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Strategy and business model design in dynamic telecommunications industries: A study on Italian mobile network operators

Antonio Ghezzi [a,1], Marcelo Nogueira Cortimiglia [b,2], Alejandro Germán Frank [b,*]

[a] Politecnico di Milano, Department of Management, Economics and Industrial Engineering, Via Lambruschini 4/b, 20156 Milan, Italy
[b] Industrial Engineering Department, Federal University of Rio Grande do Sul, Av. Osvaldo Aranha, n. 99, 5° Andar, CEP 90035-190, Porto Alegre, RS, Brazil

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ABSTRACT

The mobile telecommunications industry is highly dynamic. Strategic, marketing and technological disruptive changes are the norm in this industry. In such a context, strategy formulation and implementation is a challenge for mobile network operators (MNOs). The aim of this study is to propose an interpretative framework to support MNO's strategic decision making in a dynamic competitive context characterized by disruptive changes in technology and business dimensions. The proposed framework was applied in an explorative multiple case study conducted on the four MNOs operating in Italy. Data collection involved semi-structured interviews with seven top and middle managers of each company. The application illustrates how the proposed framework allowed the identification of drivers for potentially disruptive change and their implications on Italian MNOs' business models. The research also highlights the main strategic routes that Italian MNOs have at their disposal to face the turbulent competitive times. Although the specific issues reported relate to the Italian context, it can be argued that they are reasonably representative of most Western markets.

1. Introduction

Given the ubiquity of mobile phones, mobile telecommunication is clearly a cornerstone of the information and communication technology (ICT) industry. The relevance of mobile telecommunication was initially established during the 1990s, when substantial investments by mobile network operators (MNOs) cemented a vast customer base all over the world. During the following decade and a half, the global mobile telecommunication market was characterized by constant growth in terms of users and revenues, most of which associated with voice transmission (Henten et al., 2004).

In recent years, however, this context has changed considerably, with MNOs' focus increasingly shifting towards data transmission and value-added services (Maitland et al., 2002; Peppard and Rylander, 2006; Dunnewijk and Hultèn, 2007; Bouwman et al., 2008). The growth of mobile subscribers is stagnating in most countries, and particularly in mature markets such as Western Europe, MNOs face a situation where subscriber saturation and tight cost competition led to voice-related revenues becoming increasingly less profitable (Whitehead et al., 2011; Weber et al., 2011).

Technology innovation is also a constant factor in the mobile telecommunication industry (Hamdouch and Samuelides, 2001; du Preez and Pistorius, 2003; Fernández and Usero, 2009). On the one hand, the rise of mobile devices tailored to Internet use (i.e., smartphones and tablets) and the diffusion of data-hungry content such as video streaming drive the consumption of data in mobility (Tilson and Lyytinen, 2006; West and Mace, 2010; Whitehead et al., 2011; de Reuver et al., 2013). On the other hand, innovation and investments in network infrastructure

* Corresponding author. Tel.: +55 51 3308 3490; fax: +55 51 3308 4007.
E-mail addresses: antonio1.ghezzi@polimi.it (A. Ghezzi), cortimiglia@producao.ufrgs.br (M.N. Cortimiglia), frank@producao.ufrgs.br (A.G. Frank).
[1] Tel.: +39 0223999556; fax: +39 05 2492287.
[2] Tel.: +55 51 3308 3490; fax: +55 51 3308 4007.

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technology increase the availability of data provision, while lower mobile data tariffs make it more accessible. In this complex competitive environment, elements such as regulatory backdrop, changing customer needs and positioning of competitors and partners alike are some of the additional variables that must be addressed by MNOs when devising their strategies (du Preez and Pistorius, 2003; Buellingen and Woerter, 2004; Zhang and Liang, 2011).

Furthermore, MNOs must also contend with a business convergence trend in act in the ICT industry that mirrors the technological convergence of telecommunications, software, Internet and electronic devices (Weber, 2007; Seybold, 2008). This has caused a paradigmatic shift in traditional mobile telecommunication value networks, as exemplified by the successful foray of Apple in this market and profoundly affects the strategy of all players involved, particularly MNOs (e.g., see Funk, 2009).

It seems clear, then, that the task of setting strategic guidelines in this technology-oriented, multifaceted and turbulent context is particularly daunting. New business models, pricing mechanisms and value network relationships must be designed and implemented in order to cope with the dynamic conditions and continuous technological change (Fernández and Usero, 2009). These efforts require systematic research that considers both the business and technological issues at hand. Thus, important theoretical implications for the strategic technology management discipline can be derived during turbulent times, as demonstrated by classic works such as Henderson and Clark (1990), Anderson and Tushman (1990), Christensen and Rosenbloom (1995) and Peppard and Rylander (2006).

By studying actions and decisions of firms profoundly affected by contexts of turbulent technologic and market change, insights on strategy-making mechanisms can be formed (Pretorius and Maritz, 2011). In particular, it is possible to study the relationship between the sources of disruptive change and their potential strategic implications by means of the business model dimensions affected. Thus, the aim of this study was to propose an interpretative framework to support strategic decision making by MNOs in the dynamic mobile telecommunication context, characterized by disruptive changes in both technology and business dimensions. The proposed framework helps to relate disruptive change factors to business model dimensions, aiming to develop emergent strategies. This framework was applied in an empirical research conducted at the four MNOs operating in Italy, and results allowed us to identify drivers of potentially disruptive change and their implications on MNOs' business models.

2. Theoretical background

The issue of strategy making in highly dynamic competitive contexts is well established in academic literature. Most of the contributions in this regard can be traced back to the emergent approach to strategy making (Pretorius and Maritz, 2011). Moreover, the impact of ICT in business, particularly with the Internet diffusion of the early 90s, brought to light a new theme in strategic management that is highly relevant to emergent strategy making: the concept of business model. These topics are briefly addressed next in order to contextualize the empirical research.

2.1. Emergent strategy making

Since the early 80s, technology has been incorporated into strategic thinking. This means, basically, to understand how technology relates to the overall business strategy and incorporate this understanding into strategic planning and action.

A first approach to strategy making in technology-oriented industries incorporates a set of theories whose basic assumptions imply that competition is the battle for the most favorable position in a competitive environment, and strategy is how a firm can identify and achieve such position (Porter, 1980). Well-known authors that adhere to this line of thought include, for instance, Foster (1985), Shapiro (1989), Hax and Majluf (1991) and Barat (2008). In this so-called "positioning" approach, strategic decisions involve the selection of business areas for a firm to explore and the internal leverage of a firm's resources to position itself in the industry. Thus, to build sustainable competitive advantage, a firm must analyze both endogenous and exogenous factors affecting the industry and its position within it. Technology, according to this approach, is at the same time one of the variables that can be used to implement a firm's strategic choices and a determinant of industry characteristics.

Similar to the positioning approach is the "deliberate" approach to strategy making. Both approaches are highly formalized, making use of established analytical tools and techniques to assess the external environment and devise a rational strategic plan (Mintzberg et al., 1998). Moreover, both the deliberate and positioning approaches assume that the external environment is rather static or, in the best circumstances, changes slowly and at only a few dimensions at the time (Pretorius and Maritz, 2011). This was in fact basically true when the theories that underlie this approach were first elaborated. However, in the light of the growing pace of change in technological, economic, social and political scenarios that characterize the current competitive environment, this appears to be no longer the case.

Thus, another approach to strategy making became prominent in strategic management literature: the emergent approach, which assumes that strategy making is largely derived from trial-and-error, incremental and mostly bottom-up initiatives (Pretorius and Maritz, 2011). This approach to strategy making assumes that not only a highly dynamic environment but also changes in this environment are inherently difficult to foresee. Notwithstanding, strategic efforts to induce and, if possible, control change and its effects must be made.

The dichotomy between deliberate/positioning and emergent approaches is analogous to the art versus science interpretations of strategy mentioned by Parnell and Lester (2003), that is, the art perspective assumes that environmental predictability is low while the science perspective assumes that the external environment can be objectively analyzed through models and tools. Contrarily to the positioning and deliberate approaches, the emergent approach to strategic technology management considers that a firm's competencies and resources are the main source of competitive advantage since they change at a much slower pace than technologies or market conditions. This approach builds upon the resource-based view theory (Wernerfelt, 1984; Barney, 1986) and has as main exponents authors like Prahalad and Hamel (1990),