

## Chapter 12

# Google Apps as a Cloud Computing Solution in Italian Municipalities: Technological Features and Implications

**Giovanni Biancofiore**  
*giovannibancofiore.com, Italy*

**Sabrina Leone**  
*Università Politecnica delle Marche, Italy*

### ABSTRACT

*The Agenda Digitale Italiana, the strategic plan for the implementation of the Digital Agenda for Europe 2020 in Italy, aims to help citizens and businesses to get the most out of digital technologies, in order to deliver smart, sustainable, and inclusive growth. One of the pillars of this strategic plan is cloud computing, which a growing number of Italian public administrations have been activating. Different solutions have been adopted. Among these, Google Apps has been chosen for its integrated tools, low cost, and steep learning curve. This chapter aims to investigate the ongoing change in the technological architecture for eGovernment in Italian municipalities and the implications of the shift towards Google Apps as a cloud computing solution on their personnel's empowerment. On the basis of the analysis of the best practices, recommendations will be provided for an effective implementation of Google Apps as a cloud computing solution to foster staff's continuing professional and personal development in Italian municipalities.*

### INTRODUCTION

Cloud computing represents the most recent evolution of the approaches to the organisation and management of Information Technology (IT) resources, and is based on their remote accessibility (Mantelero & Iemma, 2012). More in general, the expression “cloud computing” typi-

cally indicates a new range of IT resources and services (infrastructures, platforms and software) distributed online (Corcioni, 2012).

The European Commission aims at enabling and facilitating faster adoption of cloud computing throughout all sectors of the economy which can cut information and communication technologies (ICT) costs, and when combined with new digital business practices, can boost productivity, growth

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and jobs (European Commission, 2012). In order to do so, considerable investment is necessary, particularly in broadband, that is the enabling infrastructure (European Commission, 2013a).

In Italy the adoption of cloud computing has been evaluated since 2008 (Flick, & Ambriola, 2013).

Nevertheless, the inadequate relevance of ICT has unfortunately been a permanent systematic feature for some years in Italy. While the biggest world economies have been boosted by digital technologies, data highlight an infrastructural and literacy digital divide due to a persisting lack of programmed measures, or, at least, of an effective coordination of inherent initiatives (Corso, Mainetti & Piva, 2012). Indeed, Italy shows a low long-term contribution of the ICT capital to the growth of its Gross Domestic Product (GDP), by investing in ICT only 2% of its GDP (i.e., 10% of its total investments), against 3.5% of the USA (i.e., 25% of their total investments) (Bilbao-Osorio, Dutta & Lanvin, 2013).

Lately, under the pressure of the *Digital Agenda for Europe 2020*, the Italian government has started the national strategic plan for the digital modernization of the country, posing particular attention to eGovernment as one of the results of a possible and hopeful evolution of the current Public Administration (PA). eGovernment is the short for electronic government, also indicated as e-gov, digital government, online government, or connected government (Jeong, 2007). Although definitions of eGovernment by different sources may vary widely, a common understanding is that eGovernment involves using IT and the Internet to ameliorate the delivery of government services to citizens, businesses, and other government agencies (Palvia & Sharma, 2007). eGovernment enables a renewed look at the PA in order to make it transparent, fast, efficient, and capable of meeting the needs of a modern country and of reducing its digital divide (Carnevaletti, 2012).

The expression PA can be referred to by its objective and subjective meaning. In its objective

sense, the PA is the body of administrative acts aiming at the care of the community's interests (public interests). In its subjective sense, the PA is the set of institutions that perform this function (e.g., the Government) (Napolitano, 2009). Within this work, the term PA is used in its subjective meaning.

Specifically, municipalities are local, territorial and autonomous PAs, whose competence and responsibility is limited to represent their own community, to take care of their community's interests and to promote their community's development (Napolitano, 2009).

In 2012, most larger enterprises in the European Union (EU) used the Internet for interactions with public establishments; for small enterprises, instead, the EU-27 average was 85%. The use of the Internet for interactions with PA by small enterprises in Italy (82%) is below the EU average.

The take-up of eGovernment services in 2012 reached, on average, 52.5% of EU citizens aged 25-54 years old (compared to 49.3% in 2011). Italy shows a very low level (23.9%) of take-up of eGovernment services by citizens (European Commission, 2013c).

The analysis of the initiatives of eGovernment and of the projects of digitalization of Italian PA has allowed to identify efficiency and innovation, through the adoption of cloud computing, as the two success features to meet the requirements of the spending review and a higher quality of the services.

Most of the companies that operate in Italy appear reluctant to embrace cloud computing, and show a preference for internal cloud infrastructures. Among PAs, a growing number has been activating cloud computing, by different solutions, among which Google Apps for its constant improvement and upgrading, integrated tools, security standards, low cost and steep learning curve. Indeed, both central and local PAs show some examples of implementation of cloud computing, but they are still a few and often limited in terms of dimensions and applicability in comparison

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