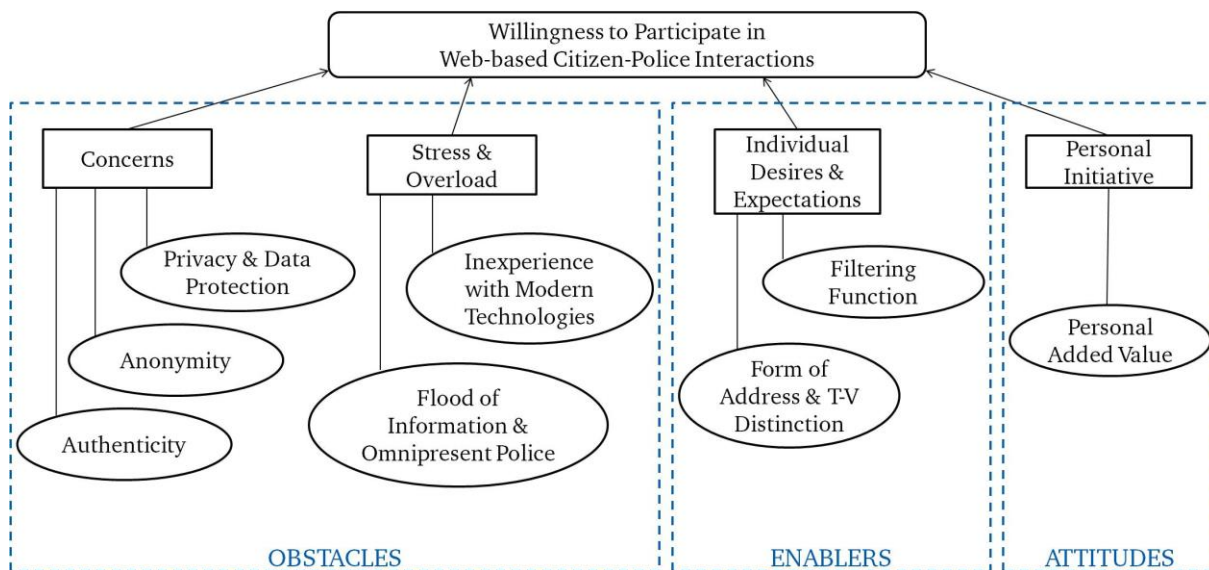


Figure 1. Model of factors determining people’s interaction with the police

**Concerns.** The interviewees expressed various worries and fears caused by different factors. The first sub-category “Privacy and Data Protection” emerged because some interviewees expressed their worries about using an upload tool in order to provide the police with pictures and videos containing hints. Such an action, e.g. was carried out by the Federal Bureau of Investigation (FBI) after the Boston Marathon bombing in April 2013 (Reddit, 2013). The emerging questions of *digital natives* and *digital immigrants* were, e.g. as follows: “Will I intrude on someone else’s privacy by providing pictures and videos?”, “Is the data transfer secure?”, “Where will the data be stored?”, “Will anyone else than the police have access to the data?” The last question leads to the second sub-category “Anonymity”. For example, when providing valuable pieces of information about a crime, several interviewees feared that third parties could trace back the disclosure of this information to them. As a consequence, the majority of the interviewees only wanted to disclose private details and valuable hints if they could be sure that only the police had access to these pieces of information. Otherwise, they were afraid of becoming victims themselves and preferred not to communicate to protect themselves and their loved ones. Furthermore, interviewees indicated that every Internet user was able to publish, e.g. requests for information. Thus, the question of some *digital natives* was: “Can I distinguish between requests published by private persons and official authorities within a reasonable time and with limited effort?” A lot of interviewees were only interested in getting official requests for information from the police as these were considered to be more important and more serious. The relevant interview statements were summarised in the sub-category “Authenticity”.

**Stress and Overload.** “Inexperience with Modern Technologies” is one sub-category we assigned to the main category “Stress and Overload”. Some interviewees indicated that they did not possess any mobile devices such as Smartphones or Tablet PCs. The reason for this was that these devices were

perceived as simply not necessary or very technical and complicated. For instance, one *digital immigrant* explained: “I do not need such devices since I only use my mobile phone for writing SMS-messages and making phone calls.” A *digital outsider* stated: “In my opinion, such devices are too complex with all their embedded functionalities.” On the one hand, especially some elderly people lacked the necessary understanding to handle such devices and felt unable to cope with new technologies. Thus, in such cases, the police’s intention to interact with citizens online is simply not possible as the necessary prerequisites are not given. On the other hand, some of them were confident that they would become familiar with mobile devices. A *digital immigrant* pointed out: “I have never used an upload tool before but I am sure that I will be able to handle it.” – so that basically, they are able to interact with the police online.

“Flood of Information and Omnipresent Police” is the second sub-category. Web-based communication channels provide the opportunity to quickly publish a vast amount of information, news, and instructions for a large audience. Therefore, a lot of interview partners feared a flood of information which might lead to stress and overload. Moreover, others were afraid of losing their peace of mind as a result of being exposed to police news tickers. For instance, a *digital outsider* expressed: “I am not interested in being informed about all crimes taking place in my neighbourhood.” Some mentioned that such pieces of information would cause discomfort to them. A *digital immigrant* pointed out: “Receiving a list with all crimes happening makes me feel uneasy.”

**Individual Desires and Expectations.** Some interview partners were, e.g. only interested in requests for information or current police operations taking place in their neighbourhood. A *digital native* accordingly explained: “With the help of a filtering function, I am able to choose my desired types of police information.” Consequently, such interview statements were summarised in the sub-category “Filtering Function”. Considering the second sub-category “Form of Address and T-V Distinction”, the form of address refers to the beginning of a post like “Dear fellow citizens”. In the interviews we presented different forms of address. The results show that the opinions differ a lot but reveal that on average the interviewed citizens preferred the request for information without any form of address. Explanations for this choice were that such a message was “neutral”, “objective” and “sounded official”. Therefore, it was expected to be from a state institution like the police.

The T-V distinction covers the previously mentioned various ways of communication between people aiming at the “tu” and “vos” in Latin and the “Du” and “Sie” in German, respectively. While all interview partners stated that they were formally addressed by the police in reality – which means the police use “Sie” as address –, their opinions regarding the address via web-based communication channels differed. For some *digital natives*, e.g. social networks implied a rather informal communication style and that is why they preferred using the “Du” to communicate with others. However, above all *digital outsiders* mentioned that the “Sie” expresses respect, especially towards unknown people. Some *digital immigrants* pointed out that since requests for information are usually serious and urgent, they expected the police to use a communication style that reflected the occasion accordingly and therefore the formal address “Sie” was preferred. A *digital native* underlined why being in favour for the “Sie”: “The applied communication style by the police should be consistent between reality and online environments, and thus be independent of the chosen communication medium.”

**Personal Initiative.** During a lot of interviews one aspect emerged which might influence citizens’ reachability online. It is the fact that people have to take the initiative so that they can be reached by the police through online channels. Considering, e.g. social networks or RSS-feeds, they have to subscribe to a certain feed provided by the police. If the police put important information on their website, people have to go to this particular site in order to obtain the content. This aspect is referred to as “Personal Initiative”. Interview statements also show that the “Personal Added Value” can influence the “Personal Initiative” and therefore represents a sub-category. For instance, a *digital native* recognised the following aspect representing a personal added value: “I can save time when utilising an upload tool in order to transfer pictures or videos to the police, since I do not have to take the material to them personally.” Considering the different types of information the police can publish online, the majority of the interviewees was interested in instructions on ongoing events. They considered this kind

of information to be “informative”, “helpful”, and “useful”. Therefore, people would take the initiative in order to be able to receive such pieces of information from the police. In contrast, only a few interview partners were interested in information about current police operations. They did not have any reason to become active since there was no perceived personal added value in return. The personal added value and the aspect of taking the initiative were different from person to person and determined by their subjective perception. In Figure 1, we describe them as “Attitudes” in order to express that it is difficult for the police to influence or take into account many contrasting individual perceptions.

**Willingness to Participate in Web-based Citizen-Police Interactions.** After introducing all main categories and their associated sub-categories, we present the core category “Willingness to Participate in Web-based Citizen-Police Interactions”. It has links to all the other categories, which stresses the fact of its superordinate importance.

The previously discussed aspects regarding the different concerns show that a lot of questions remain unanswered and that some uncertainty exists among the interviewees. This uncertainty triggered concerns which led interviewees to the question whether or not to participate in web-based citizen-police interactions (W3CPI). Some interviewees preferred a direct personal contact instead of using web-based channels as it provided a sense of security. In contrast, web-channels were associated with impersonal black boxes. Nevertheless, some interviewed citizens stated that they would participate in W3CPI, if one or more of the following concerns was evident: privacy was not intruded, data protection, authenticity, and anonymity were guaranteed, or the data transfer was secure. But concerns must be seen as obstacles to people’s willingness to engage in W3CPI.

Moreover, the interview statements show that stress and overload caused by inexperience, a flood of information, and an omnipresent police, represent obstacles that inhibit the interviewees’ willingness to engage in W3CPI. Concerning the aspects inexperience and flood of information, traditional communication channels such as TV or radio were preferred over online ones. Those interviewed citizens who were not interested in an omnipresent police publishing information on current police operations, favoured to keep a certain distance and therefore rejected participating in W3CPI. As mentioned above, a few interviewees suggested integrating a filtering function to take into account individual preferences. Hence, they were inclined to engage in W3CPI. The same applies to the form of address as well as the communication style including an appropriate T-V distinction. When expectations were met, interviewed citizens were more willing to participate in W3CPI.

Furthermore, people disclose their willingness to engage in W3CPI by becoming active in advance and subscribing to corresponding channels. Such an action can be achieved if a certain interest and curiosity are present. Therefore, these factors might positively influence the discussed willingness. However, if the personal added value is missing, people will not take the initiative to search for particular communication channels. For instance, one *digital immigrant* explained: “I do not use such web-based communication channels in my private life, so I do not see the point in using them to be closely connected with the police.” Besides, some interview partners pointed out that before participating in the interview, they did not know about the police being present on the Internet and providing pieces of information or asking the public for help. As a consequence, they would not take any initiative and thus their willingness to participate in W3CPI did not exist.

## 5 Discussion of the Results and Inference of Recommended Actions

Having a strong impact on modern police communication, effectively applying web-based communication tools is of great interest to the police. Knowing about obstacles, enablers, and attitudes, we now discuss our results by comparing them to also non-police related literature and infer recommended actions in order to help the police to engage more citizens online. Table 1 gives an overview of the factors the groups of Internet milieus are concerned about and helps to assign the related recommendations.



Factors		Digital Natives	Digital Immigrants	Digital Outsiders
Concerns	Privacy & Data Protection	X	X	
	Anonymity	X	X	
	Authenticity	X		
Stress & Overload	Inexperience with Modern Technologies		X	X
	Flood of Information & Omnipresent Police		X	X
Desires & Expectations	Filtering Function	X		
	Form of Address & T-V-Distinction	X	X	X
Personal Initiative	Personal Added Value	X	X	X

Table 1. Overview of factors contributing to online citizen-police interactions separated into digital natives, digital immigrants, and digital outsiders.

### 5.1 Recognition and Overcoming of Obstacles

Since the class “Obstacles” consists of two different main categories, we first focus on the main category “Concerns” and afterwards we highlight the main category “Stress and Overload”.

**Obstacles with regard to Concerns.** The previously discussed concerns reflect security issues which are also discussed in the literature as a critical component when adopting new applications and technologies (e.g. Miorandi et al., 2012). Pfleeger (1989) named three important aspects about security. These are confidentiality, integrity, and availability, also referred to as the so-called “CIA triad” (Bedner and Ackermann, 2010). In 2010, Bedner and Ackermann extended these three protection objectives with further ones and showed their specific connections among each other. The next step is to relate the results of the study in the main category “Concerns” to corresponding protection objectives.

The category “Privacy and Data Protection” can be found in the protection goal “confidentiality” which “ensures that computer-related assets are accessed only by authorized parties. That is, only those who should have access to something will actually get that access.” (Pfleeger, 1989, p. 25). Some *digital immigrants* said that these online communication channels represented a kind of black box since they did not know what would happen with their disclosed pieces of information. Hence, they were concerned about their data protection and missed transparency. The latter is reflected by the protection goal of the same name “transparency” (Bedner and Ackermann, 2010). By clearly communicating which steps they take to protect users’ privacy and to comply with existing data protection regulations, the police can show and convince *digital natives* and *digital immigrants* that they know about such concerns and react appropriately.

Moreover, these two groups expressed their concern about a secure data transfer. The police can implement safe data transmission by cryptographic techniques (Blaze, 1994). Thereby, access to disclosed data via web-based communication channels can be limited to authorised people. Above all, *digital immigrants’* concerns regarding the fact that applications on mobile devices might spy on private data are also discussed in academic literature. Kelley et al. (2013) found out that based on the requested access to particular data stored on the mobile device, people chose whether or not to install an application. Concerning *Android* devices, users get such kind of information before downloading a certain application. Otherwise, *Apple* device users are not informed about these kinds of information before starting the download. They have to actively look up this information in the description. Our

respective recommendation for official police applications is to state the data privacy policy within the associated description in a clear and easy to understand manner in order to engage *digital immigrants*.

Furthermore, concerns about the possibility to trace back disclosed pieces of information to their source, led to some *digital natives*' and *digital immigrants*' demand for being anonymous when participating in *W3CPI*. This can be seen in context with the protection objective "Non-Traceability" which can result in the objective "Anonymity" (Bedner and Ackermann, 2010). Thereby, recommendations for citizens can be made which the police can suggest to them as well as the police themselves can ensure the anonymity of their users. People themselves have the possibility of applying the Tor anonymity network. Based on onion routing, it allows an anonymous connection via several proxy servers (e.g. Dingledine et al., 2004; Goldschlag et al., 1996). Besides that, they can use programs such as *Private Internet Access Virtual Private Network (VPN) Service* that employ the *VPN Technology* in order to replace actual IP addresses by anonymous ones (Private Internet Access, 2017). Of course, police authorities have the possibility of guaranteeing users' anonymity by not storing any user-related data when applying web-based communication channels such as an upload tool. At the same time these technologies can be abused so that the police will not be able to trace abusive use back to the source. As a consequence, methods for hiding one's IP address are also known in the context of *Bulletproof Hosting Services* (Sood and Enbody, 2013). The latter represent crimeware, which protects cyber criminals from law enforcement authorities. Therefore, the police should carefully consider the aspect of anonymity so that cyber criminality will not be encouraged unintentionally and otherwise *digital natives* and *digital immigrants* are not discouraged to interact with them online.

The main category "Authenticity" can be found in the protection goal of the same name. Applying appropriate control measures ensures that data belong to the indicated source, and that the identity of users or connected systems is correct (Bedner and Ackermann, 2010). Thereby, the difficulty to evaluate the validity of online published information, which was raised by some *digital natives*, shall be resolved (Bawden and Robinson, 2009). Hence, for the police it is important to communicate the authenticity of its virtual police presence and ensure proper verification if possible. The police might realise this through multilateral security, e.g. enabled by trust certificates. In social networks, ensuring verification is possible by adding the blue verified badge to one's official profile or page.

**Obstacles with regard to Stress and Overload.** Academic literature also discusses the fact that particularly *digital outsiders* were not willing to participate in *W3CPI* because they were inexperienced with modern technologies. Numerous studies show the importance of this state of affairs and make obvious that it especially applies to elderly people (e.g. Czaja and Sharit, 1998; Pieterse and Ebbens, 2008; Ruddel and Jones, 2013). Since these people have different habits, needs, interests, and abilities, the police have to decide on the following. Do the police still want to contact citizens, especially *digital outsiders*, via traditional channels such as TV or radio, or do they wish to reach them through web-based channels as well? In the second case, there are several measures how to sensitise citizens to modern technologies. First of all, it is important that these people are willing to use such devices and communication channels. Madden and Savage (2000) suggest showing the potential of modern technologies and thereby stimulate people's interest. Furthermore, they point out that the role of family and friends who can support inexperienced individuals is important as well (Sourbati, 2009). Having the possibility of actually using devices in order to be able to access web-based communication channels is a further step in getting familiar with new technologies. This could be practised within specific training courses so that individuals can receive help when problems and difficulties occur. Furthermore, some *digital immigrants* and *digital outsiders* pointed out that they preferred having a dedicated contact person in contrast to, e.g. just uploading pictures on a website without any guidance. From the police's perspective reporting to a computer instead of a physical officer implies advantages such as reallocating resources (Aiello and Gumbhir, 2016). However, when this reallocation takes place the police should have the mentioned aspect in mind and think about the possibility of adding live chats to such websites containing an upload tool or on social network pages to ensure that users can consult a contact person if they need help. A lot of companies provide similar support within their Customer Relationship Management (Elmorshidy, 2013). They allow their customers to communicate with them

in real time. In conclusion, a combination of becoming informed about the benefits of modern technologies, learning to utilise them, and having the chance to consult dedicated contact persons might be incentives and motivation for *digital immigrants* and *digital outsiders* to participate in *W3CPI*.

A lot of *digital immigrants* and *digital outsiders* also mentioned aspects referring to “Flood of Information and Omnipresent Police”. Concerning the flood of information, there are a lot of academic articles aiming at the “too much information phenomenon” (Bawden and Robinson, 2009), which is widely discussed nowadays. It is virtually impossible for people to follow all available news and information that are published on the Internet. As a consequence, people are interested in different types of information, which we recognised during the interviews. We especially observed this fact with regard to information about current police operations. People stated that knowing about all crimes happening in their neighbourhood would cause stress to them, which is confirmed in literature as well (Boda and Szabó, 2011, Lieberman et al., 2013; McIntee, 2016). Information about “... crimes make the public feel uneasy and unsafe and may even promote the occurrence of more serious offenses.” (Vito and Maahs, 2011, p. 352) – the latter aspect being also mentioned by a few *digital natives*. Since *digital natives* already seem to be able to cope with the flood of information on the Internet, they mentioned an appropriate course of action, that we discuss in the next section.

## 5.2 Consideration of Enablers

In order to cope with a flood of information and to receive desired information as not everything is of equal interest to citizens (Wünsch and Hohl, 2009; Hohl et al., 2010), some *digital natives* mentioned the idea of a filtering function. Academic literature deals with this means as well (e.g. Hiltz and Murray, 1985; Savolainen, 2007). Thereby, everyone can receive personalised information by the police which might positively influence citizens’ willingness to participate in *W3CPI*. At first, the police can suggest a default setting and then leave the option to each user to adjust further settings individually. Thus, people are able to choose to which extent they want to get involved with the police. The following overview comprises different interview statements concerning aspects that could be personalised:

1. The type of information: Users can decide whether they would like to be informed about requests for information, current police operations, and instructions on ongoing events.
2. The type of incident: Users have the option to choose between different categories of incidents such as “damage to property”, “personal injury”, and “missing persons’ reports”.
3. The region: Users have the option to choose between nationwide, federal-state-related, and region-related information by the police. Moreover, the police can use location-based data to determine users’ current positions and to deliver notifications concerning information from their close geographic location.
4. The point of time: Users who do not want to be informed whenever a notification is published can indicate a point of time when they would like to receive certain information that has been published by then.

A further enabler emerged with regard to the sub-category “Form of Address and T-V Distinction”. In this context Deneff et al. (2013) examined two different approaches concerning the communication style between the police and the citizens. Whereas the “instrumental approach” is characterised by a larger social distance between state institutions and citizens, the “expressive approach” is marked by a rather friendly communication style which is often used in social networks. Some *digital natives* favoured the expressive approach, the others the instrumental one. Thus, interviewees’ opinions differed and so do discussions in the literature. Considering companies’ approaches regarding this question, addressing customers should comply with addressing them in reality (Errichiello and Zschesche, 2013) and thus the police should use the “Sie”. Moreover, this form should be applied since the police usually deal with serious issues and the “Du” might create misleading impressions (Schulten et al., 2012). For example, in January 2015, the ministry of the interior in North Rhine-Westphalia prohibited the PDs in this federal state from using the “Du” to address users online (rp-online.de, 2015). Yet, authors underline that using the formal “Sie” can restrain an online interaction. They emphasise that

people tend to communicate informally online (Buckmann, 2013). Thus, they suggest questioning the target groups themselves in order to find out about their preferred way of being addressed.

### 5.3 Dealing with Attitudes

Finally, we examine the class “Attitudes” and its corresponding categories “Personal Initiative” and “Personal Added Value”. Davis (1989) found out that two main factors lead to the acceptance of information technologies. These are the “perceived usefulness” and the “perceived ease of use”. Among others, we observed the importance of both in the interviews, whereby the first mentioned term was in the main focus. Several studies highlighted that the personal added value was a major aspect regarding the actual usage of communication channels (e.g. Melenhorst et al., 2001). Above all *digital outsiders* and some *digital immigrants* who did not recognise any personal benefit expressed that they preferred traditional communication channels such as TV and radio. Hiltz and Murray (1985) proved this fact by showing that it was easier to stick to communication channels that people were used to instead of adapting to new communication paradigms, which is a matter of habit (Pieterse and van Dijk, 2007).

In addition, Parasuraman (2000) identified flexibility, convenience, efficiency, and enjoyment as factors that might positively influence the willingness to use new technologies. Since enjoyment is mostly not associated with police operations, we focus on the three other ones. They can be seen with regard to the fact that web-based communication channels and the information they transmit can always be accessed when possessing appropriate devices. The topic, one would like to have information about, is not necessarily broadcast when one switches on the TV or the radio. Thus, web-based communication channels can be more flexible, more convenient, and more efficient than traditional channels. They ensure, e.g. considerable time-saving since it is possible to access desired pieces of information more quickly as several *digital natives* recognised. By experiencing such benefits, individuals might develop personal initiative by actively searching for and using these channels. This might also be achieved by explicitly asking people via traditional channels to conduct web-based channels, e.g. to receive further information about a missing person or to see the full description of a request for information.

In case that people are not willing to become active in order to follow a thread of the police in social networks or an RSS-feed of the police, the police themselves have to take the initiative and contact the citizens. In case of mobile devices, the police might preinstall a police application on certain mobile devices, so that every customer of such a new device can directly be reached. Of course, customers should be free to adapt settings as they were discussed with regard to the filtering function and to have the possibility to switch off automatic notifications. Besides, several interviewees from all three groups stated that they would never access any police website on their own initiative. Some *digital natives* proposed to the police to publish requests for information etc., e.g. on online news pages that were regularly accessed by people. On such pages, a certain field could be preassigned to the police for announcing urgent information. This might also be based on the users’ current position so that they only receive the pieces of information that refer to their neighbourhood. Instead of receiving personalised advertisements, a personalised police news ticker could be established on such news pages.

### 5.4 Limitations and Future Research

A limitation of this study is the small number of interviews. Thus, the opinion of an interviewee might have represented a biased view and influenced our result. Besides, the interview data only represent a snapshot of this hotly debated research subject. Regarding this, Selwyn et al. (2003) also state that results of any study in the context of society and technology are limited by their ephemeral character.

Concerning the applied GTM, the previously introduced theoretical sampling has not been part of this preliminary study due to numerous constraints. Nevertheless, we have identified further fields for data collection and describe two of them to be taken as avenues for future research. One of the interview partners already follows a German PD for obtaining information about current police operations. It would have been interesting to interview more people like him. Thus, the overall picture has the poten-

tial of being enlarged in a refined analysis. This could lead to further conclusions about citizens' willingness to participate in *W3CPI*. Moreover, all interview partners had a positive attitude towards the police, so that we did not notice any negative influence on their willingness to help. Therefore, it would be interesting to interview people who, e.g. favour not to get involved with the police due to negative past experiences. An open question is whether they want to participate in *W3CPI* at all.

Concerning the inferred system of categories, we would like to indicate that different categorisations might be possible. Notwithstanding, we proved the presented system of categories to be grounded in the data as shown in Section 4. In addition, the results might only be partly generalizable to other governmental agencies due to the special character of the police within the public sector (Meijer and Thaens, 2013). Furthermore, we derived the recommended actions from the results of our study. The most feasible actions can be examined in practice by involving the responsible police officers. Since some police authorities already use social media for their daily work, we observed a new phenomenon, which might be an interesting topic for a research paper. It is the spreading of calls for vigilante justice and the police's wish to quickly recognise this spreading in order to prevent greater damage. Thereby, it might be interesting to examine and develop techniques that assist the police in their work online.

## 6 Conclusion

In a world shaped by digitisation and global reach, communication with citizens in the public sector is an interesting and highly relevant field of research. Especially, recent terror attacks have led law enforcement agencies to restructure their communication strategies and have made them think of using online communication channels, such as social networks, to interact with the public. From the police's perspective, using these channels implies many advantages, such as posting requests for information within a very short period of time and having access to a large audience. Nonetheless, their usage has neither been implemented by all police agencies nor fully exploited yet. Concerning the examination of the police's communication partners, i. e. the citizens, only single studies exist. Hence, in this study we closed this research gap by detecting and understanding factors that contribute to online citizen-police interactions and by deriving corresponding guidelines.

Applying the GTM, we interviewed people with various backgrounds to answer our research question. We identified obstacles, enablers, and attitudes influencing people's willingness to engage in such interactions. Having in mind these three classes, the police may choose to follow the recommended actions in order to enhance their online presence in their daily work. We found out that the main obstacles are concerns about citizens' anonymity and fears of an omnipresent police. Thus, from the perspective of some *digital natives* and *digital immigrants*, ensuring anonymity will enhance their willingness to participate in *W3CPI*. Considering the aspect of an omnipresent police, our results indicate that adding a filtering function as suggested by *digital natives*, to personalise the information received from the police, might be a means to enable *digital immigrants'* and *digital outsiders'* engagement. In addition, we identified attitudes that differ among the interviewed groups and are therefore difficult to consider and sometimes might have to be accepted as given by the police. Attitudes are determined by a person's subjective perception and consequently result in taking personal initiative or not. Creating a personal added value might encourage people to take the initiative and participate in *W3CPI*.

Comparing our results to existing literature, we can theoretically contribute that factors such as privacy, security, and authenticity as identified in e-governmental studies can also be applied to this special citizen-police context. Results of examinations in the policing field such as attitudes and respect are further factors we identified in our study. However, we cannot refer all factors in our model to extant studies as they are not generalizable. For example, the factor "Omnipresent Police" is specific to this unique and newly developed form of online citizen-police interaction.

Moreover, we pointed out avenues for future research. From our point of view, a possible next step is to conduct a cross-country study to verify the validity of our proposed model by examining online citizen-police interaction in different contexts regarding culture, habits, and social aspects. Afterwards, we can test the results in an empirical study with a large sample size.

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