Chapter 1
The E–Planning Paradigm – Theory, Methods and Tools: An Overview

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ABSTRACT
The chapter discusses the relationships between planning theory and the use of information and communication technologies in urban planning. It explores how recent organizational transformations in urban planning, associated with the widespread use of information and communication technologies, are incorporated by different planning theories. It is argued that the way information and communication technologies tools are considered or included by the different planning perspectives is in part responsible for the various forms of e-planning.

INTRODUCTION
Contemporary urban planning practice is embedded in a complex and diverse social, political and economic urban world. The implementation of e-Planning, the new urban planning paradigm, requires new concepts, methods, and tools, as happened in the past when other technologies were introduced in this professional field. The history of urban planning, since the end of the nineteenth century, reveals a process of continuous change in the prevailing theories and methodologies, which led to an increasingly complex professional practice (Friedman, 1996; Hall, 2002; Peterson, 2003; Silva, 1994; Talen, 2005; Ward, 2004). The Garden City model, in the formula proposed by Ebenezer Howard (Hall and Ward, 1998, Howard, 1902/2001), or the CIAM discourse on urbanism, steered among others by Le Corbusier (Le Corbusier, 1971; Mumford, 2000), had a vision of planning rather different from the rational planning paradigm that followed it as the main planning paradigm and which framed most of the twentieth century urban planning practice. Rational scientific planning, system theory and the following paradigms, namely the political economy perspective of planning, collaborative or communicative planning, and the various streams of postmodern planning put forward different visions of...
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what urban planning is, who benefits from it, and
how it should be practiced (Allmendinger, 2002;

Even though information and communication
technologies may be seen as neutral technologies,
they can certainly be applied to serve different
political and social purposes, or to respond to
different principles and values (Anttiroiko and
Malkia, 2007; Budthimedhee et al., 2002). It is for
this reason that the use of information technolo-
gies within the rational planning approach has
different objectives compared to what happens
in collaborative or communicative planning. In
the first case, the introduction of information and
communication technologies allows planners and
planning departments to carry out new actions or
to implement conventional practices through new
tools, such as geographic information systems, vir-
tual reality technologies, e-participation devices,
including public participation GIS applications,
among other tools, with the aim of improving
conventional decision-making processes. In the
second case, the use of similar information and
communication technologies tend to be associated
with an epistemological turn and in the limit with
a change of planning paradigm that goes beyond
the basic objective of improving established plan-
ing routines.

The provision of better planning and urban
management services, more efficient, with lower
costs and, at the same time, a more collaborative
and participative, transparent and accountable
planning decision-making process are some of
the basic objectives usually associated with the
move from conventional urban planning to e-
planning, as the empirical evidence collected in
this handbook illustrates. However, this move is
not always followed by a paradigm shift from the
point of view of planning theory. Neo-positivist
as well as post-positivist epistemologies and the
corresponding urban planning paradigms do in-
corporate and use information and communication
technologies with different purposes and under
different rationales. If e-planning is seen simply as
the extensive use of information and communi-
cation technologies in urban planning, there will be
as much types of e-planning as planning theories
that frame them. An e-planning system organized
according to the principles of rational planning
or system theory will be different from another
framed by the principles and by the rationale of
collaborative planning or from a third one that
combines elements from both in a hybrid and
contradictory form of urban planning. For that
reason, the term e-planning is frequently used with
slightly different meanings, and this handbook is
no exception in that respect. In this chapter the
term e-planning stands for the new urban planning
paradigm, characterized by the extensive use of
information and communication technologies in
all phases of the urban planning process, within
the framework of a post-positivist planning theory.

BACKGROUND

Planning Theory

The questions “who gains from urban planning?”
and “what role citizens can play in the planning
process?” and, more specifically, “how to handle
communication and collaboration between differ-
ent urban stakeholders?”, a discussion renewed
due to the new possibilities offered by information
and communication technologies, are key points
in the planning theory debate. To some extent,
the ways these issues have been addressed are
responsible for the differences between the vari-
ous modern and post-modern planning paradigms,
which more than well delimited theories must be
seen as clusters of perspectives co-existing in time
and with strong commonalities.

In the Garden City movement, City Beautiful
movement or in the CIAM discourse on Urbanism,
for example, urban planning was regarded as urban
design (Silva, 2003; 2005; 2005a). This planning
as design paradigm was largely dominant until
the 1960s, when the rational theory of planning
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