

# Chapter 6

## Digital Transformation in the Energy Industry: Strategies for Fuel Retail Companies

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### ABSTRACT

*In recent years, digital transformation has begun to significantly affect the business landscape, disrupting existing business models. In the midst of this revolution, oil and gas retail companies are experiencing a strong transformation of the whole industry, which is also driving the transformation of their processes, assets, and people. In this chapter, the authors explore how oil and gas retail companies are trying to redefine their business models by providing end-users with a wide range of smart and connected solutions. The main purpose of this work is to analyse, in the face of the digital transformation era, the potential that new technologies can unleash in mature and commoditized industries such as the one of oil and gas retail. In particular, the present work focuses on the digital transformation strategy of fuel retail companies based on the improvement of customer experience.*

### INTRODUCTION

Most of the companies are nowadays engaging in digital transformation, challenged by the revolution occurring in the competitive landscape and, consequently in their business models and in customer and societal needs. In the light of the new digital era, companies do need to appropriately strategize around data collection, analysis and their translation into unique customer experiences. This means that the

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ability to handle and use data to create value for customers and for the society plays a crucial role for companies, which need to accordingly reconfigure their business processes. We define digital transformation as “the changes associated with the application of digital technology in all aspects of human society” (Stolterman & Fors, 2004: 689).

This is especially relevant in the Oil & Gas industry, whose products are represented by commodities (Sen, 1999), which is a highly dynamic sector characterized by high market volatility and fluctuating prices, affected by geopolitical events and dependent from the global value chains. In this scenario, fuel retail companies deserve attention, since the most optimistic forecasts expect that 30% of service stations could be in severe distress if their business models will not evolve (Boston Consulting Group, 2019). Indeed, they need to follow the current trend which sees the whole business environment being transformed by digital technologies (Helfat & Raubitschek, 2018).

Previous studies (Westerman, Bonnet & McAfee, 2018) found that while some industries have already embraced digital transformation in most of their activities, other industries are lagging behind. Specifically, among the industries that can be considered latecomer in engaging in digital transformation, we find the oil and natural gas industry (Kohli & Shawn, 2011), one characterized by large capital investments and thus in constant need to recover from such investments by cutting costs and, at the same time, be responsive to the changing market demands. Executives in oil and natural gas companies are facing unprecedented pressure to cut costs due to market turbulence and need advice on how to undertake digitization and execute a digital strategy.

Notwithstanding the quest for cost saving that companies in the oil and gas industry are pursuing, digitalization still constitutes a successful strategic turn for them to be undertaken, and the reason is twofold. First, digitization can be used more in general in the oil and gas industry to implement systems of predictive maintenance to monitor production assets and predict or prevent device failures, e.g. software and hardware for checking oil tanks (Nielsen *et al.*, 2017). Second, digitization can be leveraged for marketing purposes, in particular to support companies in the oil and gas industry operating in the retail business, helping them reshaping their business models, in the medium and long term, to face the rise of new non-traditional competitors (e.g. vehicle electrification companies) (Šafranić, Petljak, & Naletina, 2017) and to account for the shift in customer needs (Coelho *et al.*, 2017). Digital technologies can be effective to provide customers with innovative options like omnichannel experience and personalized offerings in order to differentiate a product that is per definition a commodity and to overcome the barriers of commodities to obtain consumers’ loyalty, as they are by nature undifferentiated. The use of digital tools, apps, social media, advanced data instruments to analyse consumers’ habits for fuel purchases, as well the use of these tools to develop and improve marketing communication and promotion, enables to align with other industries and to collect data on consumer behaviour, which allows to define a more effective offer and in turn benefit the sales and the economic performance. Therefore, the digital transformation, i.e. implementation of Cloud solutions, Big Data, Internet of Things, Robotic Process Automation, Artificial intelligence and Blockchain technologies, triggers the need for companies to develop new, distinctive capabilities and market solutions.

In the remainder of the chapter, we will attempt to answer the following research question: *how does digital transformation can be leveraged to improve the value proposition of fuel retailers?* In doing so, first, we will review the current state of the oil and gas industry and the current digital technologies; next, we will analyse how digital technologies can affect the oil and gas sector, in particular the fuel retail, and how such technologies can be leveraged to improve the four phases of the customer journey.

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