Ishikawa fishbone diagram
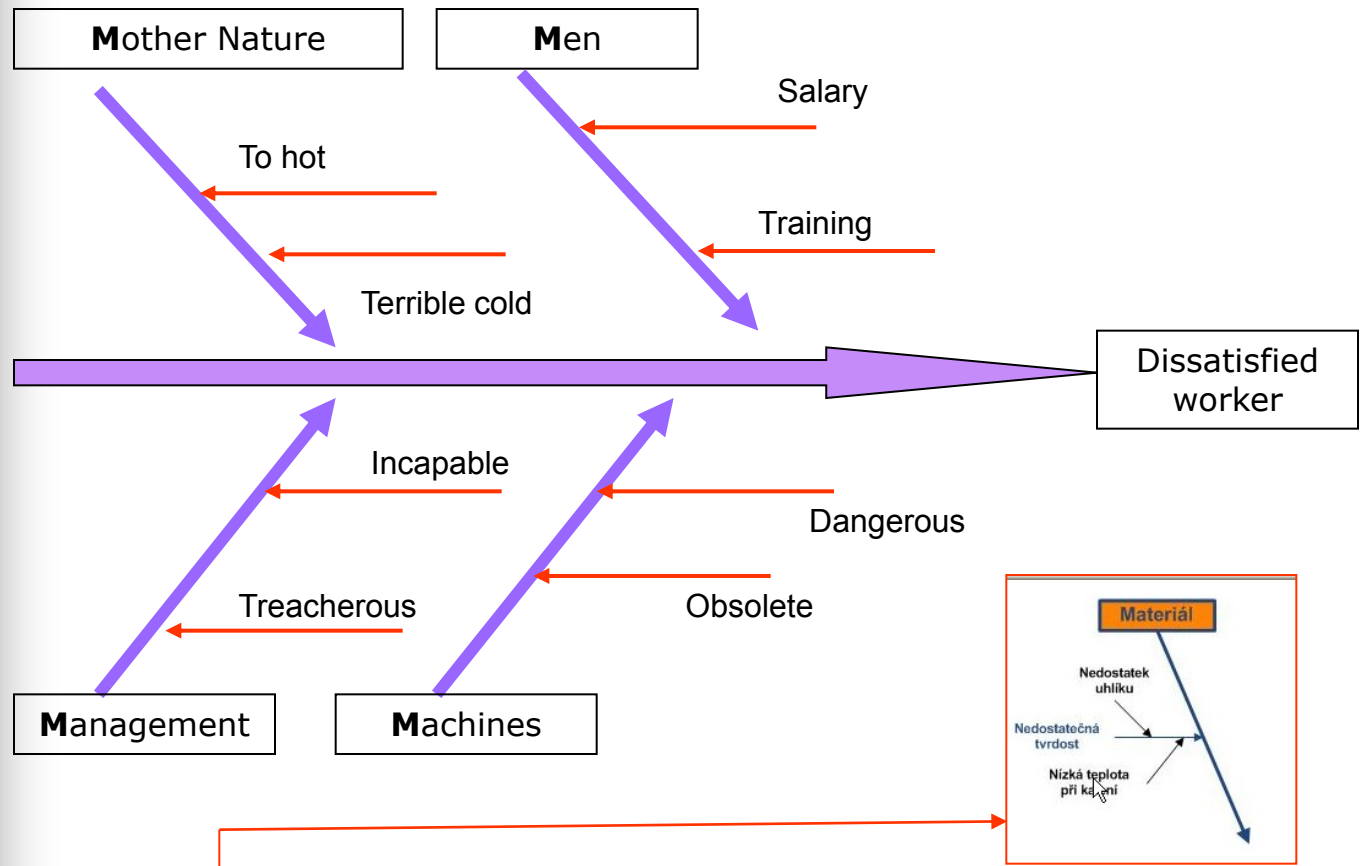
Skorkovský ESF MU KPH

Introduction (FBD= fishbone diagram)

- FDB is a tool to find out relationships:

  Cause ⟹ Effect

- Use in QM especially in automotive industry
- On of the toot set used to create so called 8D report (8 disciplines=FBD+5WHYs+PA+QM)
- Another tool : 5 WHYs – will be cleared later
  Another tool : PARETO=PA analysis will be shown later

Fishbone diagram

(Methods, **Material**, Manpower, Measurement, Machines, Mother Nature, Management)

Some chosen problems which could be find out during ERP support process I

- long response time to requirements
- requirement is directed to unsuitable consultant
- bad documentation about service action (poor log)
- people ask repeatedly same questions at different moments and different consultants are asked
- solution of disputes :complaint- standard service
- payment asked for supplied services
  1. how much (to whom, type of task, type of the error- see diagram
  2. starting time for invoiced services, response time
     1. requirement is handed over till the problem is solved
     2. time of starting solving -solved
     3. start of implementation of the bad object till end of testing
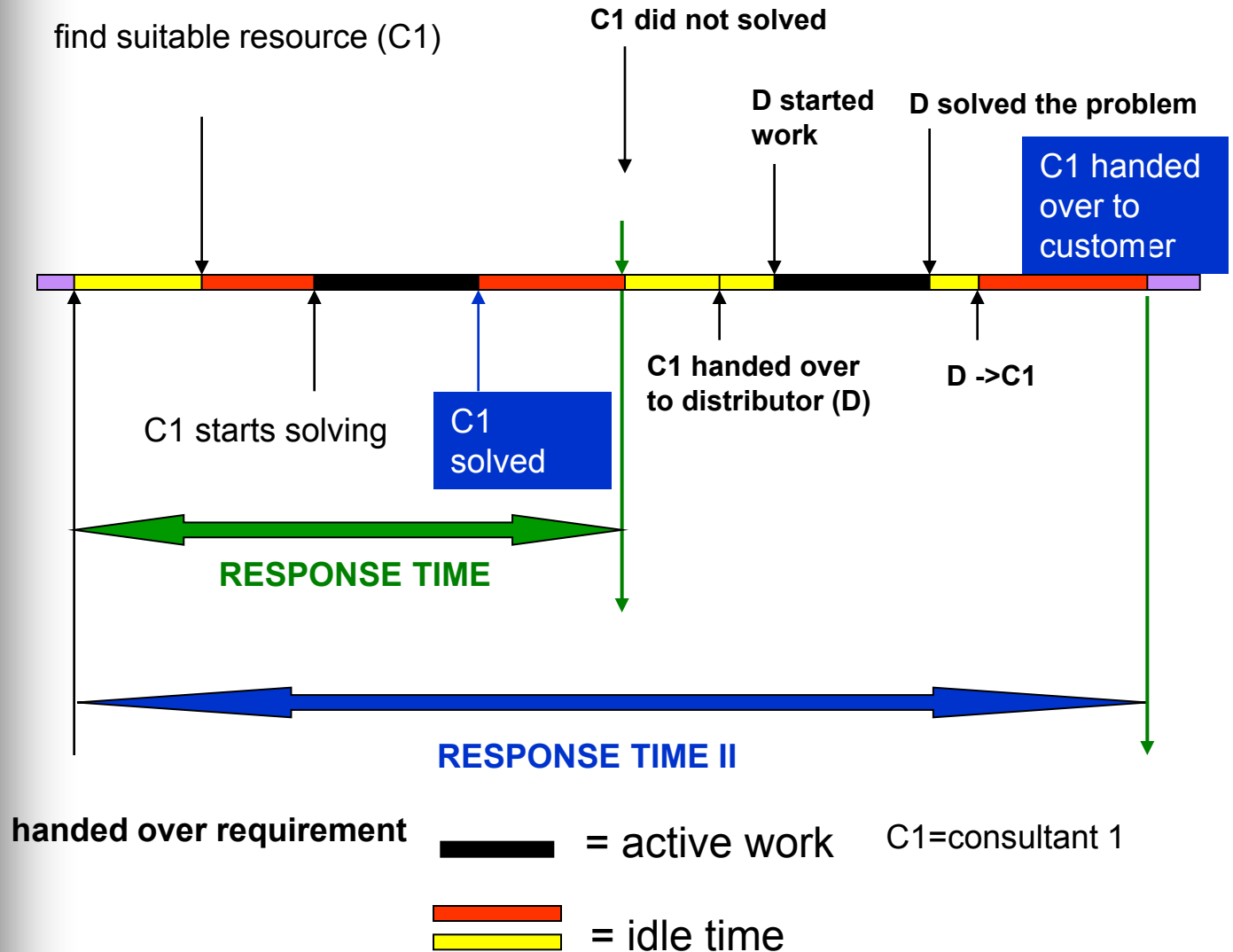   4. training

Some chosen problems which could be find out during ERP support process I

- bad training methodology
- bad consultants
- bad communication protocol
  1. telephone
  2. e-mail
  3. SKYPE
  4. LYNC
- lack of interest of the management of both parties
- right specification of reaction time (reaction to errors)
- specification to the error types and related response times

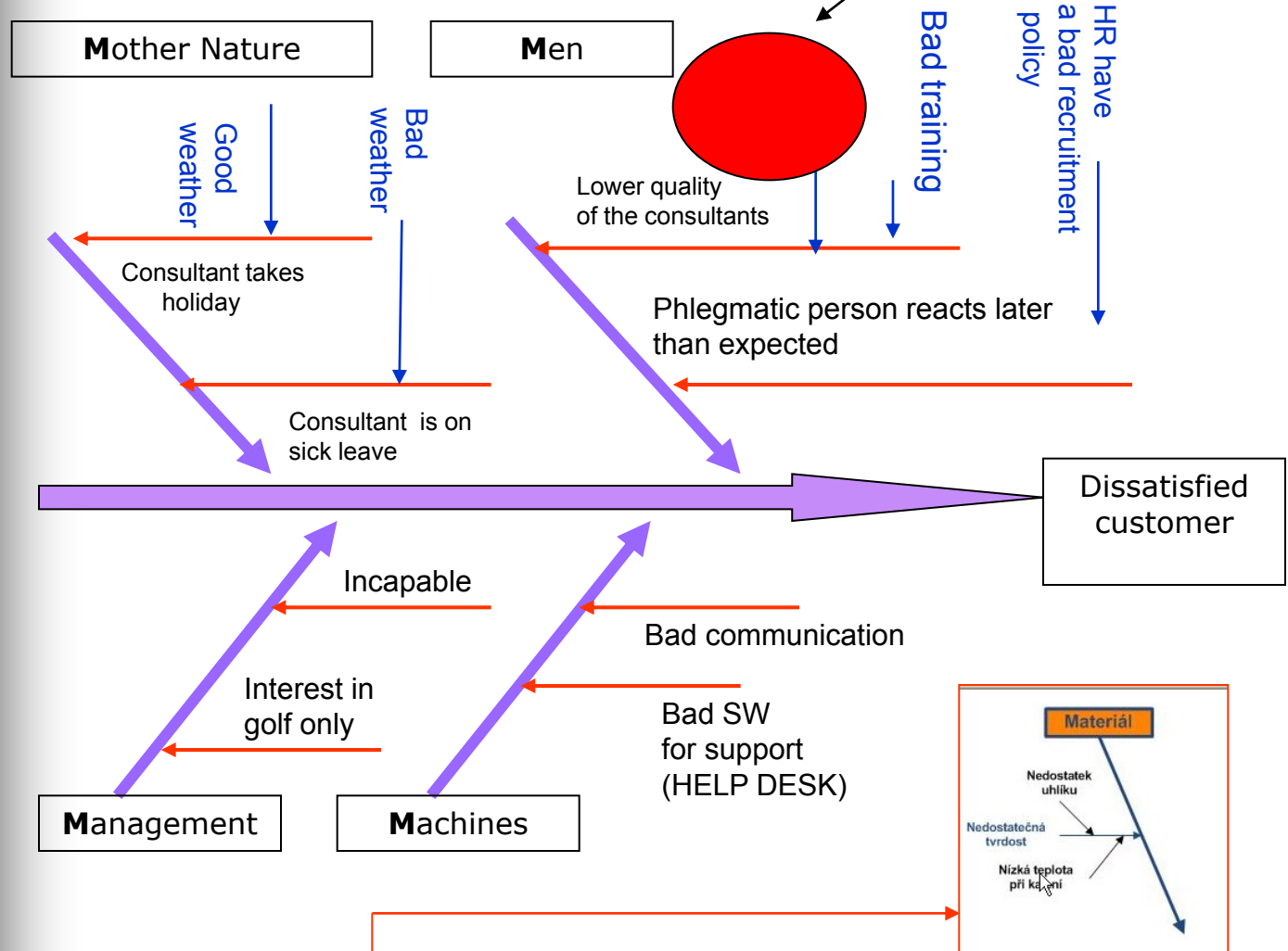- response time of the distributor (ERP integrator ERP)

Diagram – response time

find suitable resource (C1)

C1 did not solved

D started work

D solved the problem

C1 handed over to customer

C1 starts solving

C1 solved

C1 handed over to distributor (D)

D ->C1

RESPONSE TIME

RESPONSE TIME II

handed over requirement

= active work

C1=consultant 1

= idle time

Fishbone diagram-support

heart of the problem

Mother Nature

Men

Good weather

Bad weather

Bad training

HR have a bad recruitment policy

Consultant takes holiday

Lower quality of the consultants

Phlegmatic person reacts later than expected

Consultant is on sick leave

Dissatisfied customer

Incapable

Bad communication

Interest in golf only

Bad SW for support (HELP DESK)

Management

Machines

Materiál

Nedostatek uhlíku

Nedostatečná tvrdost

Nízká teplota při kalení

(Methods, Material, Manpower, Measurement, Machines)

Dissatisfied employee I

THE COFFEE HERE IS DISGUSTING | OVERWORKED AND UNDERPAID

WHY DO I HAVE TO WORK WITH A BUNCH OF MORONS? | HEALTH AND SAFETY - YOU'RE JOKING!

LONGER HOLS

THIS DESK CAME OUT OF THE ARK!
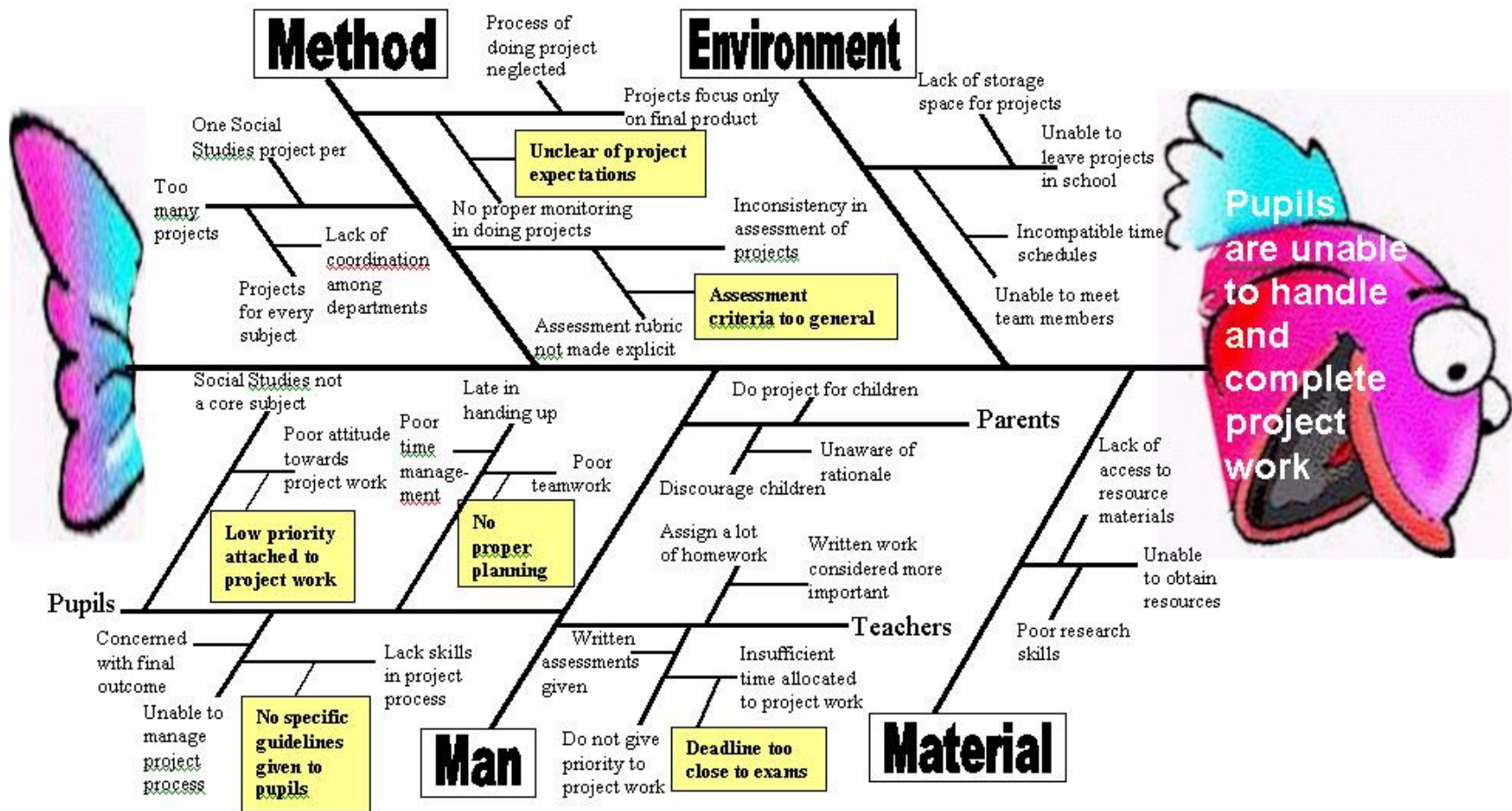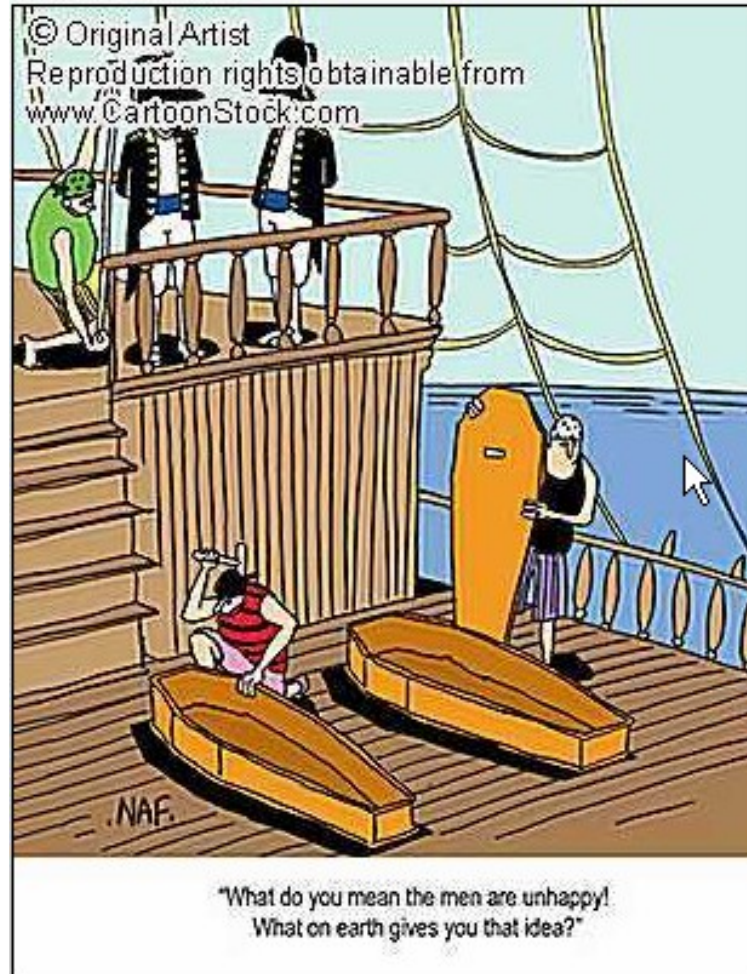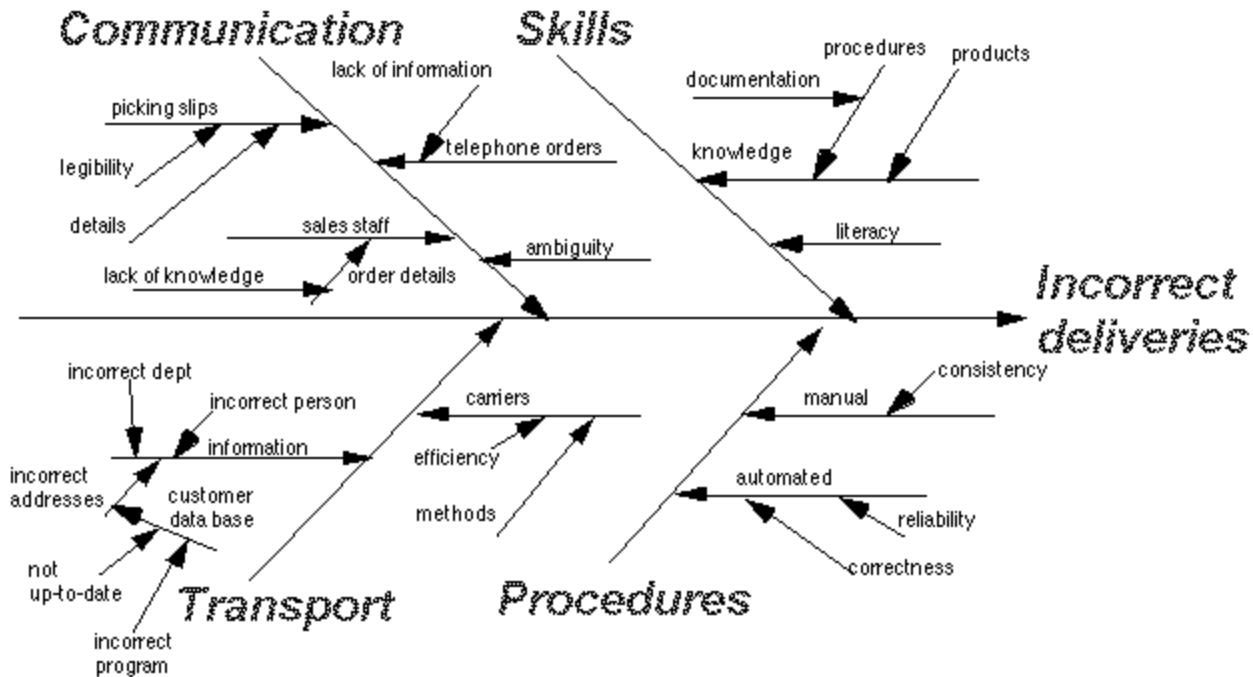
"EVERYTHING OKAY, PHILLIPS?"

FBD- another example I

Dissatisfied employee II
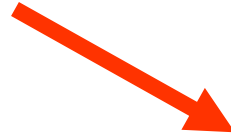
FBD- another example II

5WHYs

- WHY 1 :Why my car had stopped ?
- No petrol in tank
- WHY 2 :Why i did not have a petrol in my tank ?
- I did not buy in the morning on my way to work
  WHY 3 :Why i did not buy a petrol ?
- No money in my pockets
- WHY 4 : Why no money i my pockets?
- Evening poker
- WHY 5 : Why i did not win a poker game?
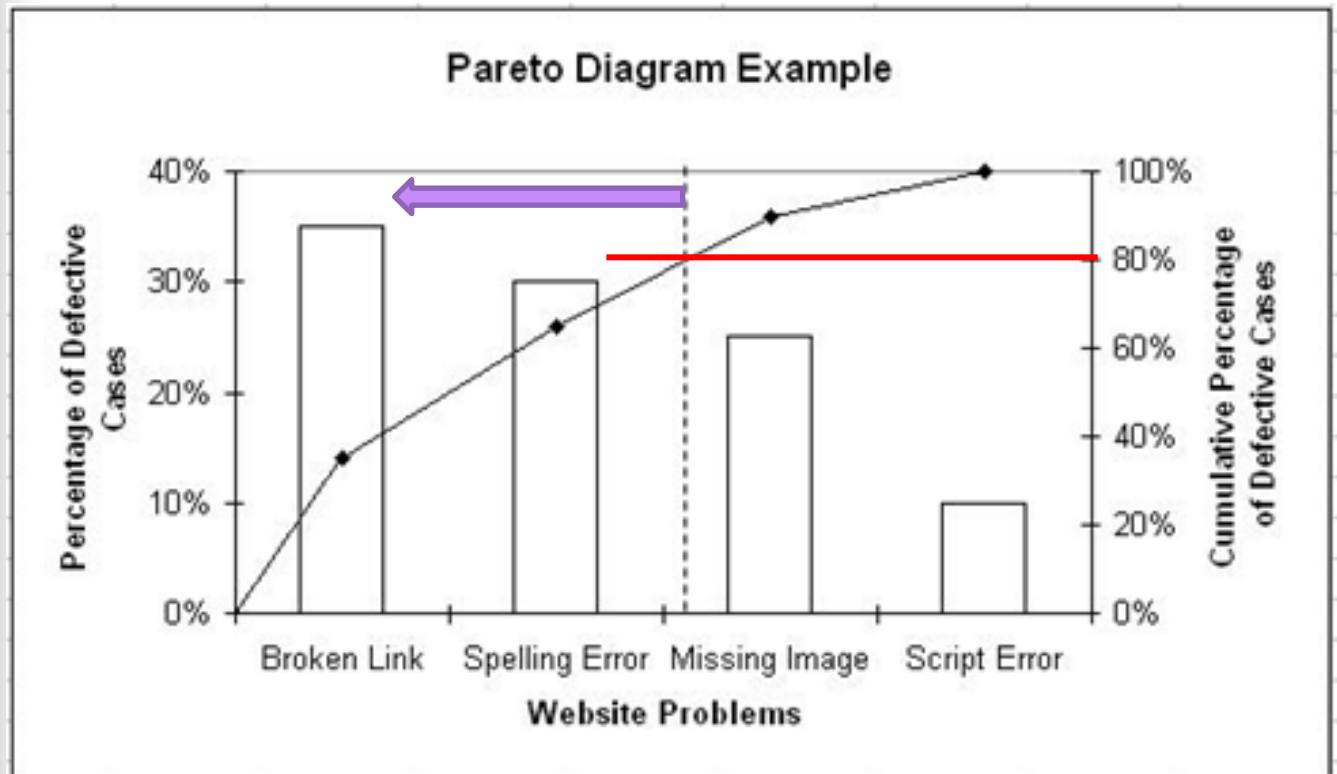- I do not know how to bluff!

5WHYs

Cause

Effect

Pareto analysis I

Pareto Diagram Example

Pareto analysis II - data

	Frequency	Freq (%)	Freq accum(%)
Difficulty	6 - (	35,29)- (	35,29)
Resignation	5 - (	29,41)- (	64,71)
Underestimation	4 - (	23,53)- (	88,24)
Low motivation	2 - (	11,76)- (	100,00)

Explanation 2 : 35,29+29,41=64,71
64,71+23,53=88,24
88,24+11,76=100,00

6	0,352941	0,35
5	0,294118	0,65
4	0,235294	0,88
2	0,117647	1,00
17		

Pareto analysis III
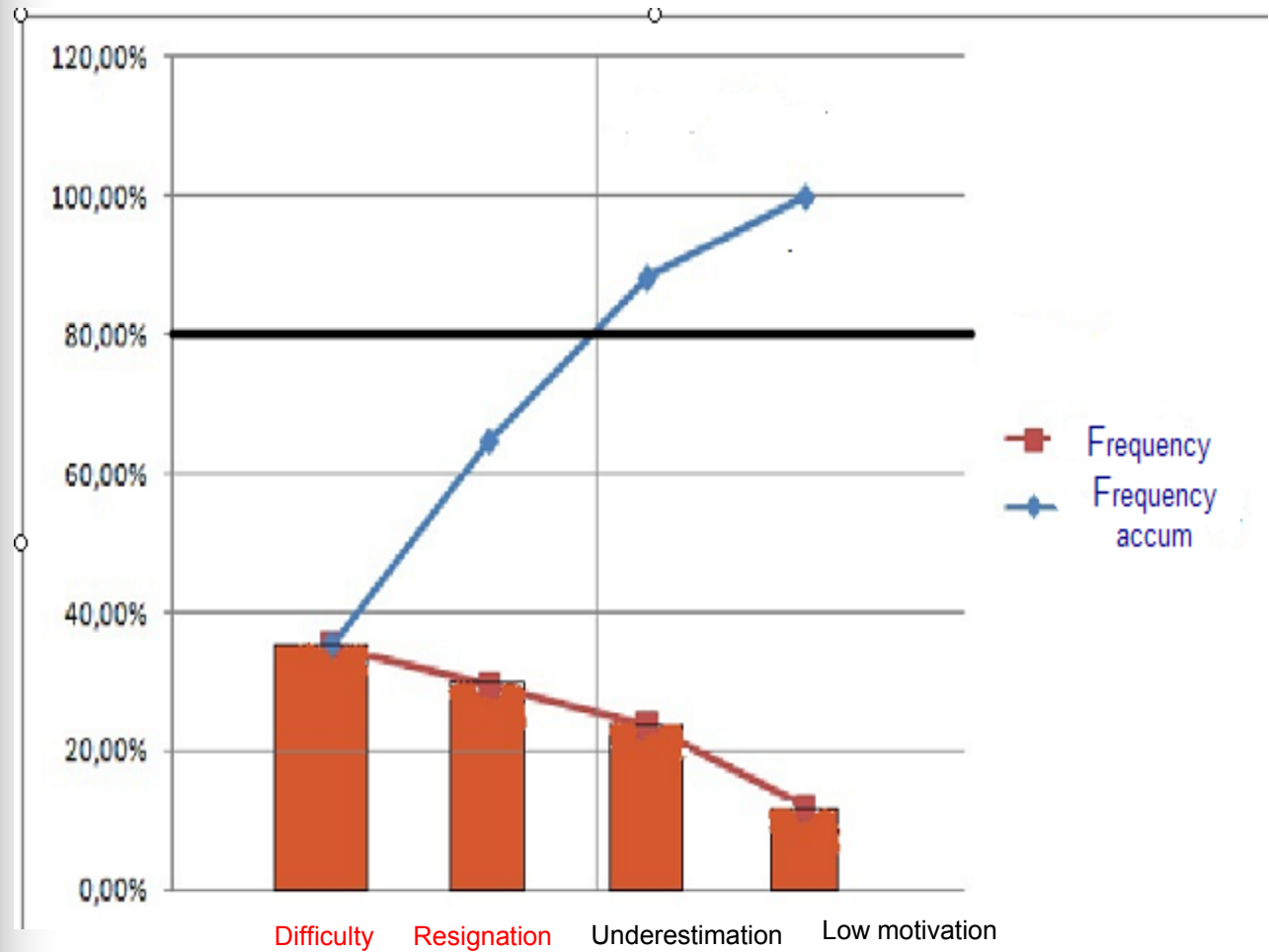
Vilfredo Pareto in person…