Technology-enabled organizational innovation:
A counter-intuitive example of improved commitment and performance

Rafael Andreu & Joan Enric Ricart
IESE Business School

The “old way of doing things” at Metro / TMB

• Typical of a city subway
  • Operating a network of interconnected lines
    – Making sure that trains run according to schedule ➔ good service level
    – Ensuring safety and convenience in tracks, trains & stations
    – As efficiently as possible
  • Traditionally organized following a "labor division" approach
    – Train drivers were key elements ➔ specialized; railway traditions
    – Plus inspectors, station managers, security agents, shops' supervisors, etc.
    – Assigning staff to operations, pretty much a closed problem to be efficient
      ➔ Solved once a year or once a season

• Problems:
  • Lack of flexibility ➔ Room for improvement
    – In maintaining good service level when responding to incidences
    – In work force “work convenience” ➔ Week-end and vacation schedules, ...
  • Train automation seen as an opportunity to improve
Technology-enabled automation / innovation: A “traditional” approach

- Approach 1: "Lay technology on top" of existing practices
  - Task simplification
    - Mainly driving tasks
    - Eventually more efficiency resulting from "pure" automation
    - Possibility of increased flexibility still at the expense of efficiency
  - Likely counterproductive side effects:
    - Impoverishing job content
    - Impact on motivation and commitment
    - Which can result in worse-than-expected productivity
    - Need of incentives to re-gain better results?

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**Diagram:**

- Technology Innovation
- Task Simplification
- Impoverishing Jobs
- Increased Task Efficiency Potential
- Decreased Motivation & Commitment
- Improved Productivity?
- Incentives Needed?
Approach 2: Avoiding negative side effects

- In the context of a culture of subsidiarity, resourcefulness & growth
  - How to avoid impoverishing jobs?
  - Consider all job profiles and "recombine" them in polyvalent ones
  - Job enrichment then may result from "multi-specialization" → "filling" employees' capacity with many tasks

- Additional innovation needed in order to make this possible
  - More frequent "complete" scheduling → daily?
  - Re-negotiate contracts?

- Likely positive side effects:
  - Enriching job content → with "many" tasks
  - Increased motivation and commitment out of "better organizational life quality"
  - Increased productivity & flexibility reinforce the circle → no need for incentives

- Unforeseen, additional effect: Expanded "natural" firm boundaries
In summary

- Technology-based automation doesn't need to be alienating
  - Simplified tasks can be "re-combined" into polyvalent profiles
    - Intrinsically more attractive
    - Generating efficiency and effectiveness
    - That can be shared with employees for increased organizational life quality
  - The whole process is consistent and makes good sense if
    - It fits the prevailing culture / tradition
    - So that increased commitment is seen as a "natural thing" to pursue
    - And employees understand, first hand, how their efforts matter

- It doesn't all happen without effort, however
  - Basic underlying values must be purposefully kept
  - Explicit decisions need to be made and implemented
  - Learning is of course required: it helps if employees are willing since the very beginning
  - And... Watch out for unexpected requirements!

Thank you!!

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