

# Organizational and psychological details of OpenOffice.org suite adoption

S. Zappalà\*, F. Massei\*, M.Berti\*\*

\* University of Bologna - Italy

\*\* YACME Srl Bologna - Italy



# Agenda

- Speaker Introductions
- Ospedali Galliera migration project and implementation
- Research design
- Main measure and results
- Summary and Conclusions
- Q & A



# Bios

## Salvatore Zappalà

- *Professor in the Faculty of Psychology of Bologna University, focuses on “Psychology of work and organizations”.*  
*He currently teaches “Psychology of economical behaviour” in the “Psychology of organizations and services” graduation program.*

## Maurizio Berti

- *Partner of Yacme company of Bologna since September 2000.*  
*He's the supervisor of Yacme's OpenOffice.org division and is mainly involved in migration process management and training.*

# Migration?!?

It all began at the end of December  
2004...



Ospedali Galliera  
Genova

# Ospedali Galliera's structure

- Second health facility of Genova in size
- Nationally prominent and highly specialized
- 500 beds
- 1000 employees



Ospedali Galliera  
Genova



# Document Production

- 600 users, medium to low level skills
  - *Text documents*
  - *Spreadsheets*
  - *Presentations*
- About 20 document templates
  - *Text documents*
- Number of existing documents unknown

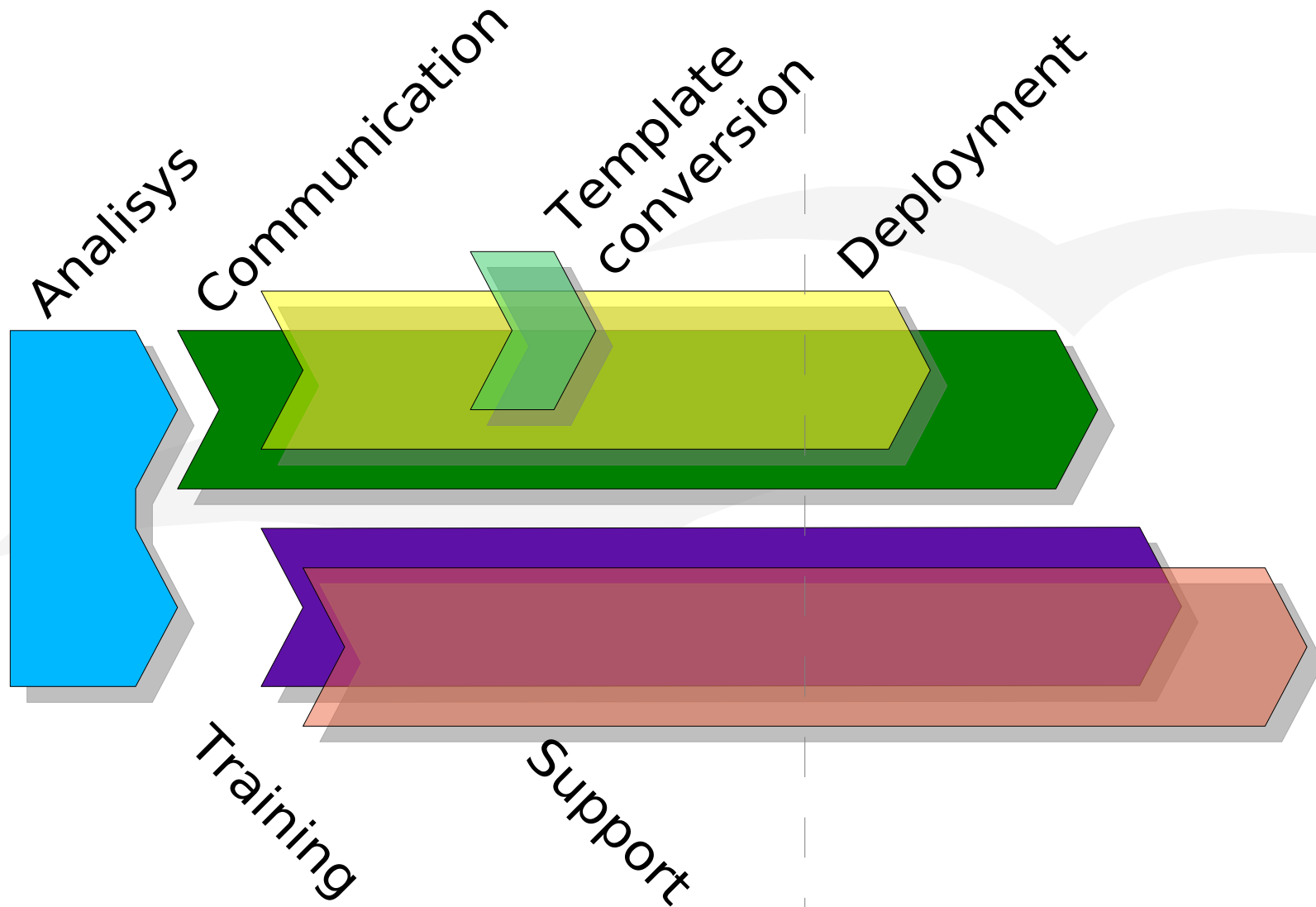


# Reasons of change

- Open and standard data formats and interfaces for interoperability
- Independence from unique supplier/technology
- Source code availability
- Data and document stored in many formats, at least one must be open

Directive December 19th 2003 – MIT

# Our plan



**MS Office  
uninstallation**



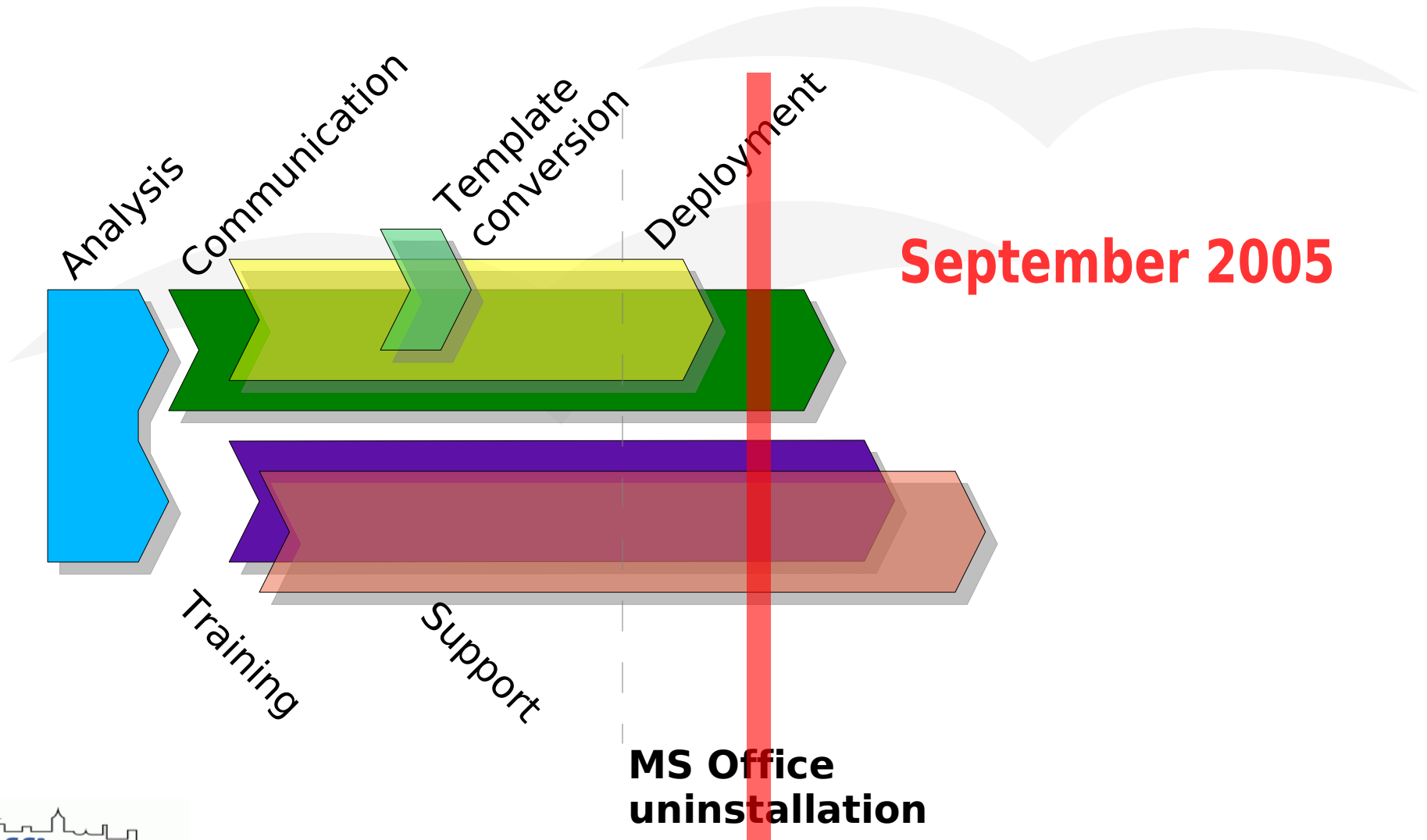


# Issues on the field

- Document exchange with the outside
- Conversion of complex spreadsheets
- A few operations too complicated
- OOo performance

# Now

Migration is planned to end by December 2005



**September 2005**

**MS Office  
uninstallation**



# A few figures

530 pc's installed with OpenOffice.org

- *463 pc's without MS Office*
- *29 pc's still with MS Office (Access, third party sw interaction)*
- *23 pc's with medical report software requiring MS Office*
- *15 pc's under control for temporarily unresolved issues*



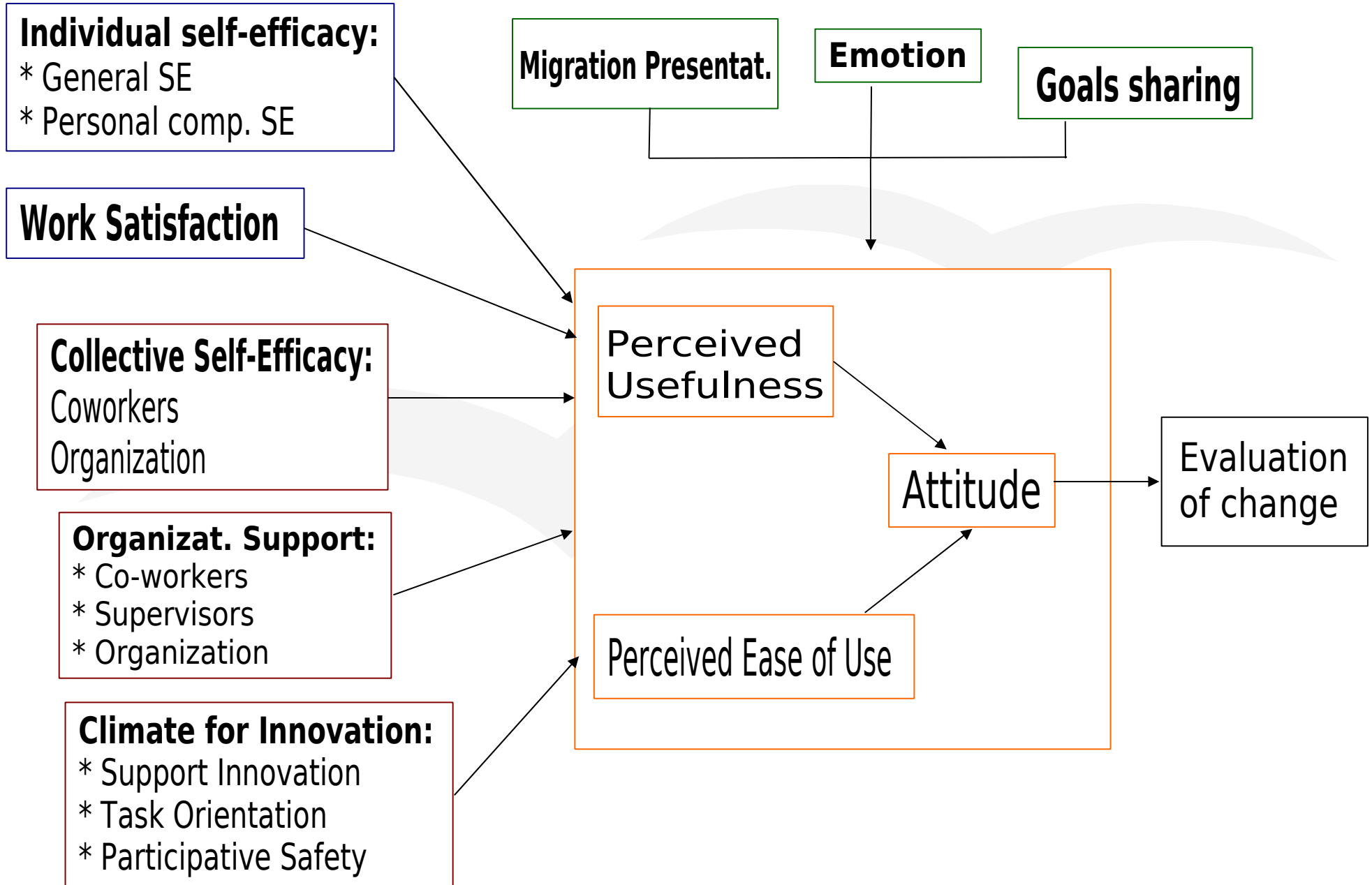
# ICT Adoption

Adoption of new technologies is related both to economic and technical reasons, and to organizational and psycho-social factors

“Users’ acceptance is the main factor for the success or failure of a new information system implementation (Davis & Ventakesh, 1996)”

“Understanding and creating the conditions under which the information systems will be embraced by the human organization remains a high-priority research issue” (Ventakesh & Davis, 2000)

# The project design





# Aims of the research

- To examine how organizational and individual variables are related to the acceptance of ICT within Galliera employees
- To test differences in attitudes to acceptance among different socio-demographic employees groups:
  - \* sex, education, role, type of contract
- To monitor acceptance and usage in the short and middle term after implementation

# The climate inventory for innovation

Organisational climate:  
*“shared perceptions of  
organizational policies,  
practices and procedures”  
(Anderson & West, 1998)*

Three factors (64% var.):

- \* *support for innovation*
- \* *task orientation*
- \* *participative safety*

Item example:

3) This firm/hospital is  
open and responsive to  
change

8) Members of the firm  
monitor each other so as  
to maintain a higher  
standard of work

15) Perspectives of each  
members are taking into  
account, even if a  
minority ones

# The technology acceptance model

T.A.M. : attitudes to a new IT are influenced by “usefulness” and “easiness” of technologies

Two factors (78% var.):

- \* *Perceived Usefulness*
- \* *Perceived Ease of Use*

“How much you agree”:

6) The use of the new system increases job performance

9) To interact with the new system will not require much mental effort

4) The new system will be easy to use





# Subjects

348 subjects involved in the migration

After the collective presentation, questionnaires offline and (later) online

N = 26 (52%) Offline

N= 24 (48%) Online but 2 unusable quest. removed

**Age:** mean age: 42 y.o, St. dev. 8,6; (range 26 - 57)

**Sex:** Male 44%, Female 50%, Missing 6%

**Contract:** 56% Full time, 38% Contingent workers

**Seniority:** mean age: 18 y.o, St. dev. 9,2; (range 0 - 33)

**Responsibility:** 65% No, 22% little, 13% a large group/s

# Predictors averages and correlations -1

	Av.	D.s	Al	Pc	WS	OS	SS	CS	C.	O.S	Cl.	Cl.	Cl.
			p.	SE					SE	E	SI	TA	PS
General Self-efficacy	<b>4,15</b>	,60	,76	,41									
PC Self-efficacy	<b>3,60</b>	1,01	,92				,30						
Work Satisfaction	<b>4,69</b>	1,50			,57	,64	,30	,37	,37	,59	,49	,49	
Organiz. Support	<b>2,68</b>	,71	,74				,80	,37		,57	,44	,40	,44
Superior Support	<b>3,09</b>	,85	,82					,56	,40	,70	,58	,62	,60
Coworks. Support	<b>3,65</b>	,78	,55						,56	,44	,40	,44	,42
Cowors. Self-Effi.	<b>3,58</b>	,90	,90							,46	,34	,36	,41
Organiz. Self-Effic.	<b>2,90</b>	,86	,93								,55	,53	,51
CL Supp. Innovat.	<b>3,23</b>	,83	,94									,84	,68
CL Task Analys.	<b>3,21</b>	,80	,89										,84
CL Particip. Safety	<b>3,10</b>	,65	,82										

# Predictors averages and correlations -2

	Av.	D.s	Al	Pc	W	Or.	Sup	Cw	Cw.	Or.	Cl.	Cl.	Cl.
			p.	SE	S	Sup	Sup	Sup	S.E.	S.E.	S.In	TOr	P.Sf
General Self-efficacy	<b>4,15</b>	,60	,76	<b>,41</b>									
PC Self-efficacy	<b>3,60</b>	1,01	,92				,30						
Work Satisfaction	<b>4,69</b>	1,50				<b>,57</b>	<b>,64</b>	<b>,30</b>	,37	,37	<b>,59</b>	<b>,49</b>	<b>,49</b>
Organiz. Support	<b>2,68</b>	,71	,74				<b>,80</b>	<b>,37</b>		,57	,44	,40	,44
Supervis. Support	<b>3,09</b>	,85	,82					<b>,56</b>	,40	<b>,70</b>	<b>,58</b>	<b>,62</b>	<b>,60</b>
Coworks. Support	<b>3,65</b>	,78	,55						,56	,44	,40	,44	,42
Cowors. Self-Effic.	<b>3,58</b>	,90	,90							,46	,34	,36	,41
Organiz. Self-Effic.	<b>2,90</b>	,86	,93								,55	,53	,51
CL Supp. Innovat.	<b>3,23</b>	,83	,94									<b>,84</b>	<b>,68</b>
CL Task Orientat..	<b>3,21</b>	,80	,89										<b>,84</b>
CL Particip. Safety	<b>3,10</b>	,65	,82										

# Attitudes and Contextual var. averages and correlations - 1

	Aver	D.s.	Al.	Eas.	Att.	Hap.	Enth	M.P.	S.G.	E.C
Usefulness	<b>2,36</b>	,87	,89	,37	,32	,37	,44	,50	,43	,43
Easiness	<b>3,07</b>	,91	,90		,56	,59	,74	,41	,67	,59
Attitude	<b>4,85</b>	0,98	,81			,50	,72	,43	,52	,47
Happiness	<b>3,53</b>	1,02	,81				,66	,33	,50	,58
Enthusiasm	3,68	,89	,80					,48	,71	,75
Migrat. Present.	<b>4,44</b>	1,51	,91						,66	,47
Shared Goals	<b>4,34</b>	1,44	,89							,66
Evaluation Change	<b>3,61</b>	,82								

# Attitudes and Contextual var. averages and correlations - 2

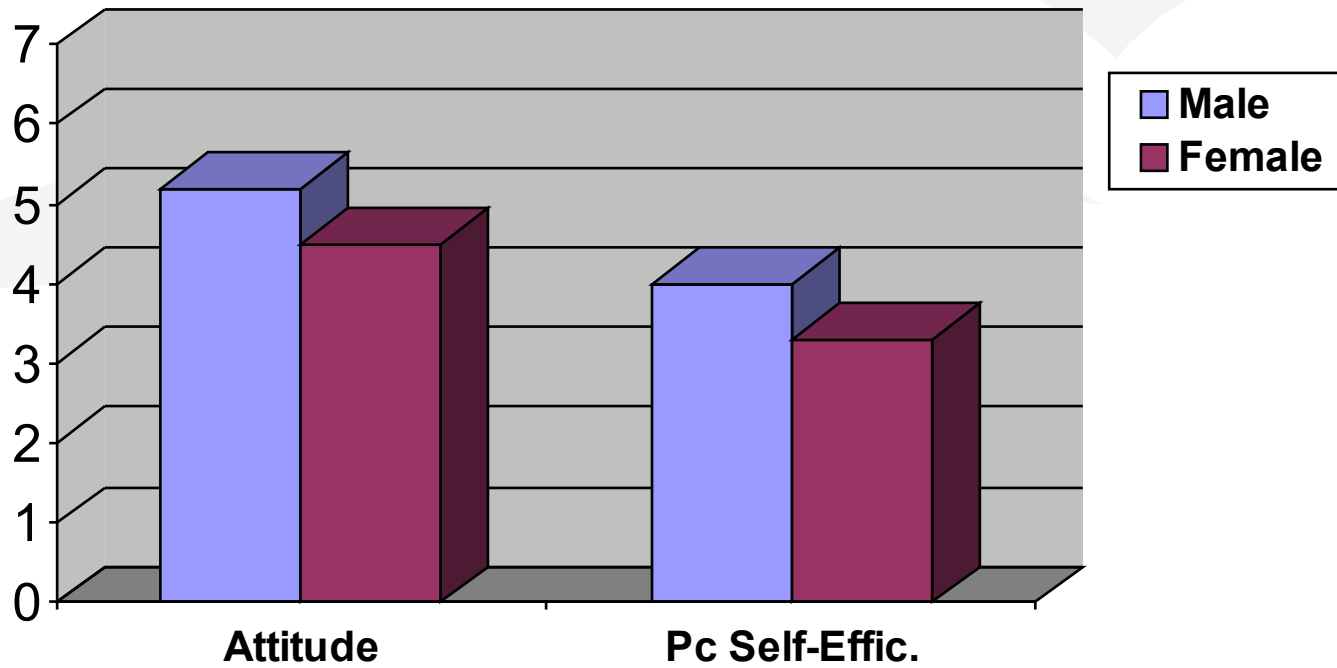
	Aver	D.s.	Al.	Eas	Att	Hap.	Enth	M.P.	S.G.	E.C
Usefulness	<b>2,36</b>	,87	,89	<b>,37</b>	<b>,32</b>	,37	<b>,44</b>	<b>,50</b>	,43	,43
Easiness	<b>3,07</b>	,91	,90		<b>,56</b>	,59	<b>,74</b>	,41	<b>,67</b>	<b>,59</b>
Attitude	<b>4,85</b>	0,98	,81			,50	<b>,72</b>	,43	,52	,47
Happiness	<b>3,53</b>	1,02	,81				<b>,66</b>	,33	,50	,58
Enthusiasm	3,68	,89	,80				<b>,48</b>	<b>,71</b>	<b>,75</b>	
Migrat. Present.	<b>4,44</b>	1,51	,91					<b>,66</b>	<b>,47</b>	
Shared Goals	<b>4,34</b>	1,44	,89							<b>,66</b>
Evaluation Change	<b>3,61</b>	,82								



# Predictors and attitude correlations

	Usefuln	Easiness	Attitude	Happiness	Enthusiasm	Mig. Pres.	Sh. Gls	Evl. Chng
General Self-efficacy		,29		,44				
PC Self-efficacy		<b>,58</b>	<b>,54</b>	<b>,48</b>	<b>,58</b>	<b>,40</b>	<b>,61</b>	<b>,50</b>
Work Satisfaction		,30						
Organizat. Support								
Supervis. Support		<b>,38</b>					<b>,35</b>	
Coworks. Support								
Cowors. Self-Effic.	-	-	-	-	-	-	-	-
Organiz. Self-Effic	<b>,33</b>	<b>,38</b>				<b>,39</b>	<b>,38</b>	
CL Supp. Innovat.	<b>,43</b>	<b>,44</b>		,31	,34	<b>,46</b>	,43	,40
CL Task Orient.	<b>,49</b>	<b>,35</b>				<b>,47</b>		
CL Particip. Safety	<b>,46</b>	<b>,46</b>			,31	,36	,42	,31

# Gender differences





# Summary and conclusions

1. The initial attitude towards OOo was rather positive
2. Attitude, but also Goals and Change were more influenced by:
  - \* *Easiness of Use, r.t. by Usefulness of new system*
  - \* *Pc Self-Efficacy*
  - \* *Positive emotional reaction/activation*
3. Climate for innovation has a wide effect both on evaluation and acceptance of the new system
4. Supervisors' support is very important as it is related both indirectly (through Organizat. Self -efficacy) and directly to Acceptance





# Questions?



# OOoCon 2005

Organizational and psychological details of  
OpenOffice.org suite adoption

***Thanks for your attention***

S. Zappalà, F. Massei, M. Berti