

# Open Innovation and the role of CTOs

## Between Power and Influence

The role of CTOs on R&D, Technology, Innovation

OECD - DSTI  
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MESR - France

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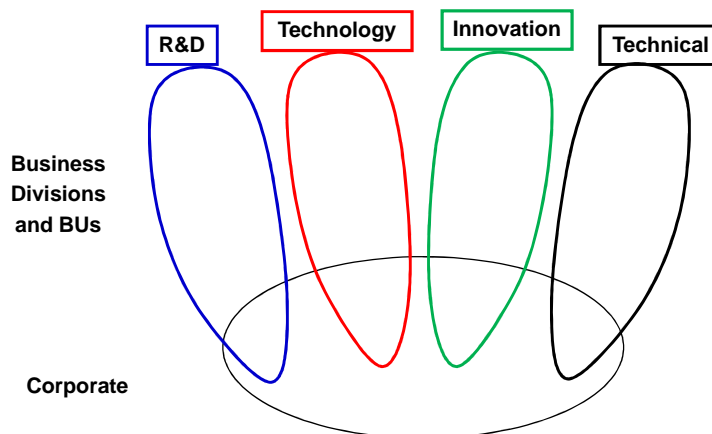
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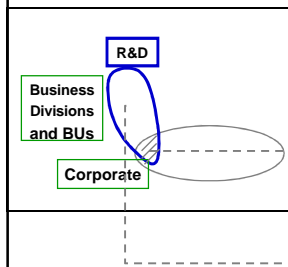
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## The four petals of a CTO job



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## The R&D petal of a CTO job



### Tasks: Managing R&D

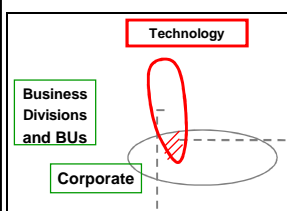
- Securing R&D fundings
- Programming R&D projects
- Monitoring work progress
- Cooperating with external R&D partners
- Ensuring adequate use of R&D results
- Managing R&D population (HR)
- Following similar issues within divisions and BUs
- Avoiding overlaps among BU / Divisions

### Power and influence:

- Power of running budgets and teams
- Image of a cost center
- Access to insider information / scientific knowledge
- Risk of a techno-push attitude
- Needs marketing and strategy counterparts

« VP for R&D »

## The Technology petal of a CTO job



### Tasks: Thinking technology strategically

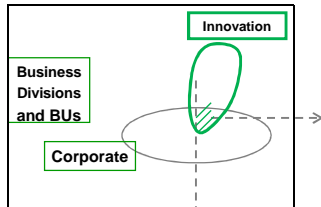
- Scanning for new technologies
- Managing scientific and technology intelligence
- Assessing technologies
- Building technology roadmaps
- Monitoring portfolio of technologies
- Monitoring portfolio of technological competence
- Monitoring the Technology Eco-system of the Firm
- Following similar issues within divisions and BUs
- Deciding on shared Technologies for BU / Divisions

### Power and influence:

- No budget, no team – Need power to impose standards
- Influence via Legitimacy of knowledge / CEO support
- Some access to strategic issues
- Risk of a techno-push attitude
- Needs marketing and strategy counterparts

« The Technology Officer »

## The Innovation petal of a CTO job



### Tasks: Promoting innovation

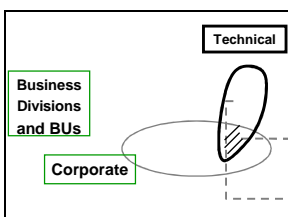
- Organizing the internal innovation process
  - Idea management
  - Maturation
  - Managing innovation projects
- Setting up innovation teams
- **Managing an Open innovation process**
- Running an incubator ?
- Deploying the process in Divisions and BUs
- Promoting best practices
- Mutualizing ideas and projects across BUs

### Power and influence:

- No budget, no team, no power
- Influence via importance of innovation
- Need to convince Bus and Divisions
- Limited access to strategic issues
- Need to call upon inter-functional teams

« The Innovation Process Owner »

## The Technical petal of a CTO job



### Tasks: Sharing Technical knowledge

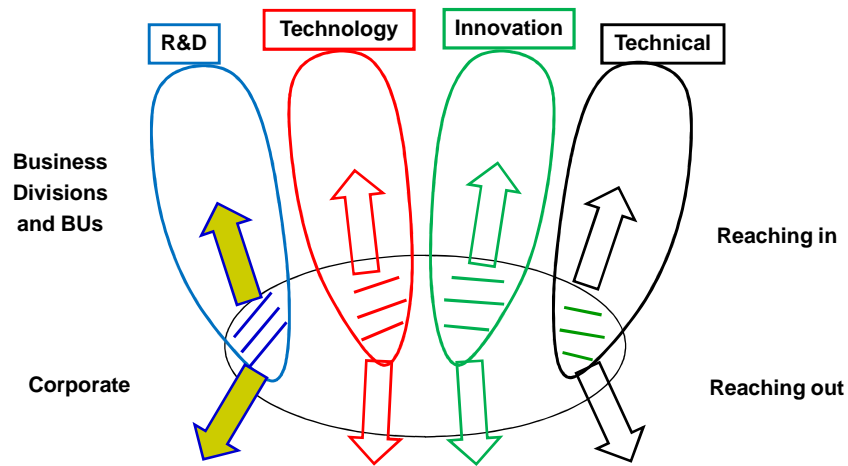
- Defining technical standards
- Organizing technical support to units
- Technical KM
- Sharing technical expertise
- Monitoring the population of technical experts
- Providing additional technical support
- Running Technical days
- **Coordinating with Purchasing for equipments**

### Power and influence:

- Back office, no power
- Limited teams, but visible
- Influence of a service provider to units
- No access to strategic issues

« The Technical Director »

## The four petals of a CTO job - Reaching in and Reaching out



## Between Power and Influence (1/2)

- **The fully fledged CTO**
  - Covers the 4 petals (R&D, Technology, Innovation, Technical)
  - Insures that the petals interact
  - Intervenes in the Divisions / BUs, beyond its corporate base
- **The CTO has limited formal power but can gain significant influence:**
  - CEO support (e.g. if advising the CEO)
  - Legitimacy attached to scientific / technological expert knowledge
  - Providing strategic vision around future technologies
  - Allocating part of its R&D resources
  - Hunting for, and accessing, external fundings
  - Building coalitions (with business development, with CTOs in divisions, with some line managers)
  - Personal leadership
  - Innovation success stories
  - ...

## Between Power and Influence (2/2)

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### ■ Typical instruments / processes

- The strategy process: input from the Technology side
- Building roadmaps
- The process of programming R&D
  - Corporate
  - In Divisions and BUs
- The innovation process
- R&D as an entry door into the Firm: leveraging the R&D Diaspora
- Technical support to the BUs
- Defining technological standards
- ...

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