

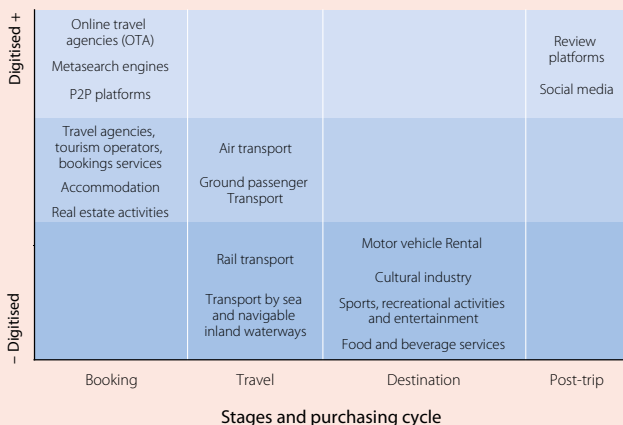
## Tourism 2.0: opportunities and challenges

The development of new technologies and the widespread use of the internet are revolutionising the way we work, consume and interact with each other. The economy's digitalisation is also affecting the tourism sector, which is transforming itself to respond to a more connected world, where the division between online and offline channels is becoming increasingly blurred. This article looks at the impact of technological advances on the tourism industry and the way they might transform it in the future.

The technological advances of the past few years are having a considerable effect on tourism. As new technologies emerge, new firms spring up in the digital sphere, radically transforming part of the sector's value chain (see the first chart). The impact

### Structure of the tourism sector by the extent of digitalisation of different activities

Extent of digitalisation



**Note:** Branches of tourism activity include metasearch sites (Google, SkyScanner); online travel agencies (Booking.com, Expedia); peer-to-peer platforms (Airbnb, Homeaway) and review platforms (TripAdvisor, Google Reviews).

**Source:** CaixaBank Research.

has been particularly noticeable on the initial phase of the customer journey, where digital platforms such as online travel agencies and search engines have considerably changed the way tourism services are bought. These new players are gradually «revolutionising» the industry, forcing incumbent companies to change their production processes in order to remain competitive. Traditional tourism service providers have drastically changed the way they operate in order to reach the online customer, for instance through online advertising campaigns and social media. Sectors such as transport and accommodation have taken advantage of the opportunities offered by digitalisation and automation to streamline their production processes. Self check-ins at airports and accommodation services are just one example of how the adoption of new technologies can help reduce operating costs for companies and waiting times for customers.

Conversely, digitalisation is having a much more limited impact at destination, given that the services provided are very labour-intensive, especially at the customer touchpoint, and the very nature of the final good that is being provided. Nevertheless, in

the medium term, advances in the «Internet of Things», robotics, and artificial intelligence have the potential to revolutionise the sector even further, given that they will allow companies to redefine how they supply goods and services, simplifying operations and improving the customer experience, for example via more personalised services.

Despite the fact that technology offers many different opportunities, its adoption is often regarded with suspicion due to its potential disruptive effect on the labour market. Tourism is a main engine for job creation and there are increasing concerns it will stop being so as the use of new technologies becomes more widespread throughout the sector. To gauge the extent of this impact, we have estimated the risk of automation for the industry in the medium term. We have based our estimate on a study carried out by the Oxford University professors, Carl Frey and Michael Osborne,<sup>1</sup> who analysed the probability of automation of each occupation, based on current technology and the technology that will be developed over the next 20 years. We also used the estimates produced for the Spanish case in the Dossier «New technologies and the labour market».<sup>2</sup> We have therefore applied the risk of automation for each profession to the different branches of the Spanish tourism industry.

According to these estimates, 58% of the current jobs in the Spanish tourism sector have a high risk (with a probability above 66%) of being automated over the medium term. This is higher than the figure for the rest of the economy. Regarding the rest of the jobs in the tourism sector, 26% have a medium risk (between 33% and 66%) and 16% a low risk (below 33%). Among the professions that have a highest risk of being automated are accountants, office clerks, and customer service employees. At the other end of the spectrum are the professions that require greater creativity (such as food critics) or social interaction (managers and recreational activities instructors).

1. Frey, C. and Osborne, M. (2013), «The Future of Employment: How susceptible are jobs to computerisation?» Working Paper.

2. See the article «Will the Fourth Industrial Revolution come to Spain?» in the Dossier of MR02/2016.

Our analysis shows that Spain's tourism-related labour market will almost certainly undergo a profound change over the coming years. However, the automation of some professions does not necessarily mean that jobs will be lost in net terms. Firstly, because the adoption of new technologies depends on their cost in relation to other production factors such as labour. Secondly, because automation makes it possible to change the nature of some jobs in the sector and can generate new employment opportunities. The adaptation and flexibility of the labour force will therefore be crucial in this transition, given that the set of skills that will be required in the future are different to those in demand today.<sup>3</sup> Lastly, the speed at which new technologies are adopted is not clear as this will also depend on legal and institutional factors.

The digitalisation has also made the sharing economy more visible and accessible. This is having a marked impact on the

tourism industry. In general, digital platforms have made it easier to create «online» markets for the temporary use of goods and provision of services between private individuals (peer-to-peer). This increase in supply has been positive for consumers as it has enhanced the range of goods and services available on the market and/or lowered their price. In the case of tourism, sharing has become popular as it offers the chance to buy unique, personalised local experiences - a service that is increasingly in demand.<sup>4</sup>

Nevertheless, the sharing economy and its fast growth in recent years pose a significant regulatory challenge as many of these activities are not currently covered by law. This makes them difficult to control and means that a suitable degree of consumer protection cannot be guaranteed, nor the safety and quality of the service provided. Incumbent firms can also suffer from unfair competition as, unlike the new market players, they have to follow stricter rules. Tax avoidance is also harder to prevent. On the one hand because the lack of any well-defined regulatory framework could encourage some online firms to become resident in other countries with more favourable tax laws. On the other, because there is the risk that some of these transactions remain in the black economy. A well-defined regulatory framework is also particularly important for the tourism industry because many of these activities generate negative externalities. Specifically, such regulatory loopholes can have an impact on urban development and the coexistence of tourist and residential properties.

Therefore, it is important that the legal framework responds to this new situation, without restricting innovation or the adoption of new technologies. Nor should it constitute an unreasonable barrier to entry in the market for new players. An harmonised regulatory framework at a European level would represent an improvement in this respect, making it easier to control such activities and collect tax revenue since all transactions would be recorded. Greater legal certainty would also help the industry to fully develop its potential.<sup>5</sup>

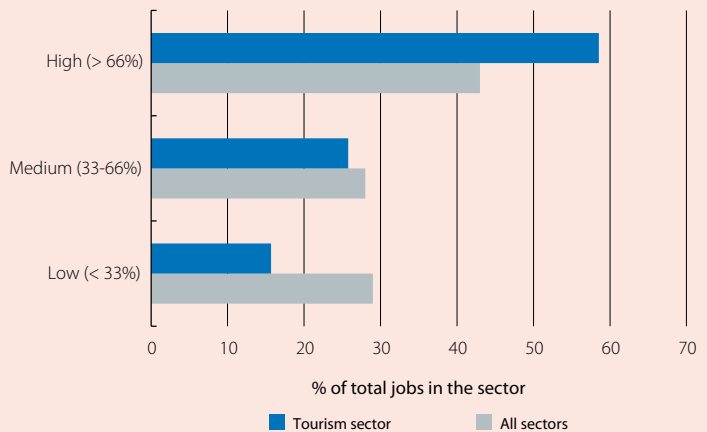
In short, the digital «revolution» is transforming a large number of sectors, including tourism. It provides a wealth of opportunities but also creates new challenges such as the handling of the impact of automation on jobs and the adjustment of the legal framework to such a fast-changing environment.

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### Share of employment by risk of automation

Probability of automation



*Note:* Employment data for 2016.

*Source:* CaixaBank Research, based on data from Frey and Osborne (2013) and the INE.

3. See the article «How to take advantage of the positive impact of technological change on employment?» in the Dossier of MR02/2016.

4. OECD (2016), «Tourism Trends and Policies 2016», OECD Publishing.

5. European Commission (2016), «European agenda for the collaborative economy - supporting analysis», Commission Staff Working Document.