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# Sketching and validating the location-based services (LBS) regulatory framework in Australia

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## ABSTRACT

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Location-based services (LBS) are defined as those applications that combine the location of a mobile device associated with a given entity (individual or object) together with contextual information to offer a value-added service. LBS solutions are being deployed globally, and in some markets like Australia, without appropriate regulatory provisions in place. Recent debates in Australia have addressed the need to bridge the gap between technological developments and legal/regulatory provisions. This requires an assessment of the regulatory environment within a given social context such as Australia. The core components of such an investigation include: (a) composing a conceptual framework for analysing regulation of technologies such as LBS, one that is sensitive to public policy themes and challenges, and (b) applying this conceptual framework to the Australian setting in order to sketch and define the components of the present framework, and identify areas for improvement through a process of validation. This paper addresses these aims, demonstrating how the current regulatory framework in Australia is bound by legislation with respect to privacy, telecommunications, surveillance, and national security (that is, anti-terrorism), in addition to a set of industry guidelines for location-service providers (LSPs). The existing Australian framework, however, is lacking in its coverage and treatment of LBS and location data, and does not adequately address the themes and challenges in the defined conceptual framework.

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## 1. Introduction

Measuring the need for LBS regulation and engaging in related dialogue requires an informed understanding of regulation and public policy in general, and of existing LBS regulatory practices and frameworks. One approach is to consider regulation in the context of government and governance (Braithwaite et al., 2007, p. 3):

*Governments and governance are about providing, distributing, and regulating. Regulation can be conceived as that large subset*

*of governance that is about steering the flow of events and behaviour, as opposed to providing and distributing.*

That is, regulation is concerned with “the effects of actions, not on the actions or the means of the actions themselves” (Koops, 2006, p. 6). Various theories and approaches to regulation exist. According to the Australian Law Reform Commission (ALRC), regulatory theory (in relation to information privacy) may include principles-based and compliance- or outcomes-oriented methods (ALRC, 2008, pp. 234–40).

Public policy, on the other hand, can take on various definitions and may involve ambiguity (Bridgman and Davis, 2004, p. 3). In simple terms, public policy is “about what governments do, why, and with what consequences” (Fenna, 1998, p. 3). However, there are a variety of interpretations of the term, as summarised by Maddison and Denniss (2009, pp. 3–4) based on the work of numerous authors in the public policy sphere. Importantly, the authors state that regardless of interpretation, public policy can be viewed in one of two ways: either as “the result of authoritative choice” in which government ministers play a dominant role in decision-making, or as “the result of structured interaction” involving cooperation between players and appreciation of conflicting interests (Maddison and Denniss, 2009, p. 4). That is, regulation is a set of rules designed to govern the operation and intervention of stakeholders. This operation is often in a market setting and thus lends itself to economic analysis (Stigler, 1971). Stigler’s work recognised the strong interactions of the regulated with a regulator in the implementation of regulation and its enforcement. This paper similarly argues that regulation and public policy-making processes in the technology realm rely on a process of collaboration and consultation amongst industry stakeholders. With respect to regulatory choices regarding LBS, interaction between government and industry stakeholders is necessary given that the delivery of a given solution is reliant on the involvement of a range of stakeholders such as wireless network operators and handset vendors.

For the purpose of this paper, it should be noted that regulation and public policy-related processes are complex practices that vary from one context to the next and evolve as new debates emerge whereby existing processes and regulatory mechanisms must be reassessed. This interaction is made more complex in the Australian Federal environment where the constitution determines that some aspects of LBS are legislated at a national level and some at a state level. This necessitates an appraisal of current State and Federal legislation relevant to LBS in a manner that allows the regulatory framework and existing measures to be drawn, subsequently allowing the outcomes to be employed as the basis for future work. As such, this paper aims to develop a conceptual framework detailing how to examine LBS regulation, subsequently applying the framework to the Australian case. The outcome will be a sketch of the current LBS regulatory environment in Australia and the subsequent validation of the existing regime. An aspect of Australian law that assists this inquiry is the common approach taken by the States to their legislation. This common basis with a focus on Federal law means that this paper can provide a preliminary sketch of the existing national framework.

Current literature and studies relating to the LBS regulatory environment note that suitable regulatory frameworks are essential to industry development, from the perspective of safeguarding the interests of multiple stakeholders, notably, providers and users, in addition to government entities and society as a whole. Such frameworks should ideally address the ethical dilemmas and social implications of LBS, whilst also being sensitive to the regulatory and public policy challenges associated with emerging technologies in general. Furthermore, and in light of the divergent uses of LBS, Dobson

and Fischer (2003, p. 51) call for protective mechanisms that enable the “legitimate uses”, while preventing undesirable exploitation. Similarly, Smith (2006, p. 725) acknowledges the potential benefits, whilst also suggesting further legislation to safeguard personal location information. The significance of adequate regulatory provisions is two-fold. First, regulation encourages fairness and consistent rules for providers. Second, regulation functions to safeguard individuals thereby increasing their support and trust in LBS (Cuijpers and Koops, 2008, p. 881; FIDIS, 2007, p. 10).

Regardless of the potential benefits of LBS, authors such as Clarke and Wigan (2011) indicate that LBS “have far outstripped both public awareness and legal and policy attention”, a situation they claim is exceedingly risky. The consequences of lack of regulation, specifically of tracking services and control over location histories by government, organisations and interested individuals, are great in terms of privacy in particular (Barreras and Mathur, 2007, p. 177). Cho (2005) claims that while concerned individuals are advocating regulation (p. 209) others are advancing the self-regulation movement (p. 253). Determining the most suitable response is indeed a challenge, one that requires the current regulatory environment and/or framework to be mapped out. However, it has been suggested that a single approach to regulation, such as legislation or self-regulation for instance, will fail to suffice. Xu et al. (2009, p. 163) agree that a single approach to regulating privacy in particular will not account for the interests of the diverse stakeholders comprising the LBS industry. Herbert (2006, p. 437), on the other hand, recommends an elementary reassessment of the manner in which emerging technologies, such as human tracking technologies, affect privacy as the basis for initiating a suitable legal response. In fact, the same sentiments apply for any regulatory issue associated with LBS. That is, a fundamental re-evaluation of the implications of LBS, in conjunction with an understanding of the regulatory and public policy challenges that apply, is indispensable.

The following section offers an overview of the significant themes and challenges pertaining to LBS regulation thereby providing a conceptual framework for examining LBS regulation; Section 3 introduces the Australian framework by applying the conceptual framework drawn from Section 2; Section 4 summarises and validates the main components in the Australian framework, noting areas for future research and Section 5 provides the concluding remarks for this paper.

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## 2. Conceptual framework for analysing LBS regulation

It is essential that a conceptual framework for LBS regulation be built on a preliminary understanding of the regulatory and public policy challenges associated with emerging technologies such as LBS. It has been noted that regulatory challenges in the LBS domain stem from the mounting gap between technology deployment and the employment of appropriate safeguards, legal or otherwise, to govern various aspects of LBS. For instance, in relation to modern surveillance technologies, Marx (1999, p. 63) observes the increasing gap between technological potential and present measures designed

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