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DESIGN THINKING FOR MANAGERIAL BUSINESS

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POLITECNICO DI MILANO – MILAN, ITALY

15 OCTOBER, 2021

WEBINAR



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- *Brief Introduction -What is Design Thinking in **your** opinion ?*

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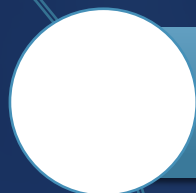
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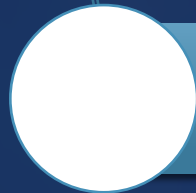


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DESIGN THINKING: A DEFINITION



Serie(s) of mental processes



to determine what is the most adequate **solution**



to a given **problem**

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■ *Mental Processes* means:



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- *To know or to define the **problem** is half way to solve it!*

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■ *To what extent is it useful in Managerial Business?*

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WHY DESIGN THINKING IS NEEDED?

Seek Innovation

Add value

Drive Growth

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■ *Where may Design Thinking be applied?*

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■ *What are the related constructs?*

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- *Performing a Bibliometrix Review over 1,887 articles/books on the topic of Design Thinking in a related Database – from years 2010 till now, we find:*

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ASSOCIATED CONSTRUCTS



Terms	Frequency
Humans	31
Industrial management	38
Industry	34
Information management	60
Information systems	37
Information technology	28
Information use	13
Innovation	42
Innovation management	15
Investments	12

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ASSOCIATED CONSTRUCTS



Terms	Frequency
Product development	38
Professional aspects	16
Project management	71
Research	19
Research and development management	12
Review	13
Risk assessemnt	14
Risk management	21
Sales	22
Societies and institutions	29

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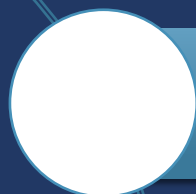
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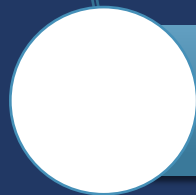


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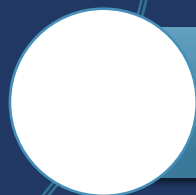
PROTOCOL FOR KNOWLEDGE



Organize data



Conduct research



Formulate **personal** conclusions

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DESIGN PROCESS



Knowledge



Design



Validation



Iterations

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■ *An abstract example*

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- *HOW TO DESIGN THE FOLLOWING?*
- $\$10 + \$5 = \$15$
- *Impossible??*



- *HOW TO DESIGN THE FOLLOWING?*
- $\$10 + \$5 = \$15$
- *Let's assume that I manufacture a product at \$10 cost and that my profit is \$5 net.*



■ HOW TO DESIGN THE FOLLOWING?

$$\$10 + \$5 = \$15$$

■ *$\$10 + \$5 = \$15$*

■ $\$10 + \$5 = \$15$

$\$10 + \$5 = \$15$



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OF COURSE, NOT!!

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- *HOW TO DESIGN THE FOLLOWING?*

$$\$10 + \$5 = \$15$$

- *1. Study the cost components, e.g.*

- $(\$2 + \$3 + \$5) + \$5 = \$15$

or

- $(\$4 + \$4 + \$2) + \$5 = \$15$



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- *HOW TO DESIGN THE FOLLOWING?*

$$\$10 + \$5 = \$15$$

- $(\$2 + \$3 + \$5) + \$5 = \$15$

- *1. Study the cost components*

- *2. Define Constraints and Variables*

- $(ax + by + cz) + \$5 = \15

- *Where a, b and c are constants and x, y and z are variables*



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- *HOW TO DESIGN THE FOLLOWING?*

$$\$10 + \$5 = \$15$$

- 3. Determine *what* can be changed and *how much*?

- $(ax + by + cz) + \$5 = \15



- *HOW TO DESIGN THE FOLLOWING?*
- $\$10 + \$5 = \$15$
- $(\$2 + \$3 + \$5) + \$5 = \$15$
- $(ax + by + cz) + \$5 = \15
- 4. Study *all* possibilities according to your case!
- For instance, I might be able to reduce the \$5 to \$3.
- i.e. the component \$3 is fixed; but; the \$2 may just, totally, removed.



- *HOW TO DESIGN THE FOLLOWING?*

$$\$10 + \$5 = \$15$$

- $(\$2 + \$3 + \$5) + \$5 = \$15$
- $(ax + by + cz) + \$5 = \15
- 4. Study *all* possibilities according to your case!
- $(\$2 + \$3 + \$3) + (\$2 + \$5) = \15
- *Your profit is now \$7.*



- *HOW TO DESIGN THE FOLLOWING?*
- $\$10 + \$5 = \$15$
- $(\$2 + \$3 + \$5) + \$5 = \$15$
- $(ax + by + cz) + \$5 = \15
- 4. *Study all possibilities according to your case!*
- 5. *Even more, I can **add value** to my business:*
- $(\$10 + \$3) + (\$5 + \$7) = \$13 + \$12 = \$25$

By adding an extra cost of \$3 per unit, I might gain \$12 per unit of profit.



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ENDLESS POSSIBILITIES!!

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Design Thinking Suggested Procedures:

- *1. Get informed – your case*
- *2. Conduct a thorough research – PESTEL, similar cases, etc.*
- *3. Define constraints and variables*
- *4. Examine the variables*
- *5. Determine amount of variation*
- *6. Exhaust **ALL** seen possibilities*



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Design Thinking Suggested Procedures:

- *7. Look for the Unforeseen*
- *8. Set your Design scope*
- *9. Design*
- *10. Refine*
- *11. Re-Design*
- *12. Refine again*
- *13. Iterate*

14. Document.

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- *To what question does Design Thinking respond to?*

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What if?

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Study levels

Macrocosm



The cosmos (partial view)



Microcosm



An atom

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■ *Are you running out of ideas?*

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GO GREEN !!!!

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- **GREEN FUEL FOR PRODUCTION**
- **GREEN MATERIALS**
- **GREEN PROCESSES**
- **GREEN TRANSPORTATION**
- **ETC.**

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AVOID THE GREEN WASH !!!!

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■ *Would you like to excel?*

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LEARN FROM NATURE !!!!



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■ *Do you need an external point of view?*

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*Need more help? Ask an **Expert***

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THANK YOU!!!

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