



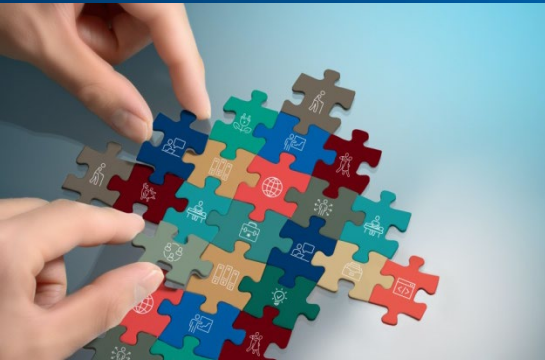
Barriers and influencing factors for open innovation based on literature review and survey

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- Introduction
 - Open Innovation (OI) management
 - Objectives: barriers and influencing factors
- Methods:
 - literature review on OI
 - Survey
- Results
 - Recategorizing barriers of OI
 - Results of the surveys
- Conclusions
 - Further developed in categorizing the carriers for OI
 - Two challenging factors managerially speaking based on survey results
 - Two enabling factors based on survey results
 - Limitation and further research



Open Innovation Management



- « Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology » Chesbrough (2003, 2006)



Literature Review on OI Barriers



Literature on barriers study	SMEs	Sector/industry specific (e.g. biotech, digital service and IT, food processing industry, engineering, and mining etc.)	Country/area specific (e.g. China, Denmark, Hongkong, Korea, Macedonia, Malaysia, the Netherlands, and Spain etc.)
Coras and Tantau (2014)			
Fortuin and Omta (2009)		Yes	Yes
Janevski et al. (2015)	Yes		Yes
Hjalmarsoon t al. (2014)		Yes	
Holmstrom & Westergren (2012)		Yes	
Hernandez-Mogollon (2010)	Yes		Yes
Lam et al (2013)			,
Lee et al (2010)	Yes		Yes
Luttgens et al. (2012)			
Nafi et al. (2015)	Yes		Yes
McCormack et al. (2015)			Yes
Pontiskoski and Asakawa (2009)		Yes	
Savitskaya et al. (2010)			Yes
Vrande et al. (2009)	Yes	Yes	
	35%	35%	50%



Recategorizing OI Barriers



Open Innovation principles	Potential challenges and barriers	Barrier categories
Not all the smart people work for us, so we must find and tap into the knowledge and expertise of bright individuals outside our company	<ul style="list-style-type: none"> Short of ability to find the smart people with the knowledge of expertise we need The smart people externally are not willing to work for us 	<ul style="list-style-type: none"> HR barriers Business environmental barriers
External R&D can create significant value; internal R&D is needed to claim some portion of that value	<ul style="list-style-type: none"> The significant value of external R&D is not visible, known and accessible for us; The internal R&D is not aware of the needed portion of that value 	<ul style="list-style-type: none"> Business environmental barriers managerial and operational HR challenges
We don't have to originate the research in order to profit from it	<ul style="list-style-type: none"> We are not able to detect the originated research from external sources We are not able to detect the value of the external resources 	<ul style="list-style-type: none"> managerial and operational challenges business environment challenges
Building a better business model is better than getting to market first	<ul style="list-style-type: none"> Management is not inspired to build a new business model that is encouraging open innovation Employees are not inspired to carry out a new business model that is encouraging open innovation 	<ul style="list-style-type: none"> managerial and operational challenges business environment challenges Cultural challenges
If we make the best use of internal and external ideas, we will win	<ul style="list-style-type: none"> Internal resources are not willing to accept the external ideas Internal resources are not able to use external ideas Internal resources are not able to combine internal and external ideas for use Lack of financial capital to support the use of innovation ideas 	<ul style="list-style-type: none"> Financial barriers Processual and legal barriers HR barriers
We should profit from others' use of our intellectual property (IP) whenever it advances our own business model	<ul style="list-style-type: none"> Our IP is safe to be used and not be stolen by others The industry is well established in legal aspect on protecting the IPs 	<ul style="list-style-type: none"> Operational and legal barriers



Six Recategorized OI Barriers



- Managerial and operational barriers
 - Insufficient top management support on open innovation;
- Processual and legal barriers
 - legal procedure is limited;
- HR barriers
 - Insufficient resources
 - Lack of skills of open innovation both internally and externally;
- Cultural barriers
 - Lack of internal commitment on open innovation;
- Business environment barriers
 - Professional business environment is lacking support or standard on open innovation
- Financial barriers
 - Lack of budget on supporting open innovation

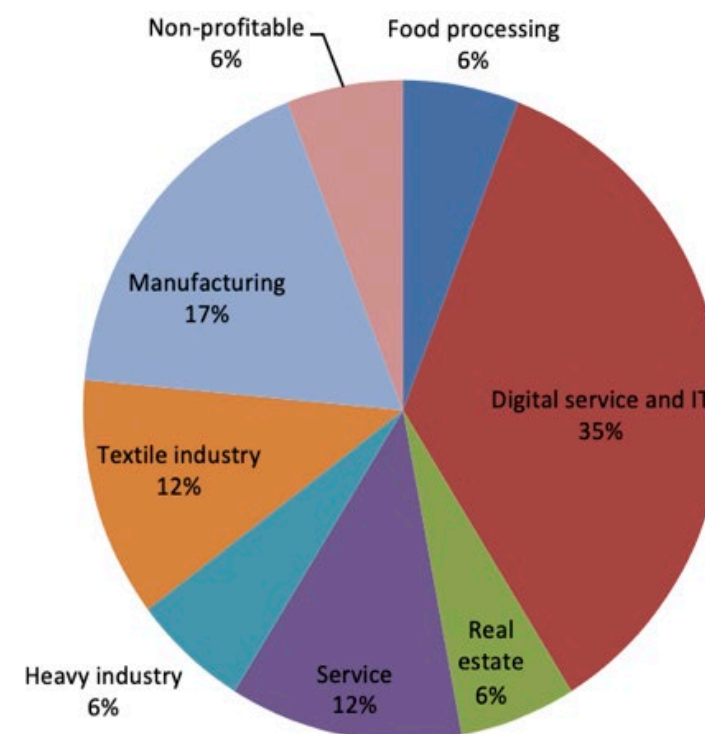


Survey Results

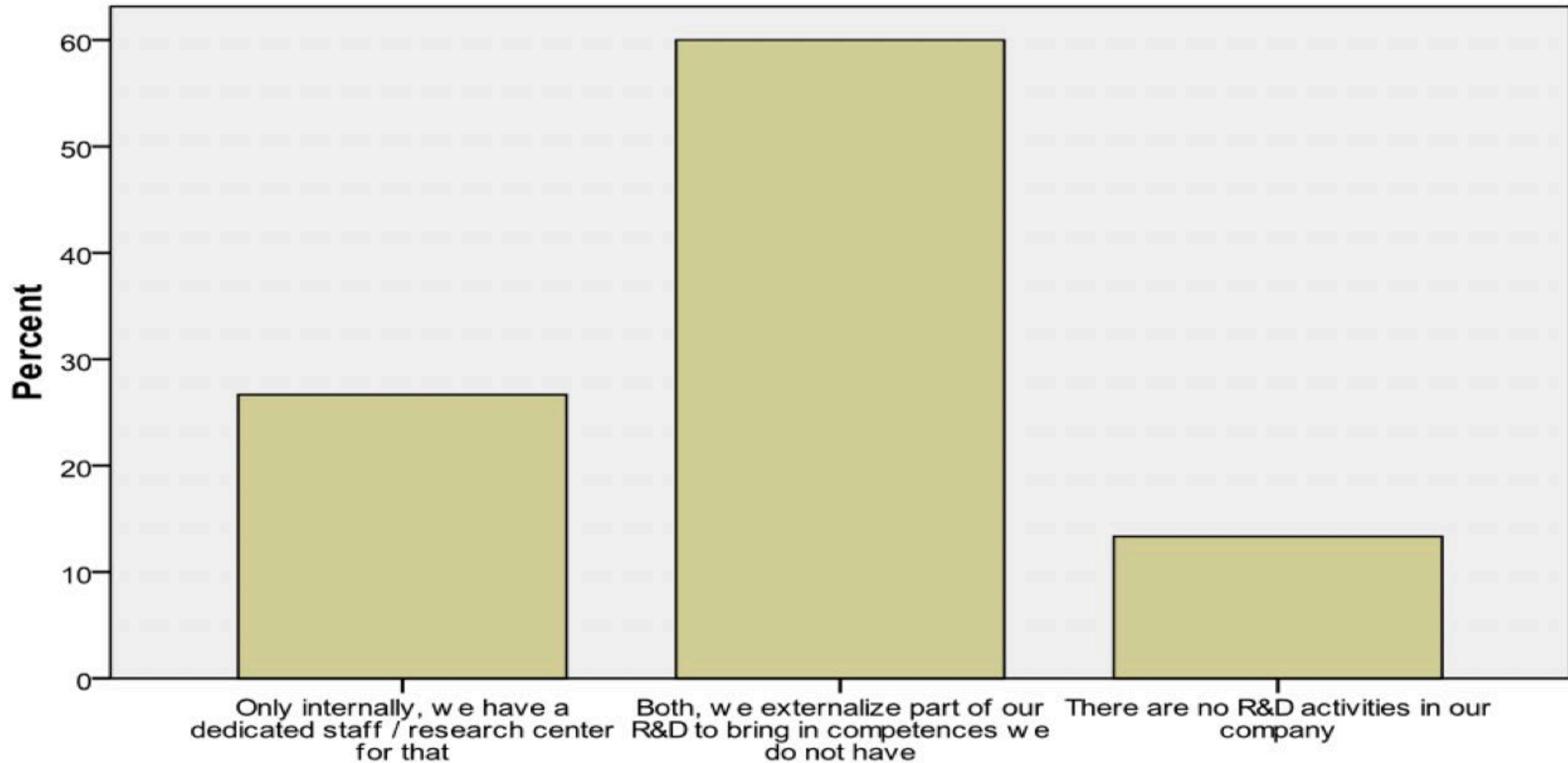


Business size	Frequency	Percent
A micro-business that has fewer than ten employees and either a turnover of up to €2 million or a balance sheet total of up to €2 million	3	20,0
A small business that has fewer than 50 employees and either a turnover of up to €10 million or a balance sheet total of up to €10 million	1	6,7
A medium-sized business that has fewer than 250 employees and either a turnover of up to €50 million or a balance sheet total of up to €43 million	4	26,7
A large-sized business that has more than 250 employees and either a turnover of more than €50 million or a balance sheet total of more than €43 million	7	46,7
Total	15	100,0

Business sector



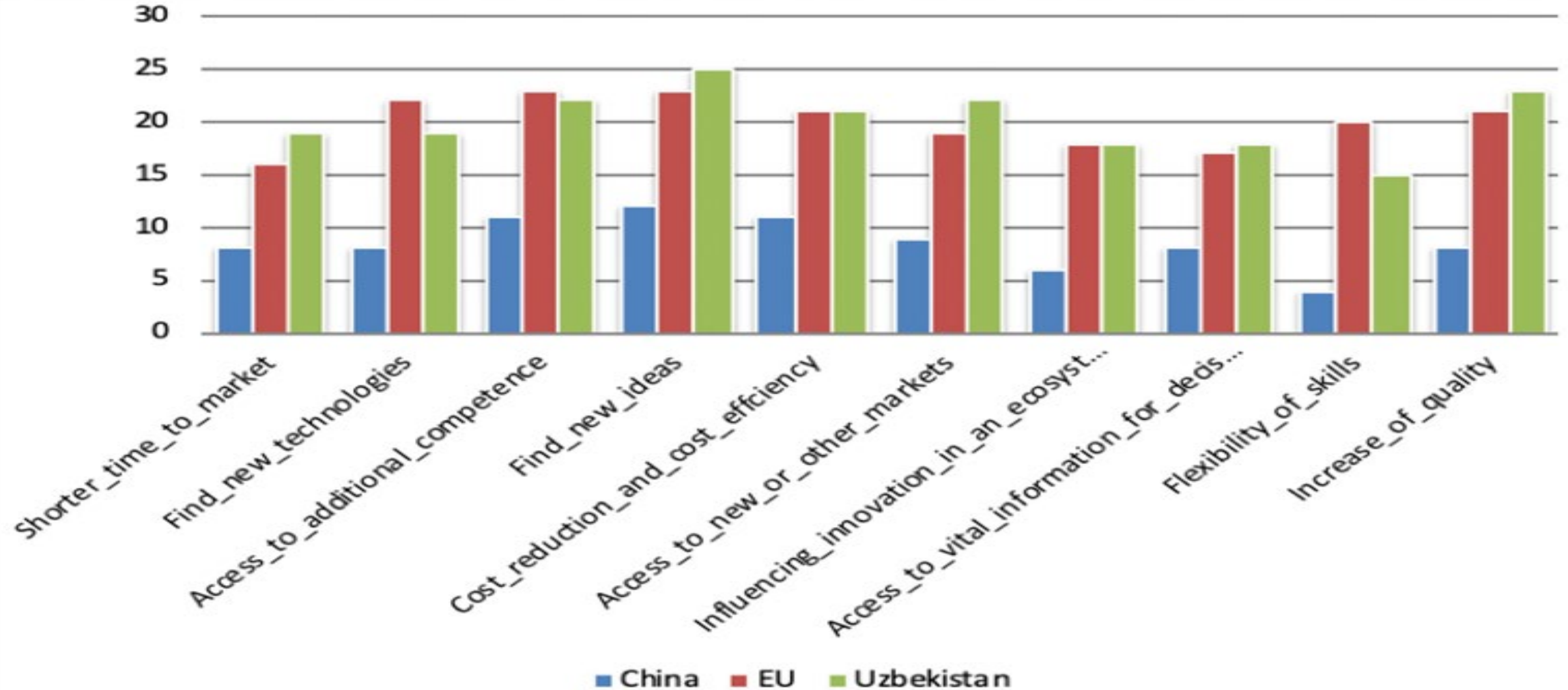
Survey Result - Internal vs External



Survey Result - Opportunities OI offers



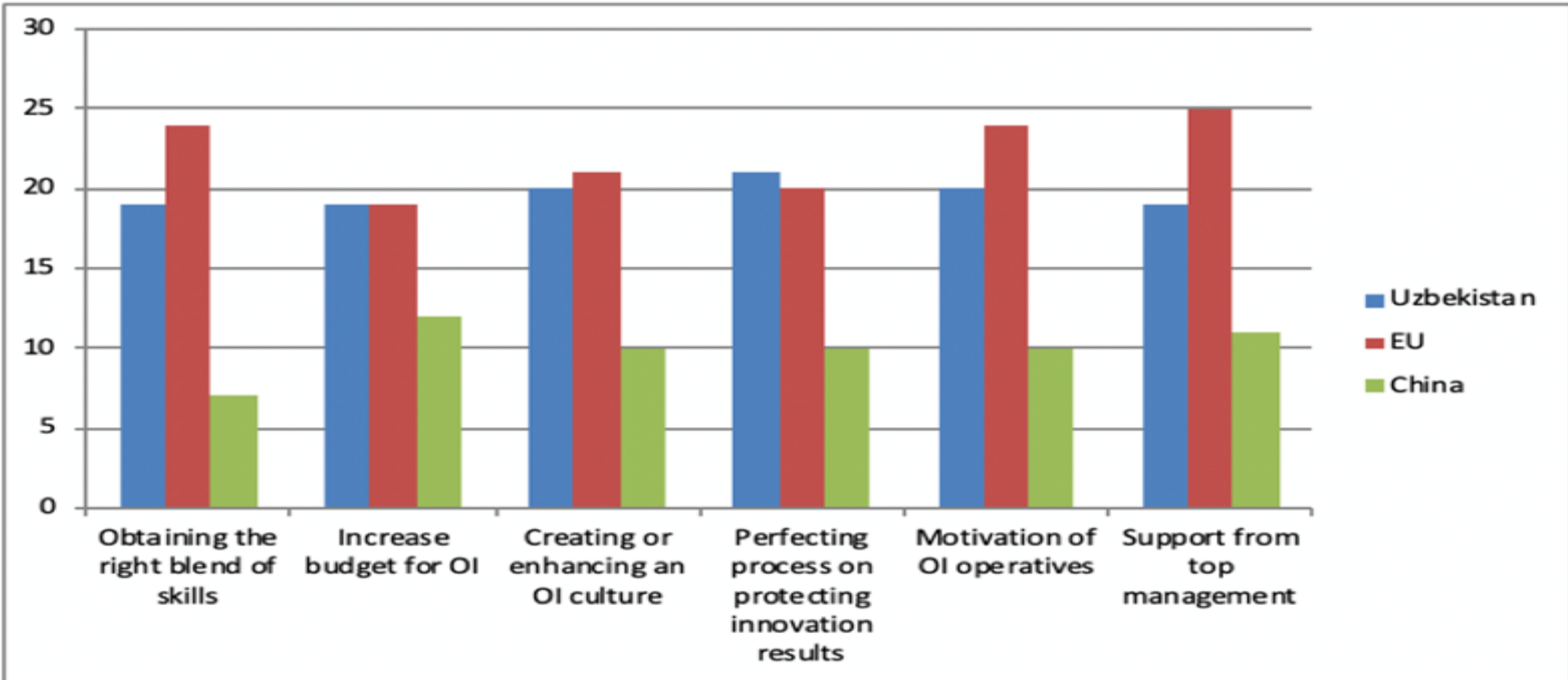
Opportunities by areas



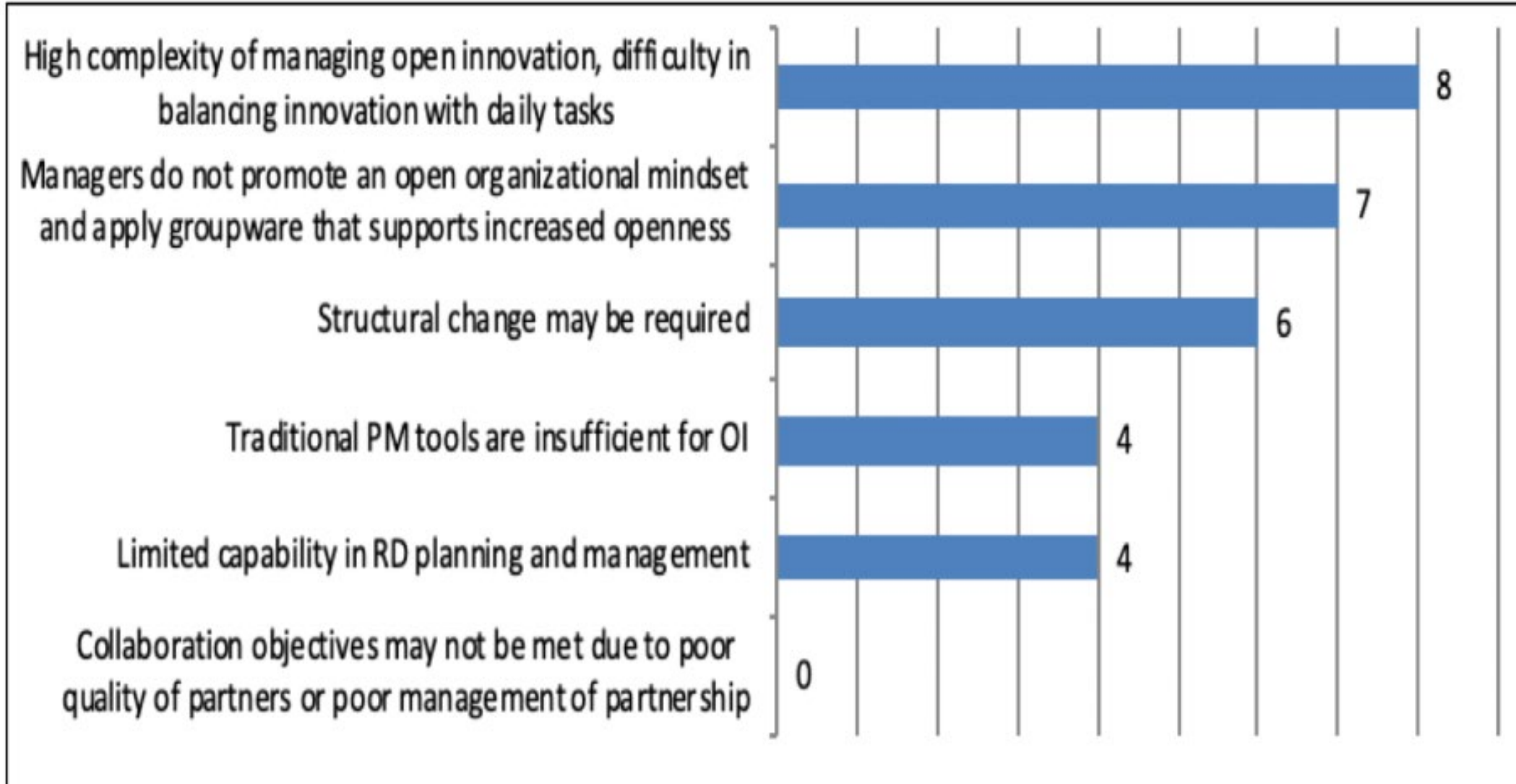
Survey Result – OI Enablers



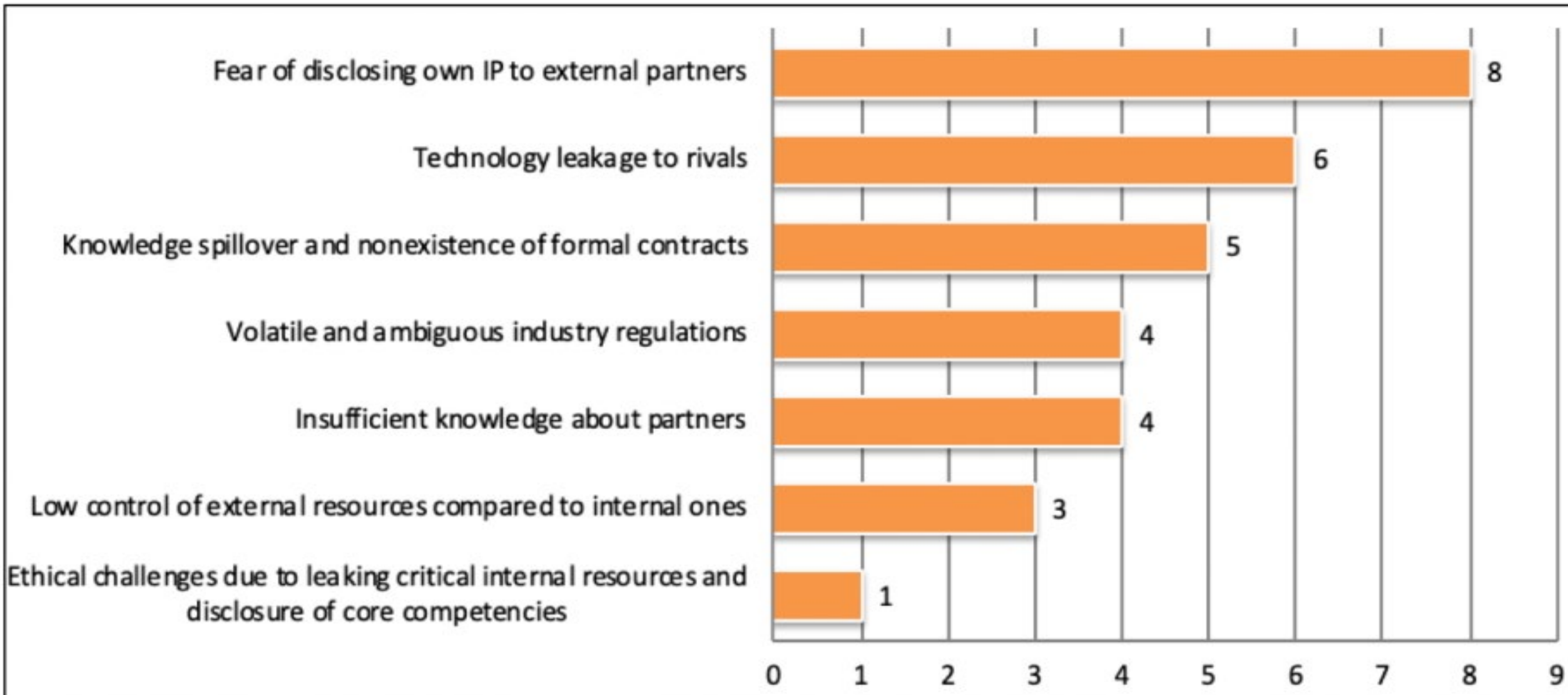
OI Enablers



Survey Results – Managerial and operational challenges



Processual and legal challenges



HR challenges



5

5

4

3

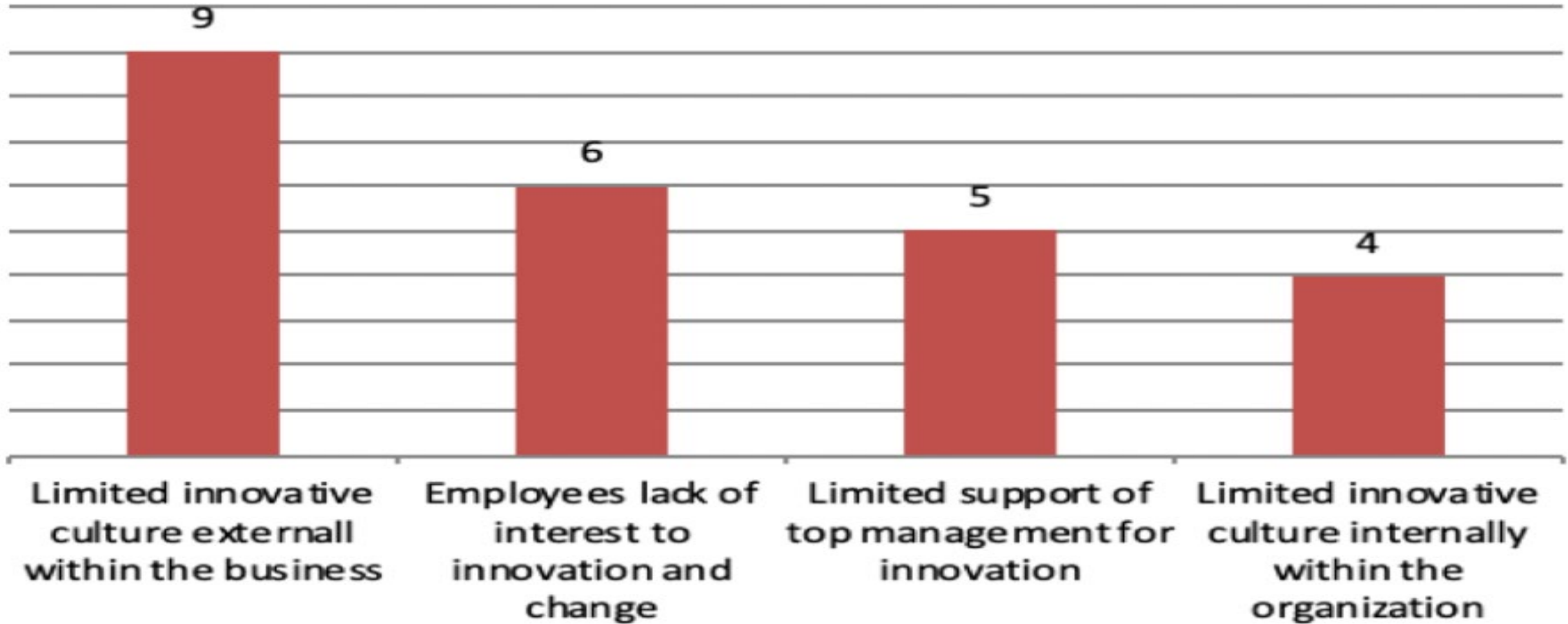
Insufficient technical expertise
or training of employees

Frequent turnover human
resources

Difficulty to find suitable HR in
the market

Employees resistance to
innovation and change

Cultural challenges



Business environment challenges



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Conflicting interests of partners,
developing dependency on
partners, relational risk

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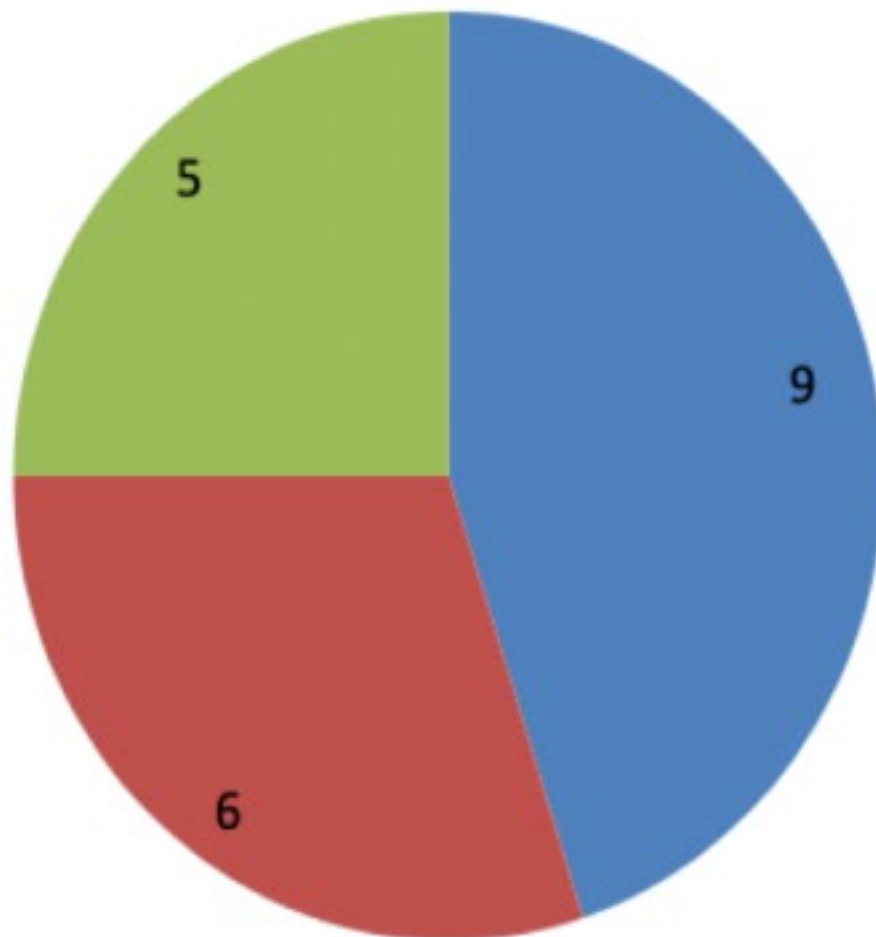
Insufficient expertise of partners
and unavailability of competent
external partners to provide the
necessary knowledge and
technologies

2



Lack of trust and communication
among partners, collaboration
suddenly dissolved due to partner
leaving

Financial challenges



- Higher management, coordination and control costs
- Lack of financial capital to support open innovation, high commercialization costs
- Very low rate of expenditure to RD



Conclusions



- Deepened understanding on the correlation between barriers and company scale and business market
- Our research has found based on (limited) survey results:
 - Most practiced OI action is scouting mission in general, and in outbound OI it is corporate business incubation and venturing
 - The most challenging OI action is crowdsourcing in general and IP out-licensing and patent selling in outbound OI.
- Further developed in categorizing the carriers for PI
- Limitation due to limited responses on survey
- Further research on deepening the categories of the OI measurements and find the potential characteristics lie in different countries or area

