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# The presence of public institutions in social networks

## INTRODUCTION

ICT tools influence many aspects of everyday life, including functioning of public institutions, which cannot overlook them in their activities. The article discusses the examples of using profiles on the most popular social networks by tax administrations and museums in selected countries of the world. The aim of the article is to analyze the behavior of public institutions in social media (SM) from the comparative and international point of view. The authors use long-term observations of profiles of the above mentioned public institutions on SM as well as results of an online survey.

#### Uses of social media in public authorities

Authorities in many countries have begun to create their profiles on social media (SM). These were initially aimed at building good relationships with citizens and at promoting solutions to support electronic services for citizens. However, not every potential user of new e-government services notices a new offer and not everyone can immediately appreciate its benefits. Thus, an advertising practice known from business has been introduced. It comes in the form of a short instructional video which is supposed to not only convince internauts to use e-go-

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vernment but also encourage spontaneous sharing of the links to these services with their network. Audio and video materials about various public services were and continue being posted on YouTube. In such a way the following exemplary solutions have been advertised: an application which enables access to the Austrian legislation rules (Rechtsinformationssystem), a new authentication method in Denmark (NemID) or a Portuguese citizen card. The advertisements of the latter were placed on a dedicated to e-government services, and existing on YouTube since 2007 news channel iGOV.

In the next step, the officials appreciated the special advantage of the SM, which is giving the possibility to engage citizens to work for the community, and thus, to contribute to the mobilization of civil society. The obtained information about customer's preferences and views may prove to be priceless in the construction of information transmission using semantic analysis of questions and statements citizen posted in SM. The fact that social networking sites can be very helpful in extreme situations, such as gaining control over a chaos caused by a disaster has been already noticed. After the earthquake in Haiti in 2010, the victims published information and pictures of the devastation what resulted in Red Cross receiving \$ 8 million donations within only 48 hours. In 2011 after the tsunami in Japan, people communicated via SM [Gao et al, 2011]. Twitter also facilitated denying rumors and identifying suspects during the riots in London in 2011. However, these were actions of more spontaneous than of planned nature [Panagiotopoulos et al., 2014, p. 349]. These facts demonstrated the need to create strategies for existence of public entities in the SM. According to the OECD report the first ones to take this into account were the tax administration offices [OECD, 2011b].

It is the public institutions which should decide which social networking sites will best serve the set goals. Facebook is still the most popular social networking site. In the first quarter of 2016 1.59 billion users actively benefited from it [Kemp, 2016], of which 83% using a smartphone (most social networking applications are also available on mobile devices) and half of them using a computer. Twitter as the most popular microblog (with 320 million users) also has a large potential for media transmission. Additionally, activated profiles on social portals of the publishing type can facilitate reaching recipients of announcements and advertisements (Tumblr – 555 million users, Instagram – 400 million, Pinterest – 100 million [Kemp, 2016], but also YouTube accessible to every Internet user).

GPS allows easy geolocation of users, thereby acquiring additional information about their whereabouts. This, in conjunction with information about risks (e.g. in case of floods, natural disasters or other catastrophes), can determine the effectiveness of rescue operations. Real-time signals from citizens who also more accurately spot irregularities and emerging threats to the whole community, as well as opportunities for organizing operations are a great source of information necessary for efficient management of non-standard situations or even crisis.

The SM management does not entail high costs. According to the OECD report on the strategy of tax administration in the SM [OECD, 2011] maintaining an account does not consume an excessive amount of human resources. Countries that have been already using SM indicated that it was not necessary to employ a large number of new employees, and it was very often enough to delegate a few already employed clerks to the new tasks. For example, in Denmark it was enough to increase employment by only 1/10 of a full-time job, and in Estonia by about 5 (albeit only during periods of high traffic in the SM). However, this concerns only a particular segment of administration, for which an increase of the interest in this form of communication with the tax office is seasonal and normally falls on the period of submitting annual tax returns. On the other hand, in case of other state institutions where intensity of activity is uniformly distributed throughout the year, routine maintenance of accounts in SM means employing not only agents involved in the preparation and sharing of content, but also in keeping the responsive behavior on the part of the SM community and monitoring the area around the profile. Underestimation of the problems or ill-considered response may have an unintended effect and lead to losses in the sphere of the institution's image.

A trust of active Internet users to ways of informing and communicating with citizens by public institutions in the SM was the subject of authors research in the first half of 2016. 216 complete responses from students of two universities (Warsaw School of Economics and University of Lodz) were obtained. Most of the respondents have an account on at least one of the popular social networking sites whereas the usual number oscillates around 2-5. Only 15% of the respondents were not aware of the existence of the accounts of public institutions in SM. Asked about portals, which include such profiles, the respondents most often pointed at Facebook, about half - Twitter and YouTube; every eighth also mentioned Google Plus. The respondents drew knowledge about the existence of such profiles from visited web pages of public institutions (67% - linked icons for these popular portals), as well as from other users (35%), brochures (29%) or broadcast radio and television (20%). Most of all survey participants (67%) have already visited such profiles. The purpose of doing so included mainly searching for information (contact details of the institution, office hours, related to the activities of the institution), but also curiosity, that is, how to operate such profiles, what they contain, what they can be helpful with. Among the surveyed only every fourteenth visitor failed to achieve the desired objective. Although 71% of the respondents believe that the placing of public resources in SM is correct, 80% of them think that an institution's website raises more confidence than a profile in SM, and another 14% that there is no differences in terms of credibility between the two sources of information. Interestingly, even those who have accounts on various social networking sites believe that a website of public institution is still more credible than its profile in SM. There are no fundamental differences in opinions when controlling for the university or for gender. More than 98% of respondents were not older than

30, and, therefore, belong to the generation of digital natives, for which access to resources on the Internet, awareness of the dangers in cyberspace, and the usage of SM are natural phenomena. The presence of public institutions in SM cannot therefore be underestimated.

#### TAX ADMINISTRATION

Electronic filing tax returns is the most popular e-government service in all countries [UN, 2014, p. 150]. For this reason both its implementation, as well as the manner of using SM for marketing and for maintaining contact with taxpayers can be a model for other state and local agencies.

In countries, where over half of the taxpayers is using the possibility of e-filing, seeking new ways of the promotion is not necessary. However, countries which wish to improve statistics are doing so. In the OECD survey which results were published in 2011, 26 revenue bodies were considered, but only six of them (Australia, Denmark, Mexico, Portugal, Singapore, USA) had a formal SM strategy, and three had been developing them (Ireland, New Zealand, UK). In many countries SM were mainly used for communication with taxpayers. YouTube (13 revenue bodies), Twitter (12), Facebook (6) were the most commonly reported SM portals in use [OECD 2011, pp. 14–16].

Coutry	Facebook	Twitter	YouTube	Google +
Australia	2008	2009	2010	2015
New Zealand	2016	2011	2011	2015
US	2010	2009	2009	not exist
Poland	2011	2014	2011	2013
Denmark	2011	2010	2010	2014
France	2012	2012	2012	not exist
UK	2011	2010	2011	2014
Singapore	2013	2010	2014	2014
Canada	2014	2010	2009	2016

Table 1. Tax authorities in SM- Years of setting up the profiles

Source: own study.

For all the observed countries in 2016, profiles were present on the three most popular social networking sites used by public institutions. Table 1 shows that indeed most of them were established after the OECD report was published. Even those countries that had already had a strategy of presence in SM have only recently set up profiles on Facebook. Google plus profiles were the last to ap-

pear in majority of the researched countries. Also accounts on Flikr (came into existence in the UK in 2012), on the Tumblr microblog (created in the US in 2012) and on other ones such as Instagram or Pinterest were created. Some institutions also hold a few accounts on the same portal devoting to different subjects. For example, American IRS home page includes references only to 3 social portals – YouTube, Tumblr and Twitter, but by clicking an appropriate link it turns out that there are 4 channels on YouTube, 5 on Twitter, and 3 profiles on Facebook.

Social networking profiles are most often used for promotion, e.g. e-filing software (Australia), and a sudden fast campaign, e.g. tax messages to the citizens affected by the earthquake in New Zealand. In Australia, the usage of Facebook in 2008 to promote e-filing among young taxpayers turned out to be very effective: the use of e-ATO has increased by over 20% compared to the previous year, and so did the number of taxpayers aged 25 to 39 [OECD, 2011a, p. 18]. Facebook offers almost free word-of-mouth marketing campaign (WOM), or rather viral marketing – web form of word-of-mouth marketing [Armstrong, Kotler, 2012, p. 646]. Holding an account on Facebook allows for interactions with fans in the real time and does not require large expenses. The disadvantages include the frequent changes made on the platform, as well as the fact that monitoring and maintaining interactions can be quite time consuming. Twitter is most often used to communicate important, short announcements about routine action and news, reminders of the tax return deadlines (Australia), new press releases, updates on the homepage (Denmark), providing advice during filing season (Canada), information on taxpayers rights (Portugal). In the opinion of Australian tax administration Twitter account requires the least laborious action, and observing community discussion around ATO activities allows proactive problem solving before it arises to a large scale. YouTube channels are used for publishing instructional films, and clips that are part of the awareness campaign of e-filing service existence.

The channels of tax administration require activity so that they are not perceived as 'dead' i.e. with little communication traffic. These channels also require monitoring in order to respond systematically to questions and concerns stated by the citizens. The tax authorities must react not only to questions, but also to negative opinions as well as monitor false profiles. In 2009 there existed 5 unfavourable for Australian ATO Facebook fanpages (e.g. 'I hate ATO' with 107 fans) and only one with the name of about neutral character. [Alam et al., 2011, p. 1007]. False profiles are not only creating a bad image, but also are hampering reaching the official fanpages, particularly when its name does not relate to a competent institution. Australian tax administration decided to close its first profile (under a less formal name) and in 2011 a new page under the name "Australian Tax Office" came into existence. Table 2 presents data on 6 most interesting examples of fanpages of the tax authorities (out of 13 we have observed). In most cases the names of the given profiles are identical or at least similar to the official name of an institution. Long-term observations of tax administration profiles in 13 countries of the world (conducted by authors starting from April 2013) have shown a permanent increase in the number of taxpayers who do not only visit the profiles on Facebook, but also give them likes (except for a drop in Poland). The substantial increase has usually taken place in months of filing tax returns, e.g. in Poland in the period February–April, or in France April–May. The majority of tax bodies are quite often publishing information for taxpayers on its profile. The observations have shown that in only one case (US), the last published by the administration messages date back to 2010, though we must admit that there were also more current taxpayers' comments. Therefore, these accounts are used by taxpayers, though not massively – as can be seen in comparison with the overall number of them (Table 2).

Country	Profile name	Name identical to tax body	Number of taxpayers	Likes in June	
				2015	2016
Australia	Australian Taxation Office	yes	136.6 m	75 499	106 441
US	Internal Revenue Service	yes	147.22 m	40 767	61 725
Poland	Szybki PIT	no	22.5 m	933	1 118
France	Finances publiques	no	36.2 m	11 977	23 352
UK	HM Revenue & Customs	yes	67.0 m	2 190	13 117
Singapore	Inland Revenue Authority of Singapore	yes	1.6 m	2 954	4 834

Table 2. Statistics of the profiles of selected tax authorities on Facebook

Source: own study, population of taxpayers from [OECD, 2011b, pp. 188-189].

### Uses of SM in Museums

The new media have contributed to the transformation of museums, which at the beginning of the twentieth century began to change the way they present the exhibitions. The use of different ICT innovations makes visits more attractive, particularly for the young audience. Studies show [Papińska-Kacperek, 2013, s. 33–38], that not all potential users of SM are aware of the existence of the SM accounts of the visited museums. Museums should, therefore, strive to inform better about any innovations, also through these channels of communication, which are more often visited by the young guests.

A web page becomes only part of the information and promotion policy of every organization. Nowadays, in the case of museums it is more and more common for the visitors to be able to not only get information about the institution itself but also to buy or at least book the tickets. Museums recognize the need to offer mobile versions of websites, free sharing of multimedia content and existence in SM. In the case of cultural institutions funpages are usually created on sites such as Facebook, Tumblr, Instagram, Twitter and YouTube. The websites of museums usually contain links to these social networking sites, although no link on the website does not necessarily imply a lack of such account. It also happens that a museum focuses on its activities on one site and consciously resign from the presence of the other. They tend to do so when they fear that maintaining an additional profile will be too costly in relation to their financial capacity (e.g. a necessity to employ an account administrator). An example here can be a relatively young museum of European Solidarity Centre (ECS), which has focused its efforts on Facebook and YouTube, and does not plan to run a profile for e.g. on Twitter. The effect of these efforts is nonetheless outstanding - ECS in the month preceding the museum's opening (i.e. 1–31 August 2014) gained a 36% increase in likes. What is more, in just less than 4 months (Sep.-Dec. 2014) it faced a 26% increase in the number of likes of their fanpage.

Museums, as in case of the previously discussed tax authorities, should not settle for the presence in just one social network as its aim is to reach as many potential visitors as possible. As it happens, most of the institutions are present in a variety of social networking sites (Table 3). We observed 25 museums in selected countries. What we have found out is that they are willing to use various social networks simultaneously. Most often it is Facebook and YouTube and less likely - Flikr, Twitter, Instagram or Tumblr. SM can function as annexes to the collections currently on display in a museum (presenting e.g. undisplayed stocks or heard as well as written stories associated with existing exhibits).

Muzeum	Twitter	Facebook	YouTube	Flicr	
Auckland War Memorial Museum	2009	2009	2009	2008	
British Museum /London	2009	2009	2006	2009	
European Solidarity Centre /Gdansk	n.e.	2008	2010	n.e.	
Musee D'Orsay /Paris	2011	2010	2011	2005	
Musée du Louvre /Paris	2009	2008	2006	2011	
Museum of New Zealand Te Papa Tongarewa / Wellington	2009	2008	2007	2009	
Museum of Old and New Art /Tasmania	2010	2008	2011	2011	
National Gallery of Victoria /Melbourne	2009	2009	2013	2010	
Tate Britain /London	2007	2007	2005	2013	
The Museum of Modern Art /New York	2008	2008	2006	2008	
US Holocaust Memorial Museum /Washington	2007	2008	2006	2008	
Warsaw Rising Museum /Warsaw	n.e.	2009	2009	2011	

Table 3. A choice of museums present in SM - Years of setting up profiles

Source: own study. n.e - not exist.

Out of the social networking sites museums usually choose Facebook. Not only the old and very popular museums (the Louvre and the Tate Gallery) but also newly opened modern institutions (Table 4) are active there. It happens that in some cases the profiles are created spontaneously by users. In June 2015 there existed many unofficial profiles on Facebook (e.g. The European Solidarity Centre, the Louvre). In comparison to the tax administration, in case of the museums, it is not a threatening phenomenon. As long as the authors of such profiles do not pretend to impersonate these institutions, such profiles do not have to be false but can be a proof of high interest in the object, since the tourists decided to create them on their own. In such cases, the consent of a museum to users' initiative can be seen as a kind of word-of-mouth or viral marketing.

Museum	Number of likes in June			
Museum	2014	2015	2016	
Auckland War Memorial Museum	no data	33 542	43 085	
British Museum /London	no data	678 753	1 205 546	
European Solidarity Centre /Gdansk	4103*	7 823	10 109	
Musee D'Orsay /Paris	208 000	368 115	668 205	
Musée du Louvre /Paris	1 300 000	1 711 037	2 240 529	
Museum of New Zealand Te Papa Tongarewa / Wellington	no data	53 659	74 757	
Museum of Old and New Art /Tasmania	no data	88 291	104 442	
National Gallery of Victoria /Melbourne	no data	75 645	108 491	
Tate Britain /London	675 000	725 647	956 852	
The Museum of Modern Art /New York	1 600 000	1 708 868	1 893 180	
US Holocaust Memorial Museum /Washington	no data	120 833	149 108	
Warsaw Rising Museum /Warsaw	77 000**	156 719	225 555	

Table 4. Museums present on Facebook - Statistics

\*on the 01.08.2014, \*\*in 01.2014.

Source: study based on [Horváth, 2014; Kowalczyk-Anioł, Papińska-Kacperek, 2015, pp. 6–20; Papińska-Kacperek, Polańska, 2016] as well as own observations.

A fanpage of a museum should include appropriate forms of encouragement for users to co-operate and co-create content to be able to use SM as a medium of business information and advertising in the future. The choice of form and content of community involvement is a major challenge which SM administrators have to face [Grøn et al., 2013, p. 49]. There also exists a problem of an ethical nature, that is if it is necessary to remove comments rising strong moral opposition, undermining the accepted social rules. An example of the Holocaust museum in Washington described by Amelia Wong [Wong, 2011, p. 105] should be given here – where a problem if anti-Semitic comments, Holocaust denial should be deleted or not (in the name of freedom of speech) occurred. If so, is it an ethical duty to store and share them for research purposes? One can also take advantage of such situations to stir up a discussion on the fight against hate. Thanks to observations of discussion development a strategy to engage SM to evaluate institutions and affect their change can be implemented.

#### CONCLUSIONS

The existence of profiles of public institutions in SM has become a reality. For some it is an essential element of information policy, for others almost unnecessary undertaking. There is no doubt that it is not possible to ignore SM as a channel of the information exchange and marketing treatments particularly in relation to the younger generation, for which these media constitute the habitat of collecting, creating and the exchanging information.

More and more citizens of each country use SM to reach out for public information and new tools to facilitate the search. However, public resources in SM are perceived as less secure.

Therefore, all kinds of promotional activities turned out to be the most obvious application of SM for both institutions tax bodies and museums. Some organizations treat SM only as a classical information bilateral channel. This conclusion results from the conducted observation that both types of institutions are not building a network around their profiles in SM. Therefore, it is not a surprise that a citizen who uses such a profile once a year (e.g. yearly filing taxes) or less (e.g. during trip) does not feel like joining or creating such a network. In business an initiative rests in the hands of companies that are interested in developing its network of partners. In case of public service this activity (its size, scope, intensity) belongs to the citizens, who when dealing with this kind of institutions usually only seek information. In the case of institutions in the area of culture more factors (e.g. snobbish ones) should be considered.

#### BIBLIOGRAPHY

- Alam S.L., Campbell J., Lucas R., 2011, Using SM in government: the Australian taxation office e-tax Facebook page [in:] Dependable, Autonomic and Secure Computing (DASC), IEEE pp. 1002–1009, http://dx.doi.org/10.1109/DASC.2011.165.
- Armstrong G., Kotler Ph., 2012, Marketing. Wprowadzenie, Oficyna Wolters Kluwer, Warszawa.
- Gao H., Barbier G., Goolsby R., 2011, *Harnessing the Crowdsourcing Power of SM* for Disaster Relief, "IEEE Intelligent Systems" 26 (3), pp. 10–14, http://dx.doi. org/10.1109/MIS.2011.52.

- Grøn S., Hansen L., Mouritzen M.H., 2013, *Dos and don'ts on facebook across museums* [in:] NODEM.
- Horváth G., 2014, From Museum Walls to Facebook Walls. A new public space for art, [in:] Ten Years of Facebook. The Third Argumentor Conference, Oradea.

Kemp S., 2016, Digital in 2016, http://wearesocial.com/uk/special-reports/digital-in-2016.

- Kowalczyk-Anioł J., Papińska-Kacperek J., 2015, Wykorzystanie mediów elektronicznych w turystyce kulturowej na przykładzie muzeów i miejskich aplikacji mobilnych, "Turystyka Kulturowa", nr 5.
- OECD, 2011a, SM Technologies and Tax Administration.
- OECD, 2011b, Tax Administration in OECD and Selected Non-OECD Countries: Comparative Information Series.
- Panagiotopoulos P., Bigdeli A. Z., Sams S., 2014, Citizen-government collaboration on SM: The case of Twitter in the 2011 riots in England, "Government Information Quarterly" Vol. 31, Issue 3.
- Papińska-Kacperek J. 2013, E-Tourism Serivces in Polish Tourists' Opinions, "Problems of Management in the 21st Century", 7.
- Papińska-Kacperek J., Polańska K., 2016, Instytucje publiczne w mediach społecznościowych na przykładzie portalu Facebook w ujęciu międzynarodowym, "Media Management", No. 2 (in print).
- UN, 2014, E-Government Survey 2014: E-Government for the Future We Want.
- Wong A.S., 2011, *Ethical issues of SM in museums: a case study*, "Museum Management and Curatorship", 26(2), pp. 97–112, http://dx.doi.org/10.1080/09647775.2011.566710.

#### Summary

The ICT tools affect many aspects of daily life as well as on the functioning of public institutions that could not ignore them in their activities. Many applications have been implemented, both to facilitate the organization of work in public institutions, as well as to allow using of new communication channels with citizens. A variety of new services were made available on-line, but their low usage resulted in the need to find tools for closer interaction with potential customers of e-government. Both the public administration as well as cultural institutions should use new communication channels with their customers, remembering the risks associated with the procedures. Therefore, the article discusses profile examples on popular social networks created by tax administrations and museums in selected countries. The aim of the article is to analyze the behavior of public institutions in SM from the comparative and international point of view.

Keywords: SM, electronic government, word of mouth marketing

#### Obecność instytucji publicznych w sieciach społecznościowych

#### Streszczenie

Narzędzia ICT wpływają na wiele aspektów codziennego życia, również na funkcjonowanie instytucji publicznych, które nie mogły pominąć ich w swojej działalności. Wdrożono wiele aplikacji zarówno ułatwiających organizację pracy w instytucjach publicznych, jak i pozwalających na użycie nowych kanałów komunikacji z obywatelami. Przygotowano ofertę nowych usług dostępnych online, ale ich niewielkie użycie spowodowało potrzebę szukania narzędzi ściślejszej interakcji z potencjalnymi klientami e-administracji. Zarówno administracja publiczna, jak instytucje kulturalne powinny wykorzystywać nowy sposób komunikacji ze swoimi klientami, pamiętając o zagrożeniach związanych z nowym sposobem działania. W artykule omówiono przykłady wykorzystania profilu na najpopularniejszych portalach społecznościowych przez administracje skarbowe i muzea w wybranych krajach świata. Celem artykułu jest analiza zachowań instytucji publicznych w sieciach społecznościowych w ujęciu porównawczym i międzynarodowym.

Słowa kluczowe: media społecznościowe, administracja elektroniczna, marketing szeptany

JEL: H410, H71, M380