Industrial Engineering
and
Open-Source Software

METU

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Foundational Ideas

- Turkey is rapidly industrializing.
- IE deals with efficiency[1], effectiveness, quality, ...
- IE academics have a historical opportunity to contribute.

1 A working definition of IE was given in the following publication:

Yeralan, S., "Research Opportunities for the Industrial Engineering Profession," 1993 ASEE Annual Conference Proceedings, Session 3257, Urbana, Illinois, June 1993.

Opportunities

- IE methods that specifically address the needs of industrializing countries[1,2].
- Product-oriented "pull research."
- Delivery tools that use the Internet.

1 China, Mexico, India, Brazil, South Africa, Turkey, the Philippines, Egypt, Brazil, Argentina, Malaysia, Thailand...

2 KANBAN,Taguchi, etc.

METU IE

- World-class academic presence.
- Extensive “project” know-how.
- Interest in “delivery-through-software.”

- Challenges in incorporating issues specific to industrializing countries.
- Challenges in student software skill development.

Commercial Software

- Software industries are experiencing a fundamental transition in development and delivery.
- “Open-source software” is gaining wide-spread acceptance.
- Academic institutions that embrace this wave early will gain visibility and influence.

“Open-Source” Software

- OSI Open Source Initiative
- FSF Free Software Foundation (licenses)
- GNU

- International trends (Brazil, Germany, India, Israel, etc. see recent articles, e.g. cnet, News Center)
- Corporate strategies (e.g. Sun Microsystems, IBM)

Academic Activities

IE/OR software is being consolidated into larger sets.

- COIN (COmputational INfrastructure for OR)

A few more links.

Action Items

- “When software becomes the product...”
- Student skill-set development.
- New IE models and methods – study the user.