

# Project Management

# Project Management Tools

by  
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# Project management tools

- Aims
  - To introduce management tools that are available for project managers.
- Expected Outcomes
  - Students are able to apply management tools in various conditions.
- References
  - William, R.T. 2013. Project Management. Random Exports
  - Heagney, J. 2012. Fundamentals of Project Management. American Management Association.
  - Richardson and Gary, L. 2010. Project Management theory and practice. Taylor and Francis.

# Content

- Management tools
- Tool selection

No.	Type	Description
1	Brainstorming	Mainly purpose for generating various ideas and to find several solutions.
2	Thought Process Map	Representing graphically series of ideas.
3	Quality Functional Deployment	Correlation between customer requirements to several parameters.
4	Kano Model	Tool to distinguish types of product requirements which significantly / not significantly influence to the customer satisfaction.
5	Affinity Diagram	Organize ideas generated by team members.
6	Fishbone Diagram	To graphically identify possible causes related to the problem and discover root causes as possible.
7	Check sheet	A form used to allow a team to systematically record a data.
8	Pareto chart	Bar graph where y-axis represents frequency of occurrence.
9	Nominal Grouping Technique	A decision making tool used by utilizing the opinion by each team member.
10	Delphi technique	A tool to achieve aggregate opinions from experts at particular area.
11	SWOT analysis	A tool that identify whether to use/not use a component.

- More cost-effective.
- Sharing accelerates progress and innovation.

## Efficiency

- Constant feedback loops.
- "No need to reinvent the wheel!"
- cross-pollination.

What do YOU think?

knowledge rights.

"It's the right thing to do"

## Values

- transparency.
- freedom.
- sharing.
- community.
- Connect with like-minded people.

- Several brains better than 1.
- Develop new ideas.

Why do people participate in open culture

FUN!

- Join exciting projects.
- "I just love it!"

## \* Empowerment

"I'm free to express my creativity"

- Learn new skills.
- Build self-confidence.

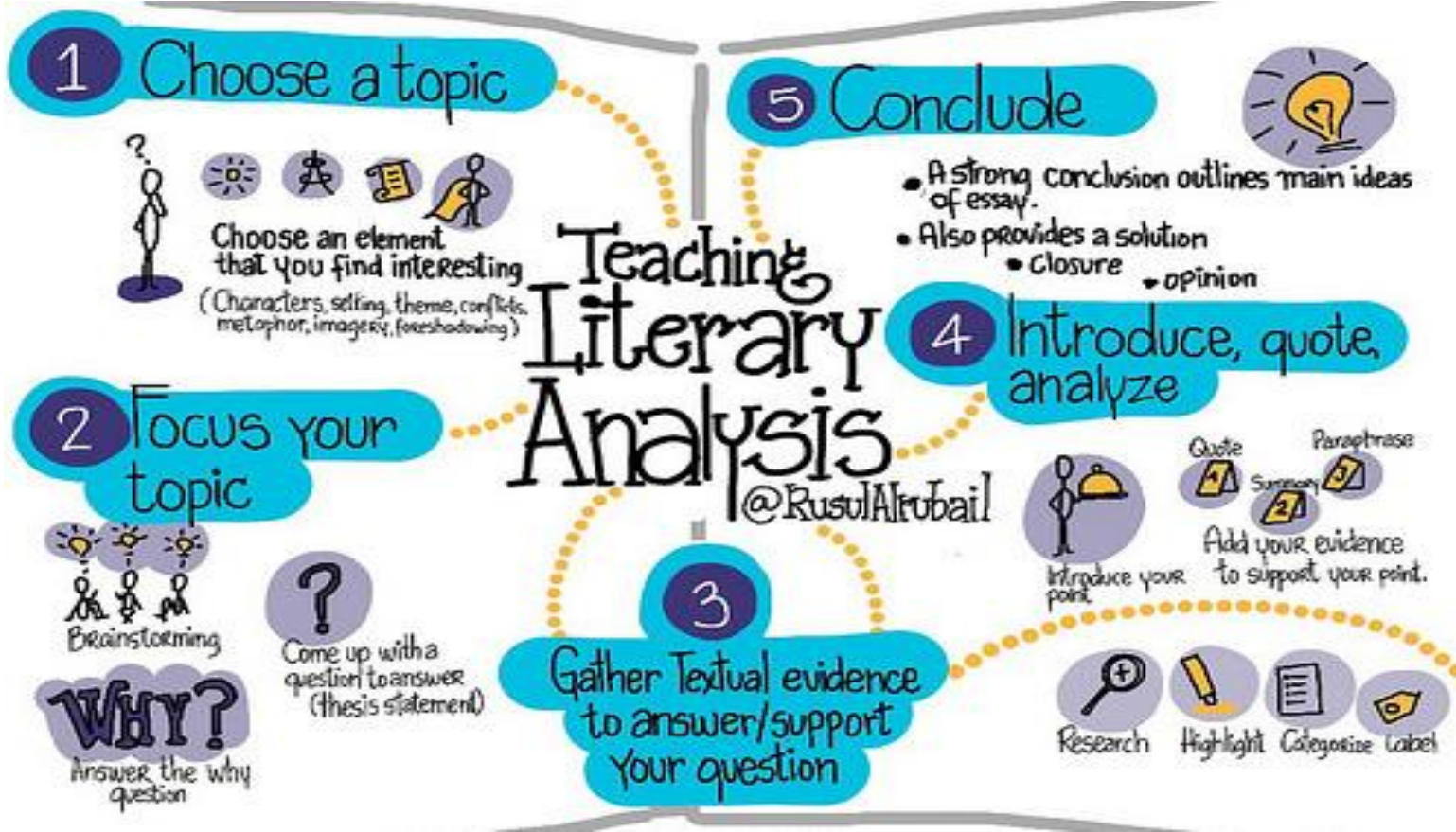
## # WhyOpen

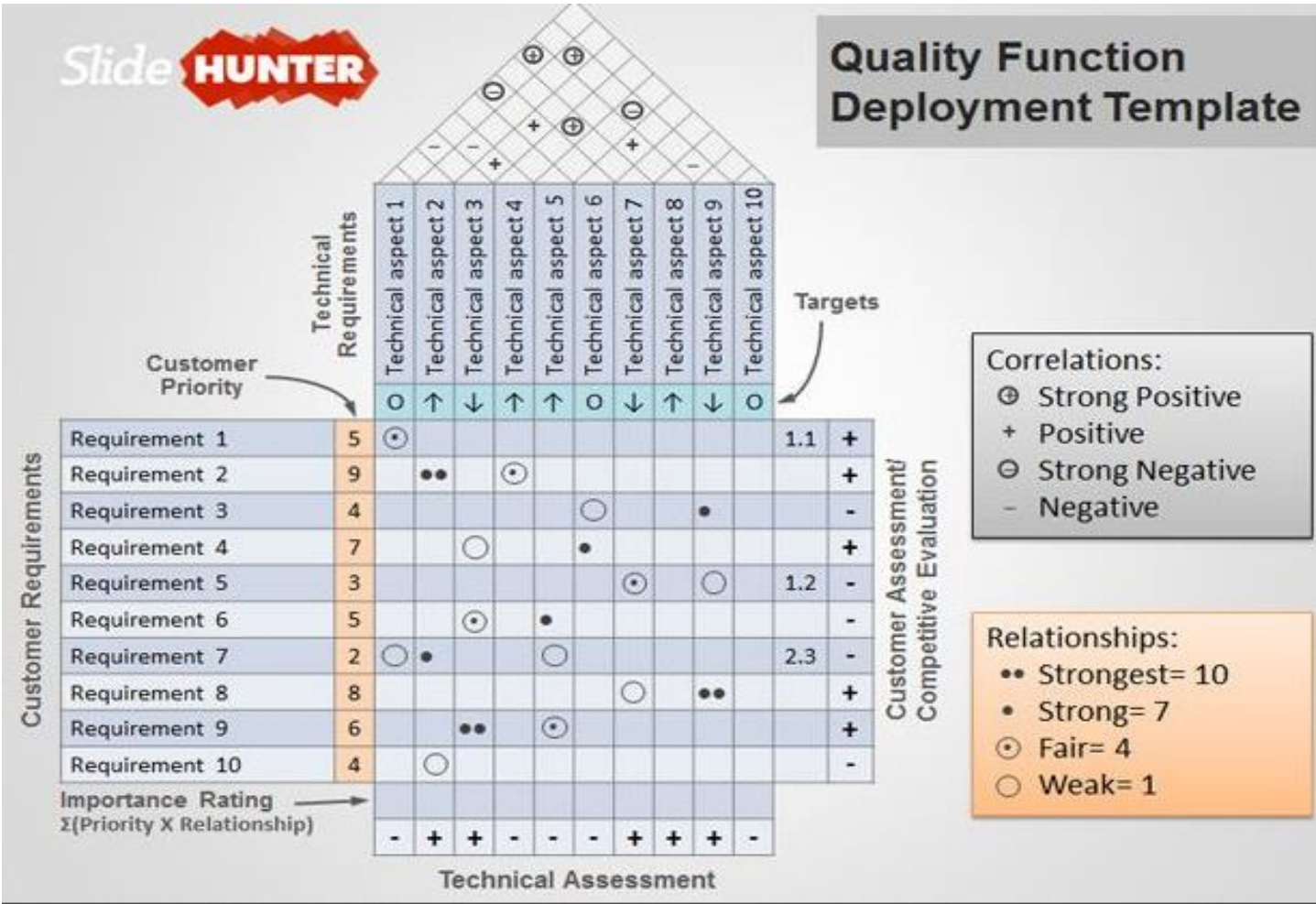
[just coz']

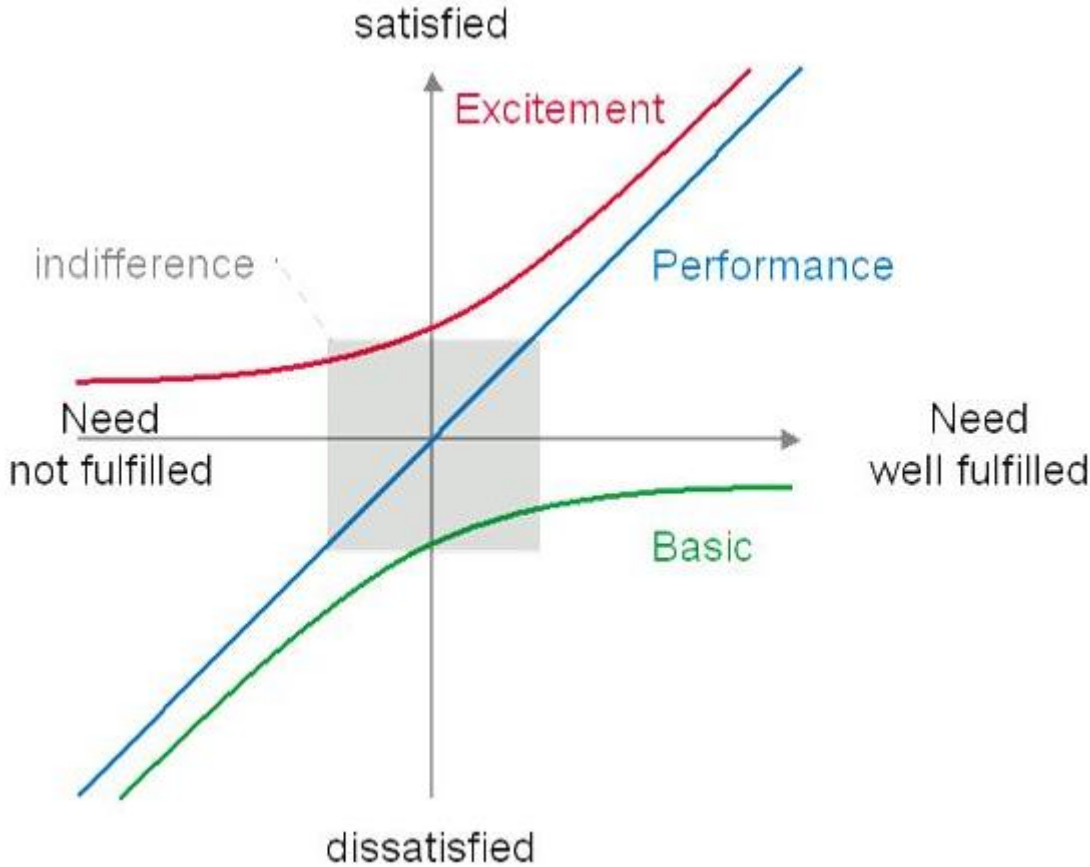
Can't afford the pay-wall.

"I need this feature."

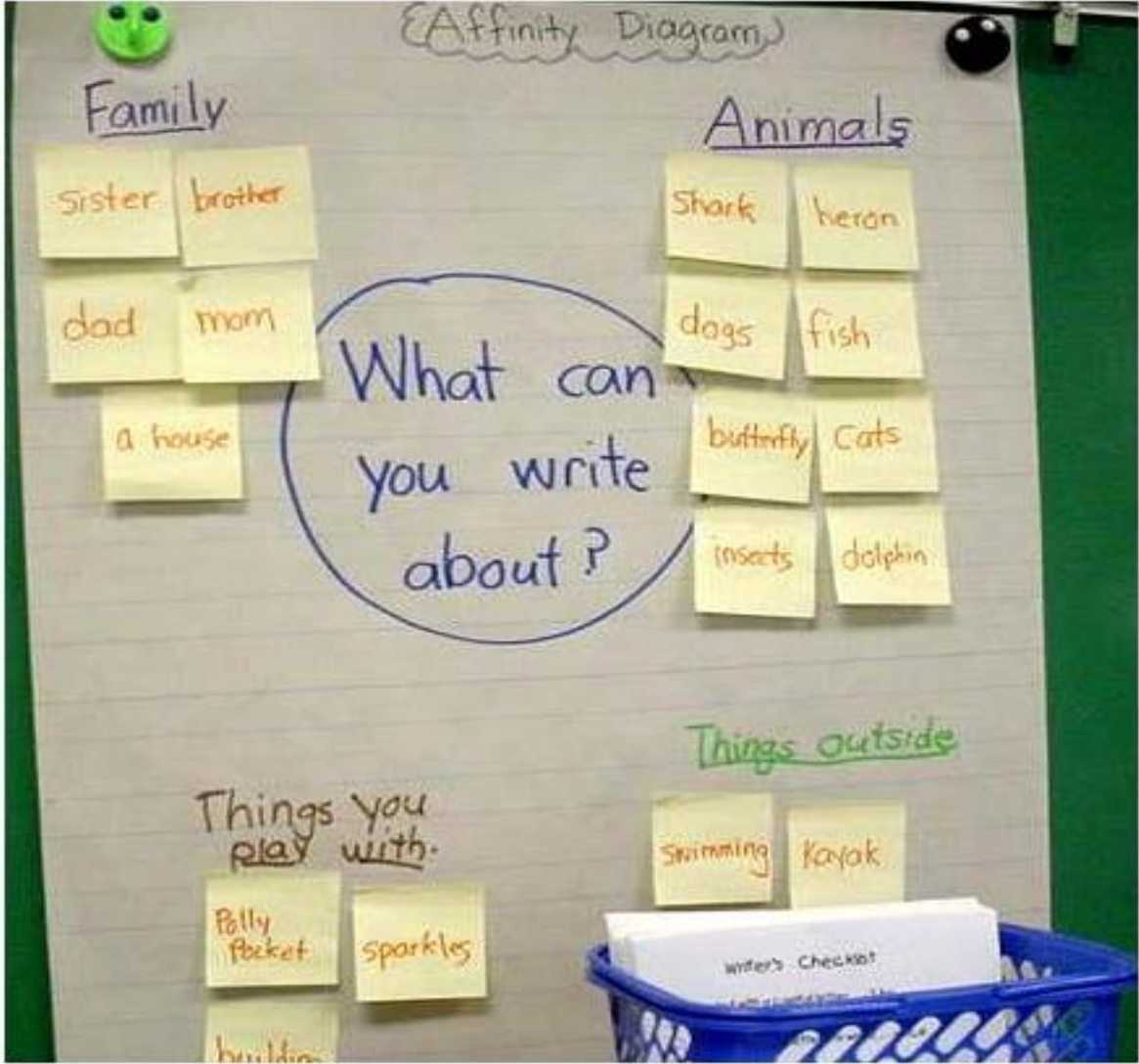
- No relevant materials accessible => creativity.

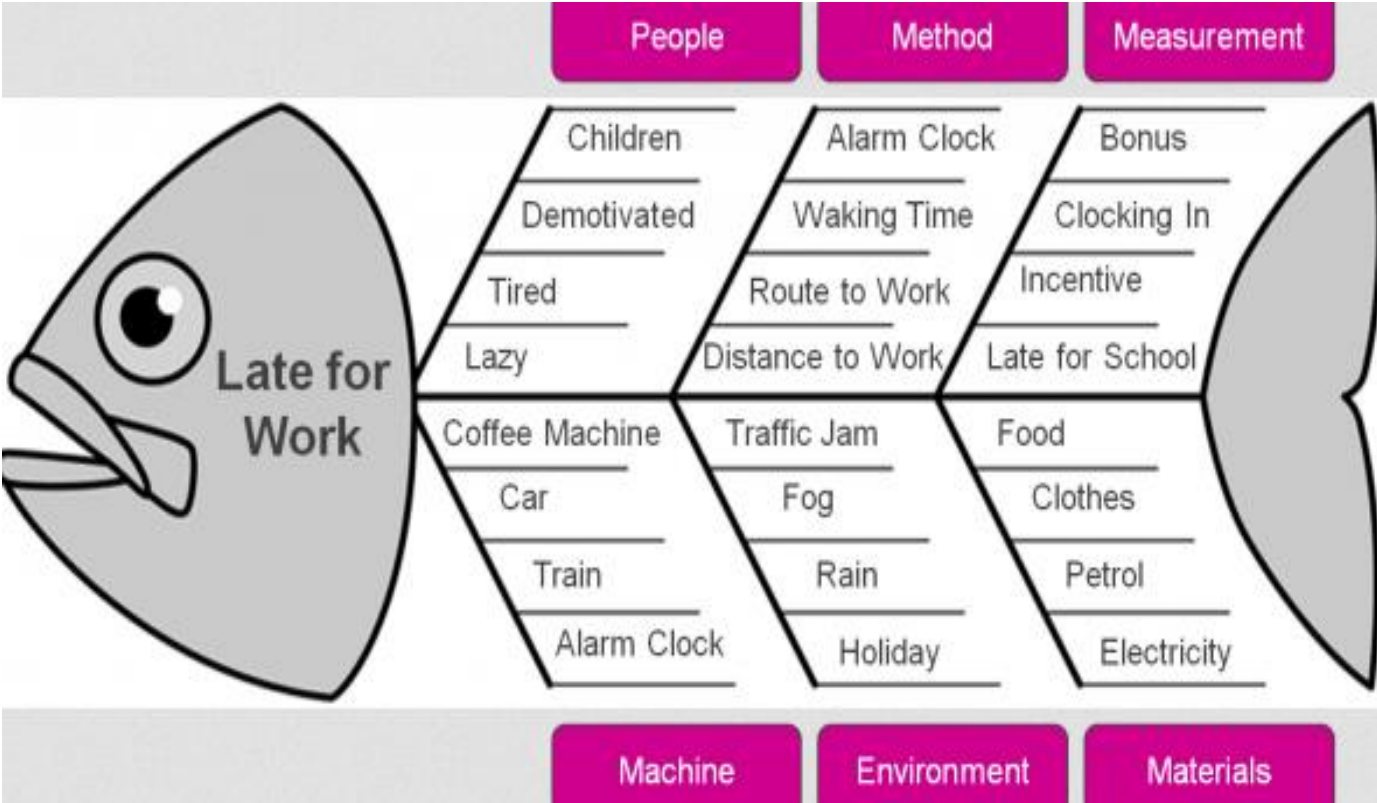








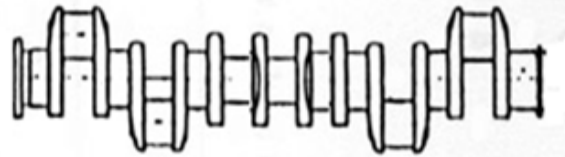






BEFORE

## CRANKSHAFT DATA SHEET



Job No.:	WO-ENG 0902
Description.:	Genset
Engine Model.:	Detroit Diesel 7163-7305
Shaft No.:	NIL
Engine No.:	16VA017311

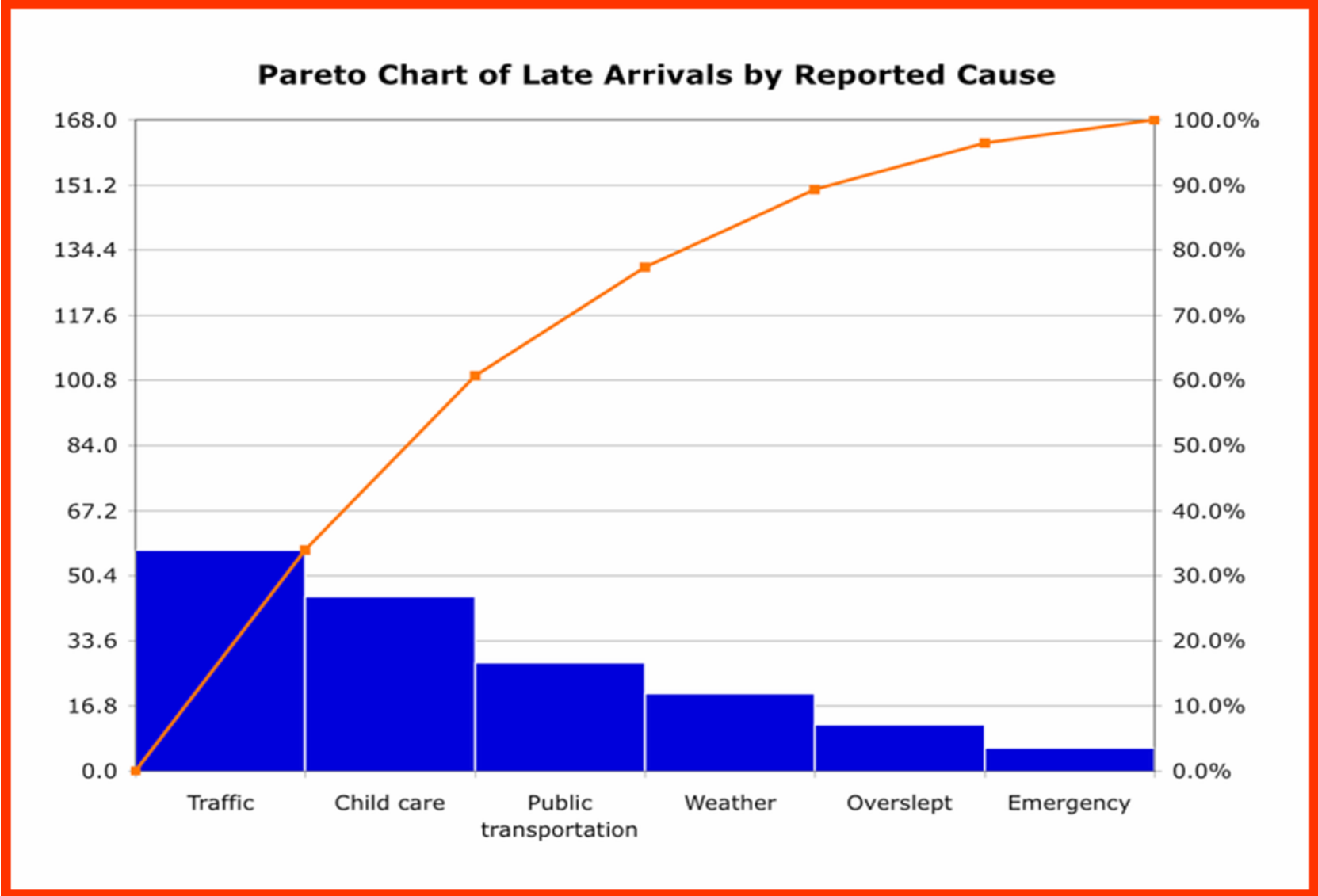
Measuring Point.:	Basic Diameter	1	2	3	4	5	6	7	8	9	10	
Main Journal Dia.:	A	Max : 114.305	114.273	114.283	114.290	114.288	114.282	114.287	114.287	114.286	114.286	114.287
	B	Min : 114.262	114.277	114.290	114.288	114.288	114.287	114.292	114.287	114.288	114.280	114.286
Crankpin Dia.:	A	Max : 76.205	183 / 180	184 / 181	191 / 197	187 / 186	187 / 186	181 / 183	190 / 190	173 / 177		
	B	Min : 76.162	183 / 178	179 / 176	187 / 192	184 / 183	187 / 186	178 / 177	187 / 190	178 / 176		
Alignment.:		/	/	/	/	/	/	/	/	/	/	/
Main Journal Roughness Test.:		Ra: 0.20 µm		Main Journal Radius.:		NIL						
Crankpin Roughness Test.:		Ra: 0.26 µm		Crankpin Radius.:		NIL						
Main Journal Hardness Test.:		47.1 HRC										
Crankpin Hardness Test.:		49.3 HRC										
Crack Test / Magnetic Dynafux Test.:		NIL										

Remarks.:

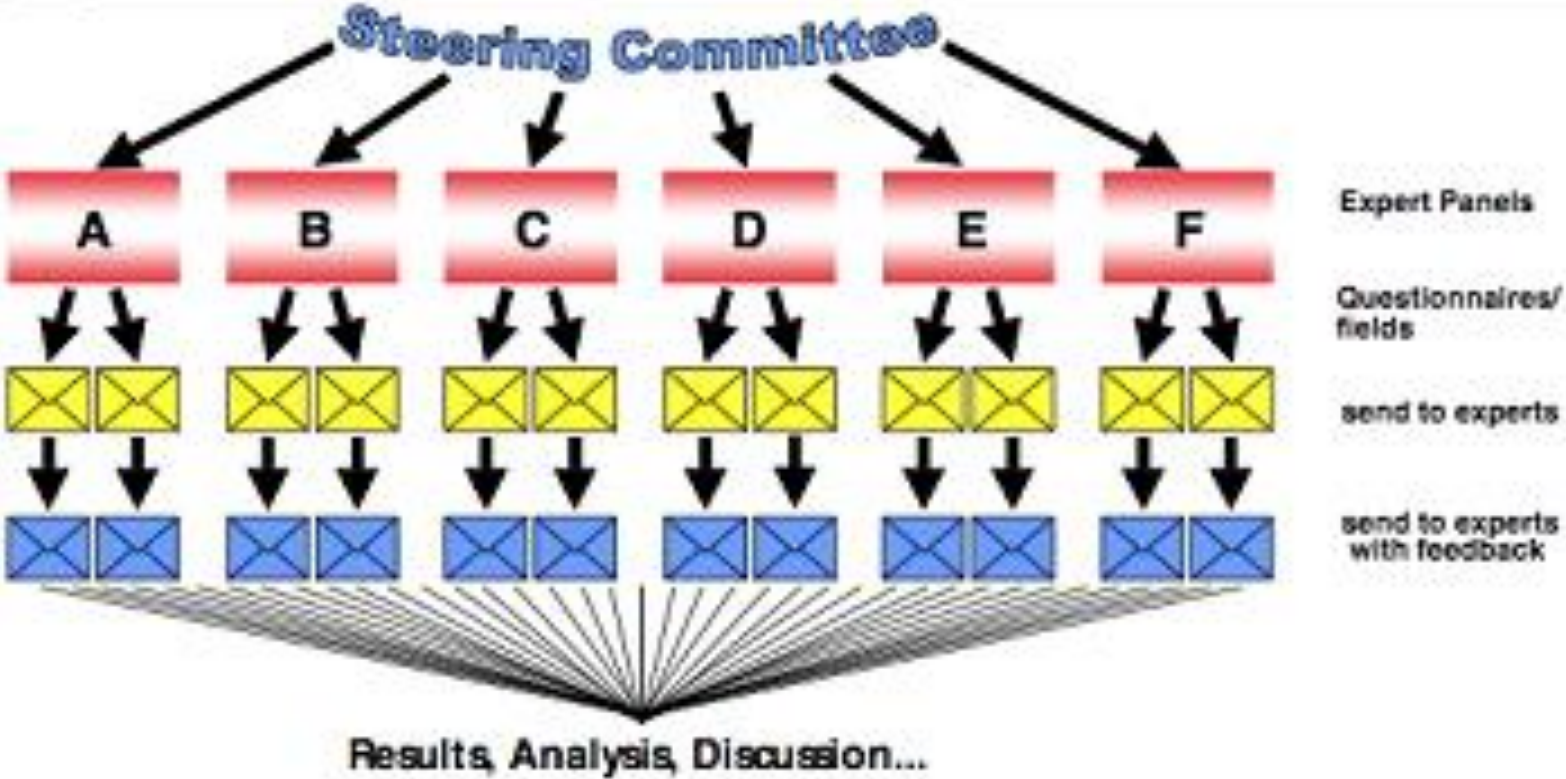
- All main journals and crankpins within tolerance.

Recommendation: All main journals and crankpins requires polishing.

Page 1



# Organisation of the Delphi-Process



**S** TRENGTHS



- Fast return on investment
- Will shorten our time to market for new products 10%

**W** EAKNESSES



- Not as good ROI as project B
- Don't have enough resources to do the work

Internal factors

**O** PPORTUNITIES



- Make us more competitiv against our main rival
- Can move into new geographic markets

**T** HREATS



- Have to meet new governance rules in this market
- We think our main competitor is working on a similar project

External factors

Positive

Negative



Tool	Generating Idea	Making Decision
Brainstorming	Green	Red
TMAP	Green	Green
QFD	Green	Green
Kano model	Green	Green
Affinity diagram	Green	Green
Fishbone diagram	Green	Green
Check sheet	Green	Green
NGT	Green	Green
Delphi technique	Green	Green
Pareto chart	Red	Green
SWOT	Green	Green

# Conclusion

- **Conclusion #1**
  - Students are able to apply management tools in various conditions.



# Project Management

## Lecture 2

Dr Mohd Yazid