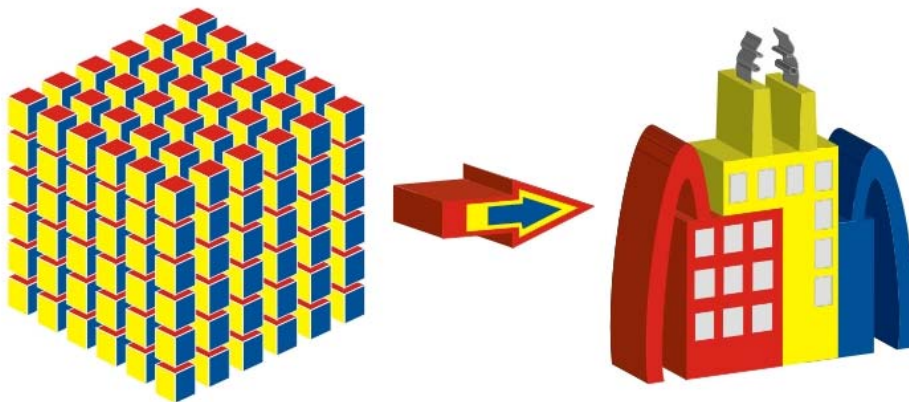


TexMatrix project's consortium

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## **“TexMatrix - Matrix of knowledge for innovation and competitiveness in textile enterprises”**

### The Knowledge Matrix for Innovation (KMI) and the Benchmarking questionnaire (BMQ)



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## Introductory explanation

The Knowledge Matrix for Innovation (KMI) is a management instrument meant for quantifying the intangible assets of an enterprise. Examples of intangible assets are: relationship portfolio, IP rights, training methods etc. The completion of the KMI for an enterprise has multiple benefits: an adequate classification of assets and their connections, an improved knowledge inventory, the elimination of redundant assets and the bridging of gaps. The TexMatrix project's consortium has accomplished a KMI destined for the improvement of innovation in textile enterprises. The KMI is structured on Elements, Criteria and Factors on the horizontal axis and on Conditions, Resources, Activities and Results on the vertical axis. A Benchmarking Questionnaire (BMQ) was performed based on the KMI, while a number of 64 enterprises on consortium level were questioned within the project, yielding the BM Reports. This document presents the structure of the KMI and the BMQ.

## Structure of KMI

No.	Element	Criteria	Factors
1.	CONDITIONS	Innovation culture	5
		Innovation strategy	5
		Leadership	4
		<b>SUM =</b>	<b>14</b>
2.	RESOURCES	Human resources	5
		Organizational structure	4
		Material resources	3
		External relationships	4
		Financial sources	1
		<b>SUM =</b>	<b>17</b>
3.	ACTIVITIES	Management of ideas	2
		Management of innovation projects portfolio	2
		Surveillance and knowledge management	3
		Innovation promotion	2
		IPR	3
		<b>SUM =</b>	<b>12</b>
4.	RESULTS	Evaluation and monitoring	5
		Image	3
		Learning from failures	1
		<b>SUM =</b>	<b>9</b>
<b>SUM =</b>			<b>52</b>

## Defined factors of KMI

### KMI – The Knowledge Matrix for Innovation in Textile Enterprises – The dimensions of innovation

No.	Elements	Criteria	Factors Sum	Factors
1	CONDITIONS	Innovation culture	5	<ul style="list-style-type: none"> <li>• Innovation is one of the company's values;</li> <li>• The company promotes innovation initiatives on a regular basis;</li> <li>• The company has mechanisms for technological surveillance of the sector and of the competition to feed the strategy of innovation (surveillance-competition, environment, technology);</li> <li>• The company encourages continuous change;</li> <li>• The company's communication integrates diverse formal and informal knowledge sharing mechanisms.</li> </ul>
		Innovation strategy	5	<ul style="list-style-type: none"> <li>• There is a medium and long-term innovation policy shared by all employees;</li> <li>• The innovation strategy translates into quantitative goals and targets in the medium and long term;</li> <li>• The innovation strategy quantifies the resources required for its implementation;</li> <li>• There is an innovation plan that is regularly evaluated and disseminated by all employees;</li> <li>• The innovation projects/activities that running in the company are regularly assessed.</li> </ul>
		Leadership	4	<ul style="list-style-type: none"> <li>• The top management conveys an innovative vision that guides the definition of the organization's strategy (values, mission, ...);</li> <li>• The leadership structures promote the emergence of leaders for the development of innovative activities, through the accountability and autonomy of their collaborators;</li> <li>• There is a budget line to promote innovation activities;</li> <li>• The innovation policy brings about different leadership styles in the company.</li> </ul>

No.	Elements	Criteria	Factors Sum	Factors
2	RESOURCES	Human resources	5	<ul style="list-style-type: none"> <li>• The company has an HR policy which encourages innovation;</li> <li>• The company has a training policy that promotes innovation;</li> <li>• Employees are team players when it comes to innovation;</li> <li>• There are employees with adequate technical skills to perform R&amp;D/innovation activities;</li> <li>• The personnel are open to training.</li> </ul>
		Organizational structure	4	<ul style="list-style-type: none"> <li>• The company's innovation structure encourages the generation of "out of the box" teams;</li> <li>• There is openness to external partnerships with other companies and / or suppliers that stimulate innovation;</li> <li>• The company has mechanisms for knowledge management;</li> <li>• The company has mechanisms to stimulate and manage ideas.</li> </ul>
		Material resources (equipment, technologies, materials etc.)	3	<ul style="list-style-type: none"> <li>• The company seeks access to innovative materials and technologies;</li> <li>• The company has a regular technological update plan;</li> <li>• The company has access to specialized resources in the textile area, like databases, critical information and reports.</li> </ul>
		External relationships	4	<ul style="list-style-type: none"> <li>• The company has established partnerships with research centres/universities;</li> <li>• Clients, suppliers or partners are involved in the innovation process (open innovation);</li> <li>• The company is involved in fairs and international initiatives within the textile sector;</li> <li>• The company regularly analyses market and customer behaviour tendencies.</li> </ul>
		Financial sources	1	<ul style="list-style-type: none"> <li>• The company seeks for external financial resources to promote innovation.</li> </ul>

No.	Elements	Criteria	Factors Sum	Factors
3	ACTIVITIES	Management of ideas	2	<ul style="list-style-type: none"> <li>The company has mechanisms to identify innovation ideas;</li> <li>The company has a plan for the development and implementation of innovative ideas.</li> </ul>
		Management of innovation projects portfolio	2	<ul style="list-style-type: none"> <li>The company manages an innovation projects portfolio;</li> <li>The company evaluates the efficiency of the implemented innovation projects (in relation to financial results).</li> </ul>
		Surveillance and knowledge management	3	<ul style="list-style-type: none"> <li>The company develops a consistent plan for competitors and organizations surveillance;</li> <li>The company develops systematic activities for understanding the needs, expectations and market opportunities;</li> <li>The company has information and communication systems enabling systematic surveillance and knowledge management.</li> </ul>
		Innovation promotion	2	<ul style="list-style-type: none"> <li>The company has a communication plan that projects an image of innovation in the textile sector;</li> <li>The company establishes partnerships for the implementation of innovative projects / products / services.</li> </ul>
		IPR	3	<ul style="list-style-type: none"> <li>The company manages the intellectual property rights of its innovation projects portfolio;</li> <li>The company has a mechanism to protect its intellectual property rights;</li> <li>The company has registered patents.</li> </ul>

No.	Elements	Criteria	Criteria Sum	Factors
4	RESULTS	Evaluation and monitoring	5	<ul style="list-style-type: none"> <li>• The company monitors the involvement of customers, suppliers and partners in the innovation process;</li> <li>• The company monitors the satisfaction level of the customers in the innovation process</li> <li>• The company evaluates the results of applying sustainable technologies resulting from innovation (renewable energies, green technologies, recycled raw materials);</li> <li>• The company evaluates the results of intellectual property protection;</li> <li>• The company evaluates the impact of innovation on competitive advantage, business results and profits.</li> </ul>
		Image	3	<ul style="list-style-type: none"> <li>• The company evaluates the implication of innovation results in the product brand;</li> <li>• There is an evaluation of the innovation policies impact on the success of the company brand;</li> <li>• There is a regular assessment of the growth level of the company visibility.</li> </ul>
		Assess counterproductive issues	1	<ul style="list-style-type: none"> <li>• The company identifies factors (cost, knowledge, market, etc. ) that block innovative activities, or causes failure.</li> </ul>

# BM – The Benchmarking Matrix for Innovation in Textile Enterprises (Questionnaire)

## Company and Respondent information

**1. In what industry does your Company operate?** *(Please tick multiple if appropriate)*

- 1  Clothing/ fashion    2  Technical textiles    3  Yarn/ fiber producer    4  Textiles & fabrics  
 5  Dying & finishing    6  Other (please specify) \_\_\_\_\_

**2. How many employees have your Company?**

- 1  1 to 9    2  10 to 49    3  50 to 249    4  more than 249

**3. Does your Company export some of its products?**

- 1  No    2  Less than 24% of sales    3  25% to 49% of sales    4  50% to 75% of sales  
 5  more than 75%

**4. What is your Company turnover?**

1.  <1M Euro  
 2.  1 M – 10M Euro  
 3.  10 M – 50 M Euro  
 4.  50 M –100 M Euro  
 5.  > 100 M Euro

**5. Company innovation position**

**How would you rate the activity domains in the Company with regard to innovation?**

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
a) products						
b) technologies						
c) design						
e) services						
f) IT						
g) sales						
h) research						

6. What share of the revenue devotes to the promotion of innovation activities?

Please specify (%) \_\_\_\_\_

**7. What are the specific objectives of the innovation strategy applied in the Company?**

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
a) Increasing the market share						
b) Increasing the profit						
c) Introducing new products into manufacturing						
d) Increasing the production capacity						

**Please let us know about you:**

**8. Your position in the Company**

- 1  Owner/ CEO      2  Head of Marketing      3  Head of R&D      4  Head of Manufacturing  
 5  Head of Quality control      6  Head of Export      7  Head of Human Resources  
 8  Other (please specify) \_\_\_\_\_

**9. Your highest qualification**

- 1  Bachelor      2  Master (MBA)      3  PhD.      4  Other \_\_\_\_\_

**10. Gender**

- 1  M      2  F

**11. Age**

- 1  < 25      2  25 - 30      3  31 - 35      4  36 - 40      5  41 - 45  
 6  46 - 50      7  51 - 55      8  56 - 60      9  61 - 65      10  > 65



## Benchmarking Questionnaire

### Conditions

#### Innovation culture

#### 12.CONDITIONS of the enterprise: Criteria Innovation culture

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
Innovation is one of the company's values;						
The company promotes innovation initiatives on a regular basis						
The company has mechanisms for technological surveillance of the sector and of the competition to feed the strategy of innovation (surveillance-competition, environment, technology)						
The company encourages continuous change						

**What are the motivation instruments for innovation activities inside the enterprise?** *(Please tick multiple if appropriate)*

- a) opportunities for career development
- b) confidence in the organizational management and ensuring of a stable future
- c) possibility of participating in specialization or training programs
- d) connecting the personnel to the company's objectives and mission
- e) salaries increase, bonuses, other financial facilities

#### Innovation strategy

#### 13.CONDITIONS of the enterprise: Criteria Innovation strategy

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
There is a medium and long-term innovation policy shared by all employees						
The innovation strategy translates into quantitative goals and targets in the medium and long term						
The innovation strategy quantifies the resources required for its implementation						
There is an innovation plan that is regularly evaluated and disseminated by all employees						
The innovation projects/activities that running in the company are regularly assessed						

## Leadership

### 14.CONDITIONS of the enterprise: Criteria Leadership

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The top management conveys an innovative vision that guides the definition of the organization's strategy (values, mission, ...)						
The leadership structures promote the emergence of leaders for the development of innovative activities, through the accountability and autonomy of their collaborators						
There is a budget line to promote innovation activities						
The innovation policy brings about different leadership styles in the company						

## Resources

### Human resources

#### 15.RESOURCES of the enterprise: Criteria Human resources

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company has an HR policy which encourages innovation						
The company has a training policy that promotes innovation;						
Employees are team players when it comes to innovation						
There are employees with adequate technical skills to perform R&D/innovation activities						

**What types of training activities does the enterprise organize for its personnel?** *(Please tick multiple if appropriate)*

- a) Technical training
- b) Management training
- c) Traditional training (i.e.: lessons by a teacher on a classroom)
- d) Work-based, training on the job, job-rotation or e-learning
- e) Internal training
- f) Training provided by authorized organizations

### Organizational structure

#### 16.RESOURCES of the enterprise: Criteria Organizational structure

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company's innovation structure promotes the organization of a multifunctional teams to solve problems, when needed						
There is openness to external partnerships with other companies and / or suppliers that stimulate innovation						
The company has mechanisms for knowledge management						
The company has mechanisms to stimulate and manage ideas						

## Material resources

### 17.RESOURCES of the enterprise: Material resources

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company seeks access to innovative materials and technologies						
The company has a regular technological update plan						
The company has access to specialized resources in the textile area, like databases, critical information and reports						

## External relationships

### 18.RESOURCES of the enterprise: External relationships

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company has established partnerships with research centres/universities						
Clients, suppliers or partners are involved in the innovation process (open innovation)						
The company is involved in fairs and international initiatives within the textile sector						
The company regularly analyses market and customer behaviour tendencies						

## Financial sources

### 19.RESOURCES of the enterprise: Financial sources

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company seeks for external financial resources to promote innovation						

## Activities

### Management of ideas

#### 20.ACTIVITIES of the enterprise: Management of ideas

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company has a plan for the development and implementation of innovative ideas.						

#### 21.ACTIVITIES of the enterprise: Management of ideas

What methods and sources for innovation does the enterprise apply? (Please tick multiple if appropriate)

- a) Innovation ideas from own staff
- b) Scientific magazines
- c) Business fairs
- d) Marketing Dept.
- e) Internal R&D Dept.
- f) Clients & Suppliers

### Management of innovation projects portfolio

#### 22.ACTIVITIES of the enterprise: Management of innovation projects portfolio

The company manages an innovation projects portfolio by using following instruments: (Please tick multiple if appropriate)

- a) Internal analysis meetings
- b) Technological / production reports
- c) Financial /Accounting data
- d) Personnel competencies
- e) Environmental analysis

#### 23.ACTIVITIES of the enterprise: Management of innovation projects portfolio

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company evaluates the efficiency of the implemented innovation projects (in relation to financial results)						

## Surveillance and knowledge management

### 24.ACTIVITIES of the enterprise: Surveillance and knowledge management

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company develops a consistent plan for competitors and organizations surveillance						
The company develops systematic activities for understanding the needs, expectations and market opportunities						
The company has information and communication systems enabling systematic surveillance and knowledge management						

## Innovation promotion

### 25.ACTIVITIES of the enterprise: Innovation promotion

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company has a communication plan that projects an image of innovation in the textile sector						

**26.The company has the following instruments for establishing of partnership: (Please tick multiple if appropriate)**

- a) direct communication
- b) partnership agreements
- c) member in professional associations and clusters
- d) partnerships in R&D projects

## IPR

### 27.ACTIVITIES of the enterprise: IPR

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company manages the intellectual property rights of its innovation projects portfolio						
The company has registered patents						

**28. What activities regarding IPR does the enterprise apply? (Please tick multiple if appropriate)**

- a) Internal patents
- b) Acquisition of patents
- c) Documentation on patents
- d) Acquisition of licensees
- e) Design
- f) Models and Label
- g) None of listed

## Results

### Evaluation and monitoring

#### 29.ACTIVITIES of the enterprise: Evaluation and monitoring

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company monitors the involvement of customers, suppliers and partners in the innovation process						
The company monitors the satisfaction level of the customers in the innovation process						
The company evaluates the results of applying sustainable technologies resulting from innovation (renewable energies, green technologies, recycled raw materials)						
The company evaluates the results of intellectual property protection						

The company evaluates the impact of innovation on: *(Tick maximum 3 answers)*

- a) Increased profit
- b) Decreased number of employees
- c) Increased portfolio of patents and other IP rights
- d) Increased portfolio of customers and orders
- e) Acquisition of new equipment
- f) Reduced production cycle
- g) Reduced consume of utilities (electricity, gas, water etc.)
- h) Reduced expenses for environment protection
- i) Reduced expenses for health preservation
- j) Increased portfolio of new products / processes / services
- k) Other

### Image

#### 30.ACTIVITIES of the enterprise: Image

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company evaluates the implication of innovation results in the product brand						
There is an evaluation of the innovation policies impact on the success of the company brand						
There is a regular assessment of the growth level of the company visibility						



## Learning from failures

### 31. ACTIVITIES of the enterprise: Learning from failures

Please rate from 0 (= non), 1 (= lowest) to 5 (= highest)

	0	1	2	3	4	5
The company identifies factors (cost, knowledge, market, etc. ) that block innovative activities, or causes failure						