Self-assessment exploratory questions

Este documento ha sido elaborado por:

Ricardo García y Emilio Arasa

Julio Rodrigo Fuentes, CENFIM

CENFIM
Home & Contract furnishings
cluster and innovation hub

Generalitat de Catalunya

UNIÓ EUROPEA
Fons Europeu de
Desenvolupament Regional

Terres de l'Ebre
PECT EbreBiosfera

Content

Introduction

For a furniture manufacturing company to stay competitive in an environment of rapid change and strong competition, it is essential that they move towards an **Industry 4.0** data-driven model by embarking in a Digital Transformation process. As the company advances along this journey, it is necessary to evaluate how digitally mature it becomes by measuring key dimensions and variables within your strategy and organization.

Furniture manufacturing SMEs can use a **Digital Transformation Maturity Model (DTMM)** to measure the degree to which a company is implementing digital technologies across key dimensions and thus evaluate the company´s level of digital maturity.

The **levels of digital maturity** measuring a company's degree of adoption of digital technologies are:

1. Initial/Ad hoc

2. Managed/Opportunistic

3. Defined/Repeatable

4. Quantitative/Managed

5. Optimized

The higher the digital maturity level, the higher the company's potential for growth in capabilities and processes used to develop products and services.

It is important to note that a DTMM is not a "roadmap" to follow as it does not describe phases a company should go through.

Key dimensions include manufacturing processes, business operations, marketing strategy, organization and culture, technology, the value chain, and the customer experience. In turn, each dimension includes several variables/enablers that play a key role in driving the company's digital transformation towards its maturity in Industry 4.0. Variables/enablers include technologies, the company's workforce's skills, attitudes and culture and the organization's ability to systematically extract, manage and analyze relevant data in each of the processes using the right technology.

Key questions on Dimension and Variables

In this section we will explore a series of trigger questions per each of your company's key dimension to understand the degree (maturity level) to which variables/enablers under each dimension are contributing to your company's digital transformation process on the path towards adopting an Industry 4.0 model and thus take appropriate action.

1. Strategy

1.1. Does the company have a Digital Transformation Strategy aimed to adopt an Industry 4.0 model?

1.2. How does your company define and focus its Digital Transformation Strategy?

1.3. What are the short- and long-term goals of your company´s Digital Transformation Strategy?

1.4. How does your company implement its Digital Transformation Strategy?

1.5. Does the company have a Digital Transformation Plan?

1.6. How does your company's strategy avoid too many disconnected initiatives, or "digital fragmentation"?

1.7. Is the company leadership committed to driving a shift to an Industry 4.0 by adopting a Digital Transformation strategy?

1.8. Is the company leadership involved in developing and supporting a shared vision for digital transformation?

1.9. Does your company's budget support a Digital Transformation process?

2. Organization, Digital Culture and Talent

2.1. How is your company structured to effectively manage the deployment of a Digital Transformation strategy?

2.2. Is the Industry 4.0 concept embedded into the company´s culture?

2.3. Has your organization defined, built and promoted an organizational culture throughout the organization in a way it supports progress along the digital maturity curve, and flexible enough to achieve growth and innovation objectives?

2.4. Does your company build internal awareness and promote culture shift to abandon traditional manufacturing models, prepare for and adapt to an Industry 4.0 model?

2.5. Is there a system in place to assess the digital skills of employees and thus the training needs in terms to address a digital transformation process?

2.6. Does your company have a digital and communication skills training plan for your workforce?

2.7. Are there are people with the right leadership and digital skills and qualifications within the company to lead the digital transformation?

2.8. Do you use digital technologies to monitor the performance of your staff?

2.9. Does your company solicit feedback on its Digital Transformation processes from stakeholders, e.g. customers, vendors, etc?

2.10. Does your company provide its customers, vendors and the public, information about its Digital Transformation projects and initiatives?

2.11. What is your company's business case for Digital Transformation?

2.12. Does your company's have a business case to help your company adapt to a rapidly changing environment and marketplace?

3. Infrastructure and Technology

3.1. Is the company using process automation and interoperability standards?

3.2. Has the company implemented digital platforms to manage omni-channel interaction with customers?

3.3. Does your company make use of leading-edge Industry 4.0 facilitating technologies like Industrial Internet of Things, simulation, 3D printing, cybersecurity, Artificial Intelligence, Augmented Reality, Big Data or Cloud computing in its Digital Transformation process?

3.4. Does your company have digital technologies supporting manufacturing processes and business operations?

3.5. Does your company use standards to guide its Digital Transformation deployment plans and investments?

3.6. Does your company have documented guidelines, procedures, rules, and standards to guide the deployment of a digital transformation strategy?

3.7. Is the data collected used to monitor and analyse businesses processes and support decision making?

3.8. Is the data collected from manufacturing and businesses processes used to measure the Return of the Investment in Digital Transformation strategy?

3.9. Does your company have information systems to manage business processes and collect data from them?

3.10. Does your company identify and address legal risks?

3.11. How does the company technically evaluate and implement compliance aspects?

4. Business Operations, Manufacturing Processes and Value Chain

4.1. Does your company monitor its manufacturing processes?

4.2. How does your company engage an ecosystem of partners to foster collaboration and innovation?

4.3. Does your company engage your vendors to provide you with the supplies you need in a timely manner?

4.4. Does your company predict changes in demand?

4.5. Is your manufacturing equipment interconnected?

4.6. Does your supply chain react to changes in demand?

4.7. Does your company address problems with the implementation and/or use of new digital services during the deployment of a Digital Transformation Strategy?

4.8. Does your company develop and use an ecosystem of partners (e.g. public sector, private sector, non-profit) to promote and support the deployment of a Digital Transformation strategy?

4.9. Does your company develop and use performance metrics of a Digital Transformation deployment?

4.10. Does your company use collaborative and communication platforms to improve the performance of your staff?

4.11. How do your company's business operations contribute to the deployment of a Digital Transformation strategy?

4.12. How does your company address problems with the implementation and/or use of new digital services during the deployment of a Digital Transformation Strategy?

5. Products and Services

5.1. What kind of products do you offer?

5.2. How do you improve its current products?

5.3. How do you develop new products?

5.4. How do you design its products?

5.5. Do your products allow for customization?

5.6. Do your products include digital features that allow for interconnection or maintenance?

5.7. What kind of digital services do you offer?

5.8. How does your company combine physical products with digital services?

6. Customer Experience

6.1. How do manage the relationship with your customers (stay in touch and manage customer data)?

6.2. Does your company design products and wrap personalized services around them to optimize the customer experience?

6.3. Is data being captured from interactions with customer? Is the data captured used to analyse customer behaviour?

Artifacts

Besides the dimensions, variables/enablers and exploratory questions to evaluate the degree to which each variable/enabler is contributing to the digital transformation process and thus evaluate the level of maturity of a company, it is important to provide evidence demonstrating it.

An **artifact** is any document, published information, software application, graphic representations of problems and solutions, written methods to solve these problems and develop the future solutions, or any other item that provides evidence of the degree a variable/enabler is contributing to the digital transformation process. In this section we will assess the existence of evidence demonstrating the level of digital maturity of the company through a list of questions on artifacts per each dimension.

Examples of Artifacts per Dimension

1. Strategy

1.1. Any documentation providing evidence that the company has a Digital Transformation Strategy aimed to adopt an Industry 4.0 model.

1.2. Any documentation providing evidence that the company has defined a Digital Transformation Strategy.

1.3. Any documentation describing the short- and long-term goals of the company´s Digital Transformation Strategy.

1.4. Any documentation describing how the company implements its Digital Transformation Strategy.

1.5. Any documentation describing its Digital Transformation Plan.

1.6. Any documentation produced by the company leadership stating its committed to driving a shift to an Industry 4.0 by adopting a Digital Transformation strategy.

1.7. Any documentation describing the company's budget allocations to support a Digital Transformation process.

2. Organization, Digital Culture and Talent

2.1. Organizational chart indicating roles and responsibilities of staff involved in the deployment of a Digital Transformation strategy.

2.2. Any online or print statement indicating the Industry 4.0 concept is embedded into the company´s culture.

2.3. Any online or print statement indicating how the company has defined, built and promoted an organizational culture supporting the digital transformation process.

2.4. Any documentation describing a plan to build internal awareness and promote culture shift.

2.5. Any documentation describing a methodology to assess the current digital skills and training needs of employees.

2.6. Any documentation describing a digital and communication skills training plan.

2.7. Any digital system to monitor the performance of the workforce.

2.8. Online forms to solicit feedback from customers, vendors, etc. on its Digital Transformation processes.

2.9. Information about its Digital Transformation projects and initiatives published online.

2.10. Any documentation describing the company's business case for Digital Transformation.

3. Infrastructure and Technology

3.1. Any documentation describing the process automation and interoperability standards used by the company.

3.2. Licenses and implementations of digital platforms that manage omni-channel interaction with customers.

3.3. Licenses and/or implementations of Industrial Internet of Things devices, simulation software, 3D printing machines and software, etc.

3.4. Licenses and/or implementations of manufacturing processes and business operations support software

3.5. Documented guidelines, procedures, rules, and standards to guide the deployment of a digital transformation strategy.

3.6. Repositories or warehouses storing data collected from businesses processes.

3.7. Applications used to leverage data collected to monitor and analyse businesses processes and support decision making.

3.8. Applications and metrics measuring the Return of the Investment in Digital Transformation strategy.

3.9. Business processes management software licenses.

3.10. Any documentation describing how the company identifies and addresses legal risks.

3.11. Any documentation describing how the company addresses compliance aspects.

4. Business Operations, Manufacturing Processes and Value Chain

4.1. Any licenses of software systems used to predict changes in demand.

4.2. Any licenses of software systems used to interconnect manufacturing equipment.

4.3. Any documentation describing how the company addresses Digital Transformation issues.

4.4. Any publicly available documentation describing agreements with partners to promote and support the deployment of a Digital Transformation strategy.

4.5. Any documentation describing performance metrics used to measure the Digital Transformation deployment.

4.6. Any licenses of collaborative and communication platform software.

4.7. Any documentation describing how the company's business operations contributes to the deployment of a Digital Transformation strategy.

4.8. Any documentation describing how the company addresses issues when implementing digital services during the deployment of a Digital Transformation Strategy.

5. Products and Services

5.1. Any documentation describing the company's portfolio of products.

5.2. Any documentation describing the company's methodology to improve its current products.

5.3. Any documentation describing the company's methodology to develop new products.

5.4. Any documentation describing the company's methodology to design and customize products.

5.5. Any documentation describing the digital features in products that allow for interconnection or maintenance.

5.6. Any documentation describing the company's portfolio of digital services offered.

5.7. Any documentation describing how the company combines physical products with digital services.

6. Customer Experience

6.1. Licenses and installations of Customer Relationship Management (CRM) software applications.

6.2. Any documentation describing methods used to apply user experience data captured to design new products and digital services.

6.3. Any documentation describing how data is being captured from interactions with customers.

6.4. Repositories of data captured from interactions with customers.