

## Pillar 3 “The future of work” in practice

### Developing new skills

**Why?** This template aims to help a DMO **outline the different abilities** that might be needed to improve data-oriented decision-making. Since the goal would be converting raw data into actionable information by yielding good insights, the DMO could **shortlist the team’s skills** that would be required in the process.

**How?** Data must be **collected, stored, analysed** and properly **disseminated**. In this process, different people might intervene, each requiring specific expertise and **soft skills**. Thus, any DMO could need to deploy a wide range of capabilities operating on the data at the same time. Not all of them need to be developed from the beginning, nor are they to be outsourced either. Depending on the **destination’s maturity stage** and how data is used, **different competencies** might be relevant.

#### Tips and Guidelines

- We propose decomposing the skills needed into four main groups, namely: **Data Collection, Business Intelligence/Analytics, Warehousing & Data Integrity**, and **Communication**. Besides, a fifth cross-sectional group could be considered, which would refer to the **soft skills** sought by the DMO.
- Considering the destination’s strategy, the data sources involved, the state-of-the-art and the indicators to be used, **different abilities** might be brought forward to carry out the operations required. The DMO’s representatives may **have effectively developed** several of these capabilities, but perhaps many others could still need to be **acquired**, either **internally** or by **hiring** new staff or partners.

### The areas for developing prescriptive, descriptive and predictive data analytical skills

Smart destinations might group up the most relevant technical skills to be assessed in four groups:

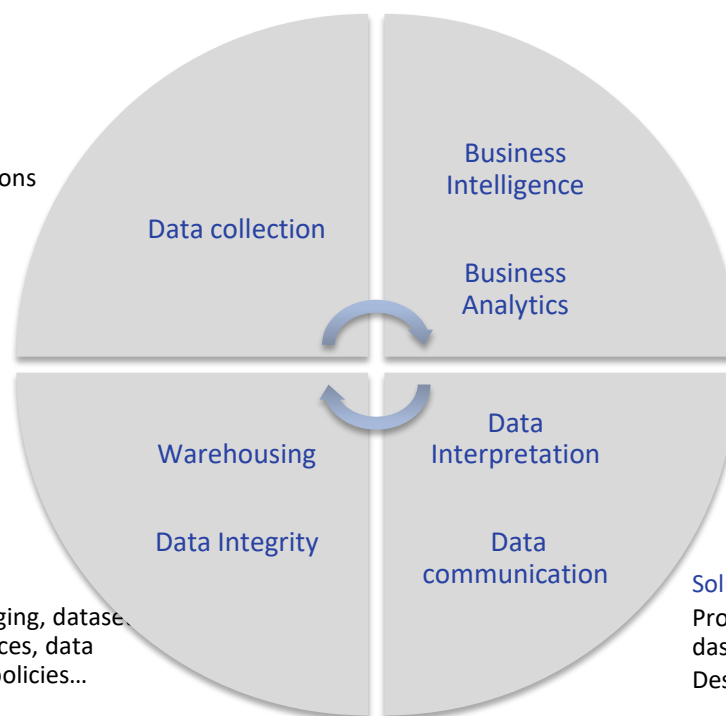
Data collection	Business Intelligence (BU) Business Analytics (BI)	Warehousing & Data Integrity	Communication
To efficiently gather accurate data and collate different sources and types employing the techniques available. Also, to validate the information afterwards.	To analyse current and past data for identifying patterns and events (BI) and, drawing from them, to forecast future events (BA).	To ensure the users have the right level of access to accurate and complete data, keeping control of its storage and disclosure.	To make data actionable and understandable by creating graphic representations of trends, patterns, rare events, or complex relationships.

#### Data explorers:

Source identification, surveys design, decisions on metrics, web data recovery, mobile data...

#### Data hygienists:

Data curation, debugging, database security, storage devices, data privacy and security policies...



#### Data scientists:

Statistical modelling, database management, data cleaning, machine learning...

#### Solutions architects:

Production of graphics, tables, dashboards, multimedia... Design solutions based on data

**Link with other Smart Tourism Pillars:** Before this factsheet, the one entitled “**Data management and technological solutions**” (pillar 2) explained how the destinations aiming to become data-driven should always draw from their strategy when choosing technologies or processes. After this document, “**Knowledge transfer**” (pillar 4) focuses on the latest tools and techniques for sharing knowledge within the destination. Tips and guidelines can be found consulting the Toolkit for Tourism Destinations and other supporting materials available in the [digital library](#) of the Smart Tourism Destinations project website.

*Smart Tourism Destinations project, 2022*

*Developed with the contribution of Smart Tourism Expert Marianna Sigala and based on the [Smart Tourism Destinations webinar](#) “The future of work: new skills and profiles for Smart Tourism and how to get ready.”*

## Pillar 3 “The future of work” in practice Developing new skills

**Instructions:** In the following tables, you could **briefly outline the main capabilities** that would be required depending on the data your team would be dealing with, including a field for **soft skills** at the end. **For each skill**, you could remark whether your destination:

- a) **Does not need** that skill
- b) Already **has the staff capable** of performing efficiently in that aspect
- c) No members of the DMO meet it, but **it can be developed in-house** because there are staff willing to be trained
- d) No members of the DMO meet it, but there are specialized **people/companies that might be hired/outsourced** instead
- e) The DMO does not need that skill at this moment, but **it will likely be required** in the future

DATA COLLECTION						
Skill	Unit/Office/Responsible involved	Skill assessment				
		No need	Already have	To be developed	To be hired/outsourced	Will be needed
Survey design/administration						
Web scraping						
Data sorting/filtering						
Mobile/platform data collection						
Metrics design						

BUSINESS INTELLIGENCE/BUSINESS ANALYTICS						
Skill	Unit/Office/Responsible involved	Skill assessment				
		No need	Already have	To be developed	To be hired/outsourced	Will be needed
SQL/NoSQL						
Spreadsheets (e.g. Excel)						
Statistical programming languages (Matlab/R/Python)						
Machine learning (Supervised, unsupervised, semi-supervised, reinforcement)						
Data prep/cleaning						
Statistics, Linear Algebra, Calculus, probability/stochastic analysis, econometrics						

WAREHOUSING & DATA INTEGRITY						
Skill	Unit/Office/Responsible involved	Skill assessment				
		No need	Already have	To be developed	To be hired/outsourced	Will be needed
Backup systems						
Use of storage hardware						
Cubes/Data Flow Diagramming/Planning						
Debugging/Quality assurance/Quality control						
Tuning tables and queries						
Data securing						

INTERPRETATION AND COMMUNICATION						
Skill	Unit/Office/Responsible involved	Skill assessment				
		No need	Already have	To be developed	To be hired/outsourced	Will be needed
Data visualization (e.g. Tableau, PowerBI...)						
Writing/Copywriting						
Data reporting/Delivery						
Public speaking (Politeness, friendliness...)						

### SOFT SKILLS

- |  |   |
|--|---|
| <input type="checkbox"/> Critical thinking: .....              | <input type="checkbox"/> Attention to detail: .....             |
| <input type="checkbox"/> Logical thinking: .....               | <input type="checkbox"/> Pattern recognition: .....             |
| <input type="checkbox"/> Collaboration: .....                  | <input type="checkbox"/> Aptitude for project management: ..... |
| <input type="checkbox"/> Orientation to problem-solving: ..... | <input type="checkbox"/> Time management: .....                 |
|  | <input type="checkbox"/> .....: .....                           |

Smart Tourism Destinations project, 2022

Developed with the contribution of Smart Tourism Expert Marianna Sigala and based on the [Smart Tourism Destinations webinar](#) “The future of work: new skills and profiles for Smart Tourism and how to get ready.”