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Organizing your business by using China as low cost producer
vs.
Organizing your business by using China as source of knowledge

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Questions to discuss

- Will China remain the country for low-cost manufacturing of goods designed by the West in the near future?
- Will China surpass the level of product quality standards we have in the West in the near future?
- Will China bring its own developed products to the world market in the near future
- Will China take a leading role in the world in product and process innovation in the near future
- Will China surpass the high level of educational standards as we have in the West in the near future?
- Will China take a leading role in the world in the scientific output

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China is moving towards an innovative country

Western people consider China as a low cost country, only manufacturing based on Western designs, no technical innovation, whereas the reality is that China is striving for “an innovation-oriented country” and a “world leading science power”

China: the manufacturer for the world

- China became a member of the World Trade Organization (WTO) in 2001.
- Thanks to its cheap labor cost, China became the cheap producer for the Western world
- After 5 years membership of the WTO, the Chinese foreign trade increased from 500 billion dollar to 1500 billion
- In 2002 China's GDP ranked the world's No. 7, and in 2007 No. 4 (behind American, Japan and Germany, but before England and France).

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Winning the competitive battle

China is realizing that with being the cheapest you will never win the competitive battle in the long term

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China's Middle- and Long-term Science and Technology Development Plan (2006-2020).

- By 2010 R&D expenditure will be set at 2% (360 bin. RMB)
- By 2020 R&D expenditure will be set at 2,5% (900 bin RMB)
- By 2020 the number of Chinese generated patents and the number Chinese citations in international research journals will be annually among the tot 5 of the world.

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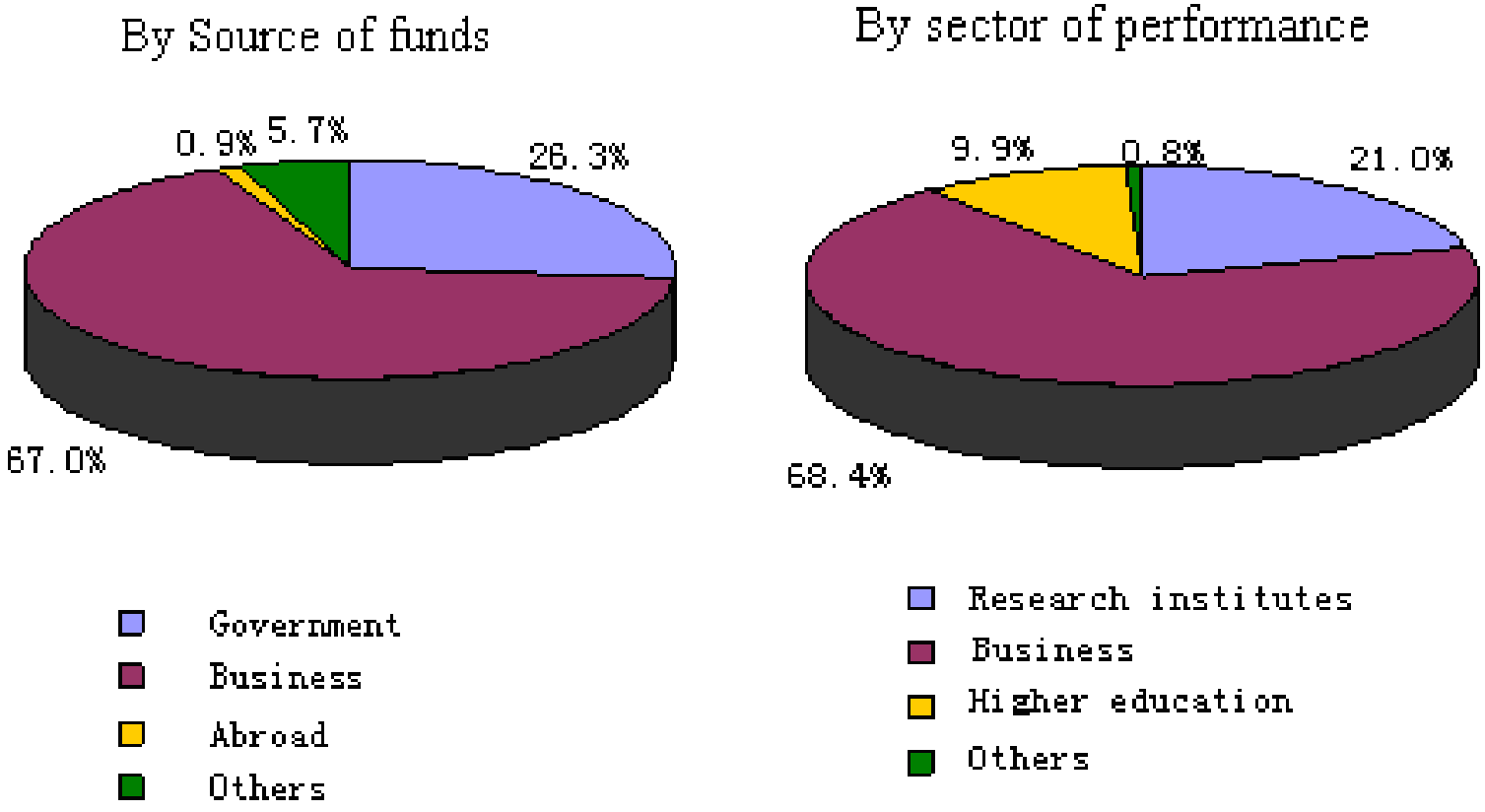
Increase in R&D funding and activities in China

Gross Domestic Expenditure on R&D (2000-2005) (Unit: 100 million yuan)

	2000	2001	2002	2003	2004	2005
Gross Domestic Expenditure on R&D (GERD)	895.7	1042.5	1287.6	1539.6	1966.3	2450.0
GERD/GDP (%)	0.90	0.95	1.07	1.13	1.23	1.34

Source: NSB & MoST (2006).

Chinese enterprises are the main players in R&D



Patent applications filed and patents granted by SIPO* (2004-2005)

	2004			2005		
	Total	**Domestic**	**Foreign**	**Total**	**Domestic**	**Foreign**
Patents applications	353807	278943	74864	476264	383157	93107
Invention	130133	65786	64347	173327	93485	79842
Utility model	112825	111578	1247	139566	138085	1481
Exterior design	110849	101579	9270	163371	151587	11784
Patents granted	190238	151328	38910	214003	171619	42384
Invention	49360	18241	31119	53305	20705	32600
Utility model	70632	70019	604	79349	78137	1212
Exterior design	70255	63068	7187	81349	72777	8572

* SIPO stands for State Intellectual Property Office of the People's Republic of China.
Source: NSB & MoST (2006).

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Number of Graduates in Regular Higher Educational Institutions by Field of Study

	Graduates								
	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	**404666**	**440935**	**495624**	**567839**	**655763**	**929598**	**1196290**	**1465786**	**1726674**
Philosophy	**780**	**852**	**775**	**873**	**858**	**1127**	**1239**	**1275**	**1417**
Economics	**58095**	**67611**	**78205**	**35267**	**37517**	**48878**	**61758**	**80710**	**104665**
Law	**14832**	**16363**	**19806**	**30326**	**36332**	**52756**	**63334**	**76140**	**91596**
Education	**14611**	**15479**	**17939**	**17965**	**22885**	**30977**	**40164**	**50342**	**61740**
Literature	**38885**	**44285**	**53826**	**62956**	**77710**	**126087**	**168738**	**226903**	**283404**
History	**5808**	**6097**	**6755**	**6101**	**7022**	**8791**	**10176**	**10694**	**10605**
Science	**40213**	**42351**	**49214**	**63517**	**72526**	**103409**	**134164**	**163076**	**194807**
Engineering	**181890**	**195354**	**212905**	**219563**	**252024**	**351537**	**442463**	**517225**	**575634**
Agriculture	**16525**	**17453**	**19154**	**19005**	**22462**	**29758**	**34078**	**35419**	**36740**
Medicine	**33027**	**35090**	**37045**	**41468**	**47320**	**55927**	**81098**	**96011**	**107210**
Management				**70798**	**79107**	**120351**	**159078**	**207991**	**258856**
Of the Total: Teacher Training	**46458**	**46424**	**52516**	**87023**	**107661**	**158569**	**185868**	**223715**	**241787**

Source: Ministry of Education Educational Statistics (1998-2006) on: http://www.moe.gov.cn/

Chinese managers are aware of the importance of innovation

- "*The customer asks for it (i.e. innovation) and it matches the development of the enterprise*"
- "*the top management believes innovation can survive the enterprise*".

Source: Ren et al (2007)