

Achieving Excellence in Engineering Education

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Prof. Dr. Vidosav D. MAJSTOROVIC
Mechanical Engineering Faculty
Belgrade University
YU

MOTTO

"A country's competitiveness starts not on the factory floor or in the engineering lab. It starts in the classrooms"

Lee Iacocca, CEO of Chrysler Corporation

**The TQM VM
Excellence Model
or
QM of Engineering
Education Process**

ISO 9001:2000	EFQM BE Educational Context	MBNQA Educational Criteria
<ul style="list-style-type: none"> • CUSTOMER FOCUS • LEADERSHIP • INVOLVEMENT OF PEOPLE • PROCESS APPROACH • SYSTEM APPROACH TO MANAGEMENT • CONTINUAL IMPROVEMENT • FACTUAL APPROACH TO DECISION MAKING • MUTUALLY BENEFICIAL SUPPLIER RELATIONSHIPS <div data-bbox="186 1019 376 1143" style="background-color: #800000; color: white; padding: 10px; display: inline-block; font-size: 24px; font-weight: bold;">4/25</div>	<ul style="list-style-type: none"> • CUSTOMER FOCUS • LEADERSHIP AND CONSTANCY OF PURPOSE • RESULTS ORIENTATION • MANAGEMENT BY PROCESSES AND FACTS • PEOPLE DEVELOPMENT AND INVOLVEMENT • PARTNERSHIP DEVELOPMENT • PUBLIC RESPONSIBILITY • CONTINUOUS LEARNING, INNOVATION AND IMPROVEMENT 	<ul style="list-style-type: none"> • LEARNING-CENTERED EDUCATION • LEADERSHIP • CONTINUOUS IMPROVEMENT AND ORGANIZATIONAL LEARNING • VALUING FACULTY AND STAFF • PARTNERSHIP DEVELOPMENT • DESIGN QUALITY AND PREVENTION • MANAGEMENT BY FACT • LONG-RANGE VIEW OF THE FUTURE • PUBLIC RESPONSIBILITY AND CITIZENSHIP • FAST RESPONSE • RESULTS ORIENTATION

COMPARASION OF FUNDAMENTAL MANAGEMENT PRINCIPLES

Fundamental Concepts

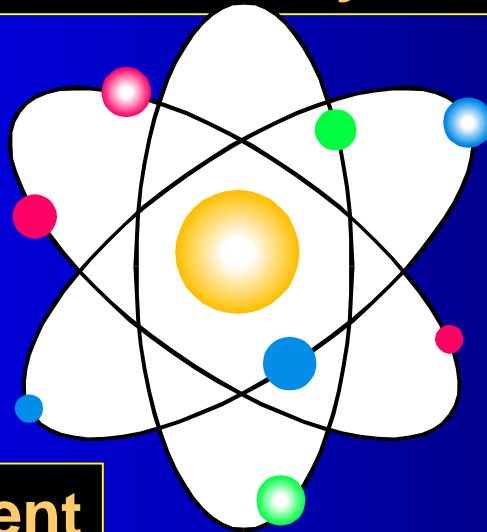
**Customer Driven
Quality**

**Future
Orientation**

Leadership

Public Responsibility

**Satisfaction
Employees**

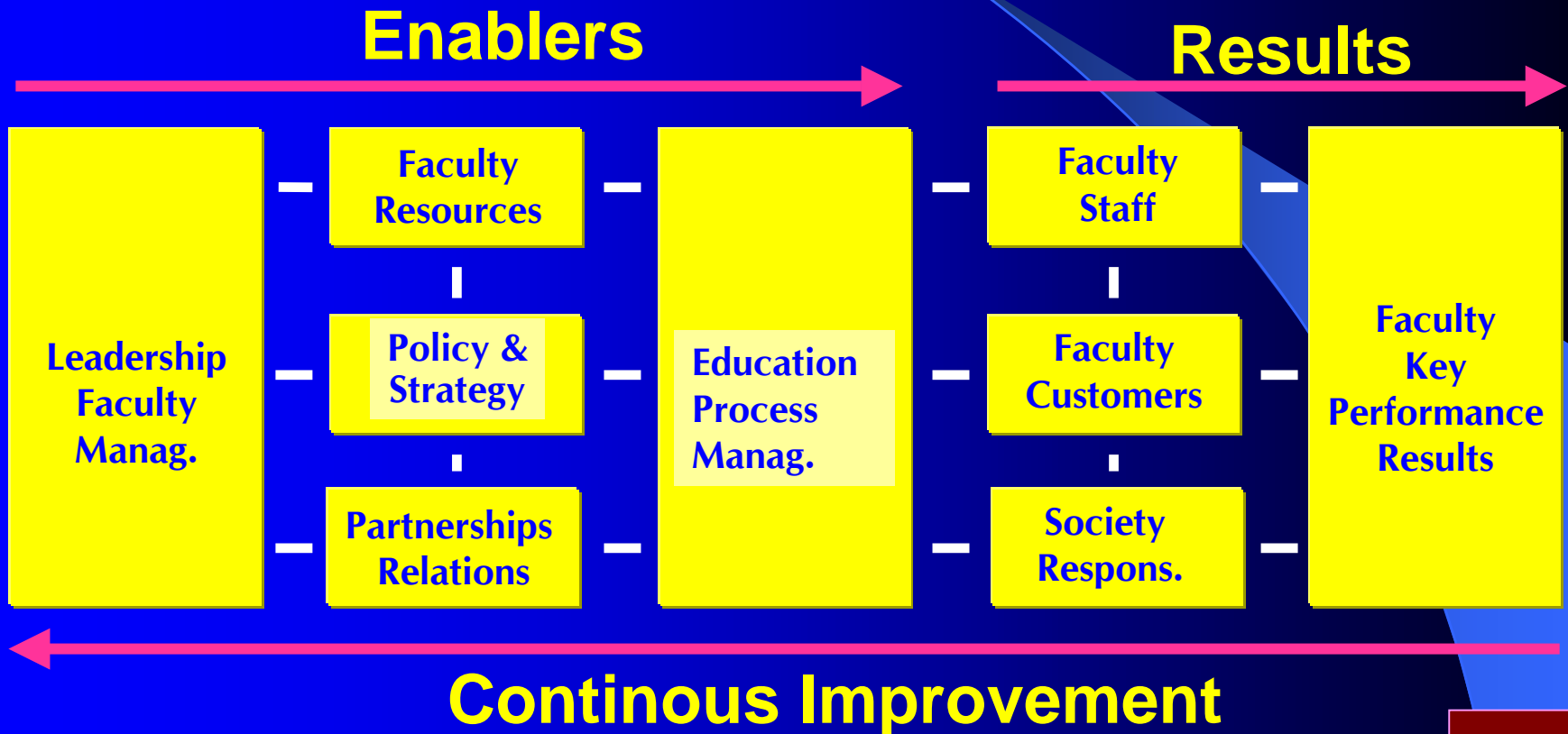


**Fact-Based
Management**

**Continuous Improvement
Innovation and Learning**

**Development Partnership
Relations**

TQM VM Excellence Model



- *Vision without action is simply dreaming*
- *Action without vision is merely activity*
- **Vision with action - you can change the world**

TQM VM Education Vision

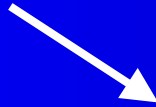
“The philosophy, methods, tools and techniques of Business & Organisational Excellence are key elements of the management, curricula and culture at all levels of Engineering Education according this model”

Applying the principles of business and organisational excellence to education institutions



Cross-sector Good Practice

Philosophy



Employers



Self-Assessment

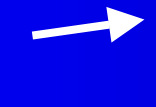


**Culture
Way of Working**

**Tools &
Techniques**



**Fundamental
Concepts**

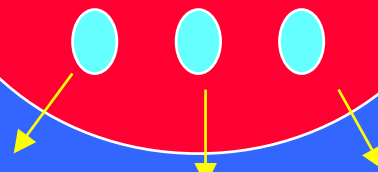


Curriculum Development

**Institution's
systems and
procedures**



Students



Benchmarking



The World of Work

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Emerging Activity in Higher Education in Europe (EU)

- **EFQM Education Steering Group**
- **European Masters Programme in TQM**
- **Fontys network, Tarragona, Heidelberg, Marmara**
- **TQM in Higher Education network**
- **Conference for European Schools for Advanced Engineering, Education and Research (CESAER): Aachen WZH, Lisbon IST**
- **European Foundation for Management Development: EQUIS**
- **UK Higher Education 'consortium'**

QM in Engineering Education in YU

- ⊠ QS Project - Ministry of Sciences and Technology
- ⊠ Pilot model for QC in Higher Education
- ⊠ Application - FTS, Novi Sad

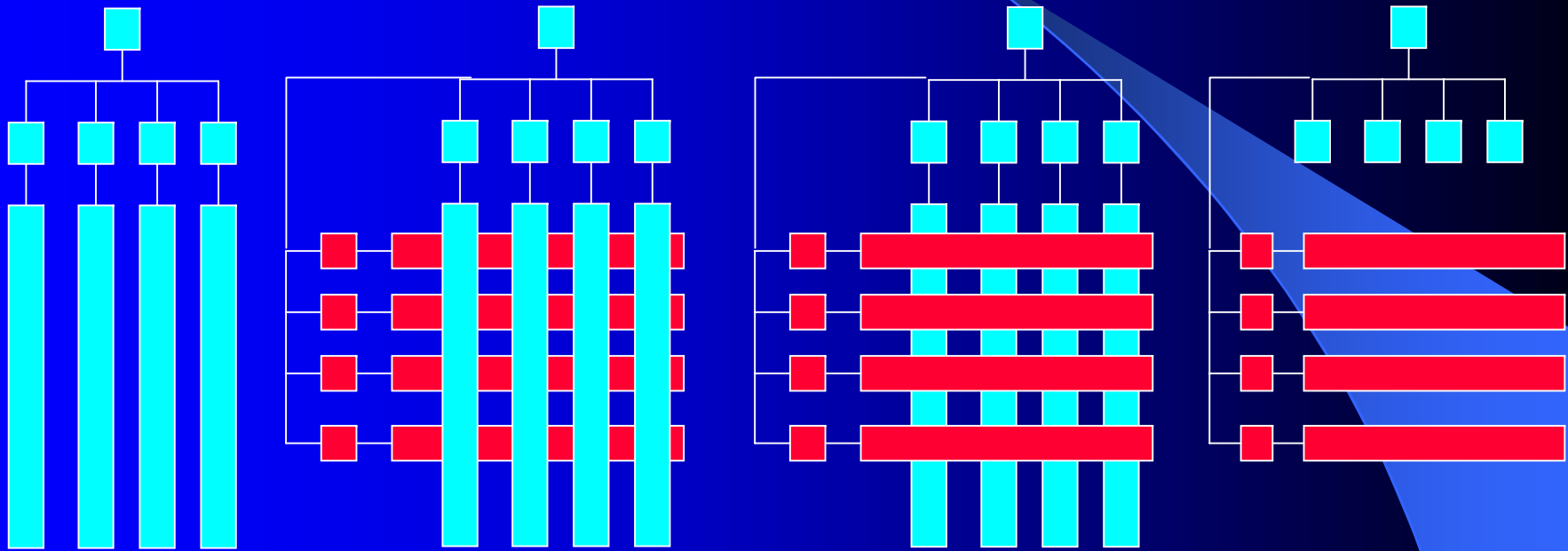
UK Higher Education 'consortium'

- **Cranfield, Durham, Salford, Ulster, Sheffield Hallam**
- **3 year funding**
- **Evaluate benefits of EFQM Excellence Model**
- **Compare and contrast against UK quality assurance approaches**
- **Networking**

Early experiences (EU)

- **Self-assessment methods piloted in administrative departments and Schools**
- **Integration with MBA programme, BT project**
- **Integration with student and staff experience surveys**
- **Comparison against quality assurance procedures**
- **Strategic alignment**
- **Process thinking**

Process Model Development (QM)



From Hierarchy..... to..... Process Working

Process Model for HE

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Management and Governance Processes

Strategic
Direction
Setting

Business
Planning

Performance
Management &
Review

Student Recruitment

Student / Customer Services

Learning, Teaching & Assessment

Research & Business Development

HR Management &
Development

Facilities &
Estates

Learning
Support

Research
Support

Infrastructure processes

•PEOPLE
•KNOWLEDGE
•RESOURCES
•POLICY
•STAKEHOLDER
EXPECTATIONS

•PEOPLE
•KNOWLEDGE
•STAKEHOLDER
EXPERIENCE
•ACADEMIC
OUTCOMES
•RESEARCH
SOLUTIONS

The TMQ VM Model - initiative framework for higher education

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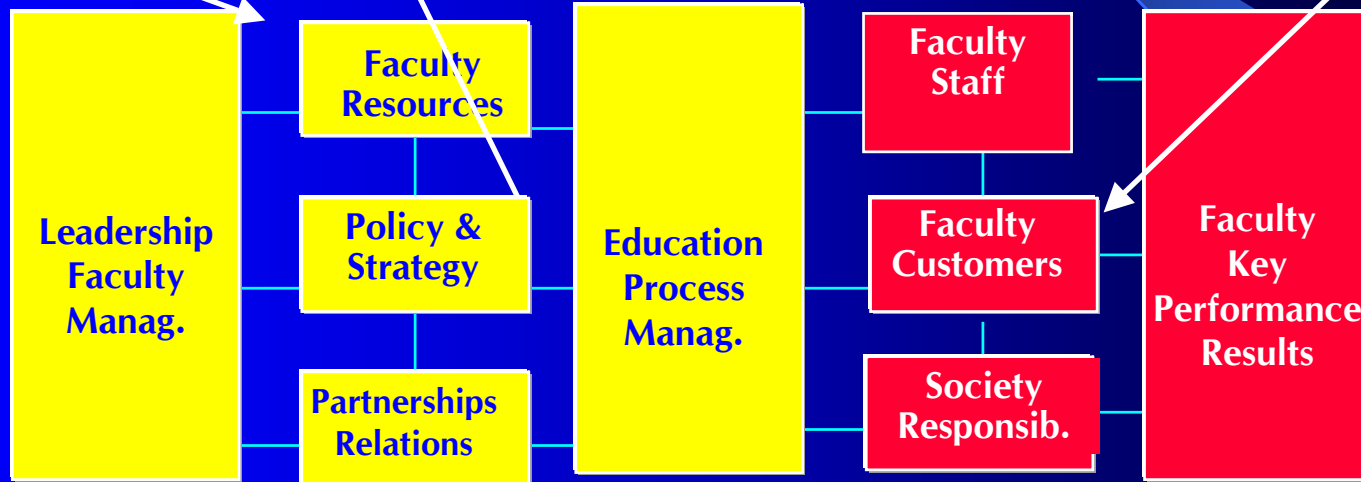
- HR planning
- Recruitment
- Training and development
- Performance appraisal

- Strategic plans and financial forecasts
- School plans
- Stakeholder input: surveys
- Benchmarking

- Teaching and learning support processes standards and quality systems
- Measurement, benchmarking
- Continuous improvement

- Staff survey
- Staff indicators

- Student experience
- Employer feedback



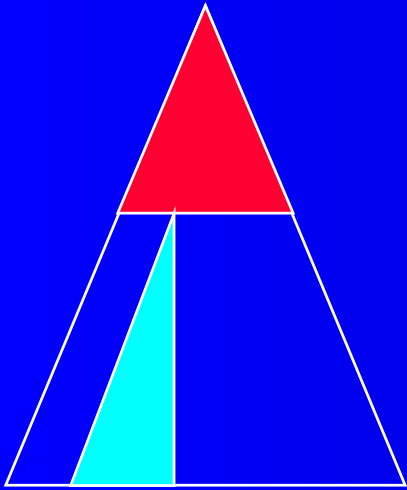
- Academic leadership; vision, mission, standards
- Understanding student needs
- Involvement
- Partnership

- Funding and financial mgt.
- IT provision
- Library resources
- Equipment
- Buildings

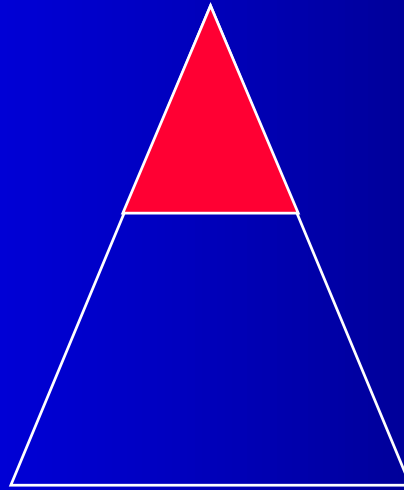
- Wider community involvement
- Impact on environment

- Learning achievements
- Process performance
- Self/peer evaluation
- QA outcomes

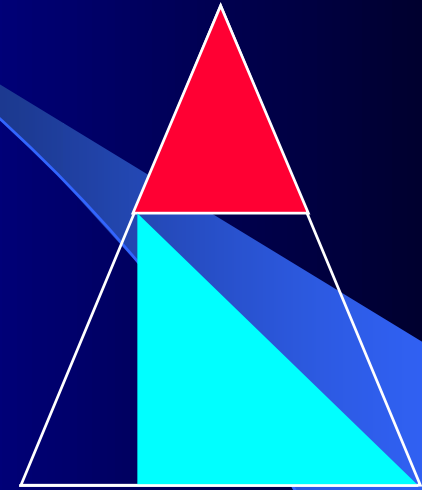
Self-assessment options for BE application



Department(s)



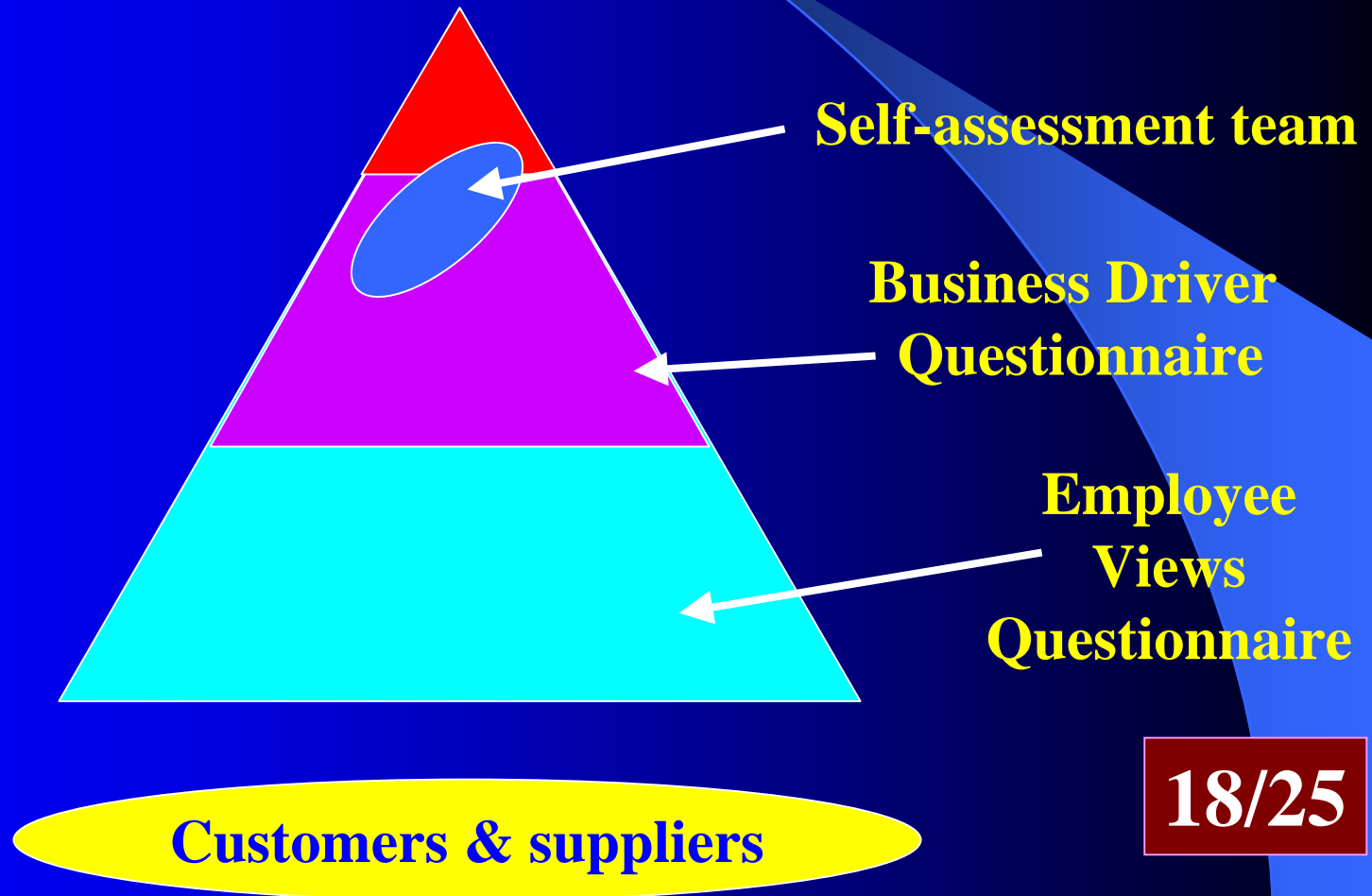
Executive group



Representative
sample(s)

Self-assessment method

Data Gathering



Integration of Self-assessment with Business Planning



Benefits for BE Application

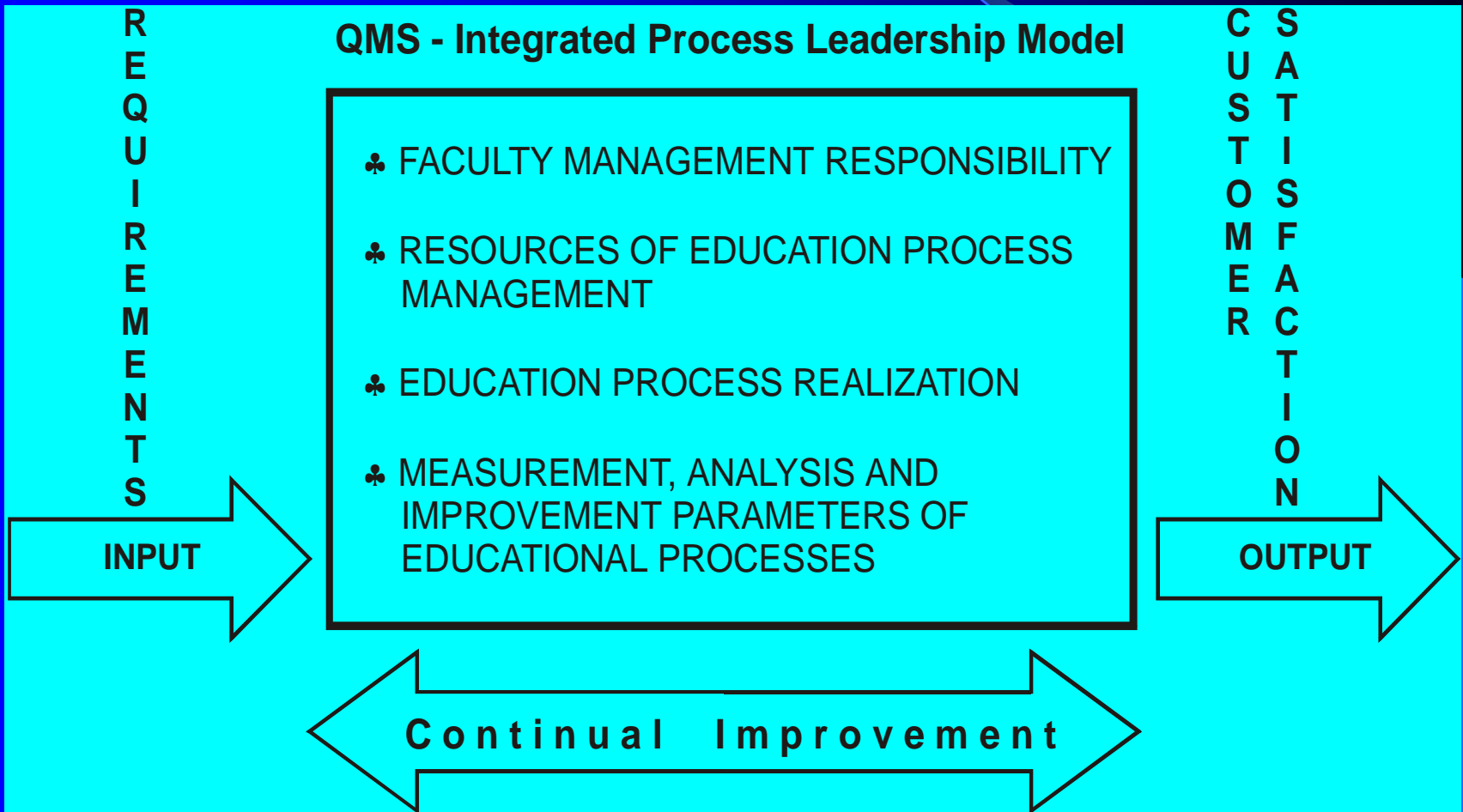
- Development of a strategic tool that has the potential to deliver the **corporate strategy** of the University and to enhance communication and understanding of overall direction
- Alignment of leadership, policies and strategies with the **results that are required**
- Development of a rigorous and structured approach to **organisation improvement** using a self-assessment approach that is based on facts and evidence
- Development of an approach that could aid institutions achieve a consistency of direction by providing a means to integrate **various quality** related issues such as QMS or H3E

ORGANISATIONAL EXCELLENCE

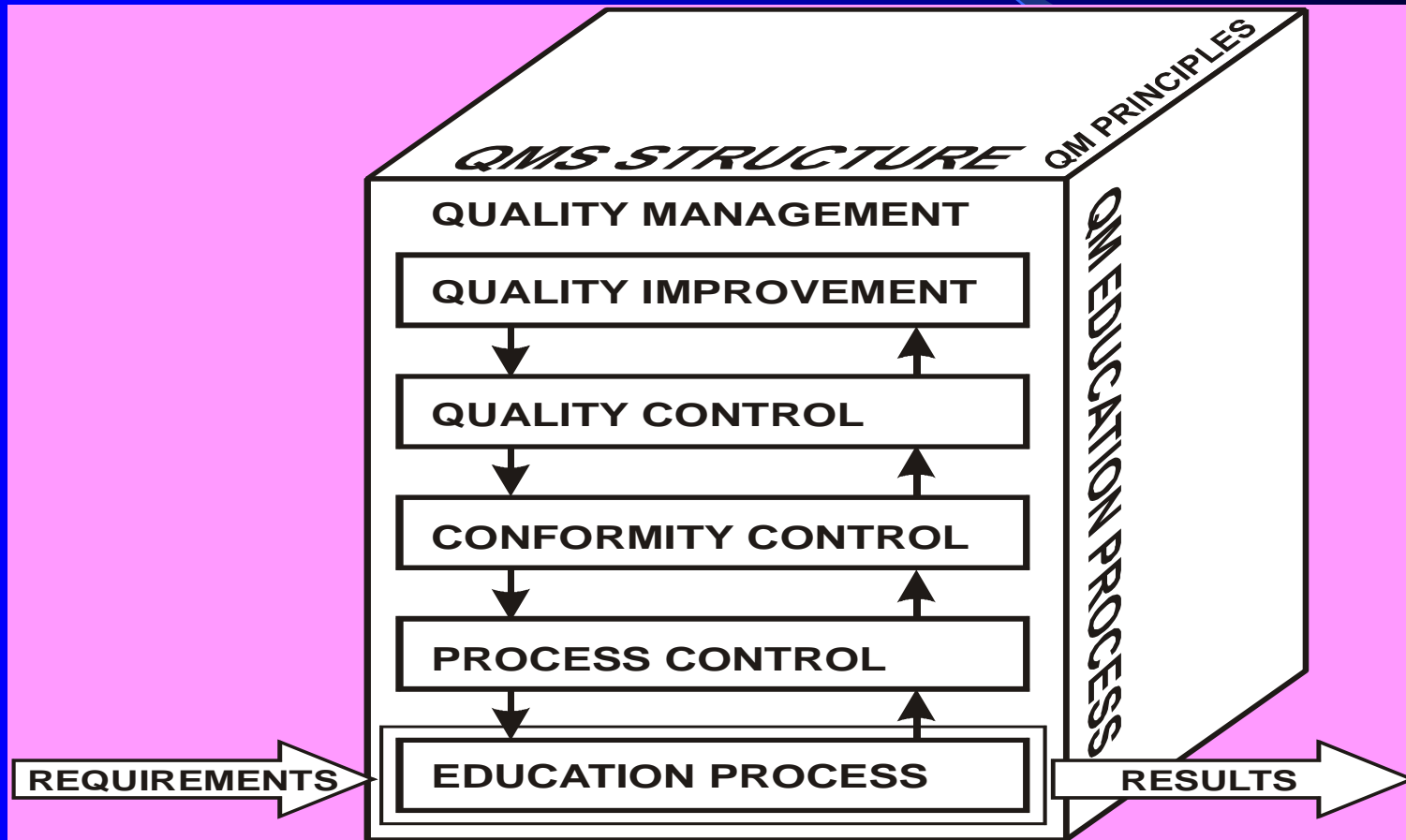
The overall way of working that results in balanced stakeholder (customers, employees, partners, society, shareholder) satisfaction so increasing the probability of long term success as an organization.

QMS MODEL

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Education process QM



CONCLUSION

✦ *WAY (S) FOR FACULTY QI (M):*

✦ QMS - ISO 9001 : 2000

✦ ACREDITATION (ABET, H3E)

✦ BE - TQM VM BE

✦ *OUR WAY*

✦ QMS - A - BE

*THANK YOU VERY MUCH FOR
YOUR ATTENTION !*

YOURS

Prof. Dr. V. MAJSTOROVIC

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QUESTIONS ?