

1. Description du Modèle

The model represents a concrete team, and is aimed to exemplify how emotions and morality can be identified in SocLab, and to illustrate how such identification can help in auditing organisations or designing policies for promoting collaboration. The team is in charge of designing a methodology for Institutional Planning in the Public Sector (we will call it Team for Designing a Planning-Methodology, or TDPM). The model has been developed in interaction with persons who are or have been involved in the TDPM, with whom also the simulation results have been shared and discussed.

The TDPM is part of a *Public Foundation* entrusted with the investigation and development of socially pertinent free technologies, which in turn is part of the Ministry for Science and Technology of a LatinAmerican country (this will be called here, the Foundation). In order to give a first idea about its activities, it is pertinent to indicate that this Foundation has four departmental units for its basic activities, and a Management Unit. The basic units are:

- **Pertinence Unit:** advises other units about the relevance of technologies.
- **Development Unit:** produces the tools for the methodologies.
- **Research Unit:** designs free technologies methodologies, organisational forms and tools.
- **Technological Spreading Unit:** spreads the use of the methodology in the society.

1.1 The origin of the agency: The historical/cultural context of the organisation

In this sub-section, we will consider why the Foundation has been instituted, and which is its aim in terms of a short description of his historical/cultural context. This is so because the actual behavior of the Foundation do not depend only on the formal/normative design, but also on the culture of the Venezuelan society, i.e., of the Latinamerican culture. In fact, some cultural problems were the motivation for the design and creation of the organization. Because of this, it is important to briefly refer to the Latinamerican culture and his problems, with particular interest in the Venezuelan case.

Here, culture is understood as the essential character of human being, that is, as his language; i.e., that on what giving sense to phenomenon and behaviour are based. It is generated in community, in a Nation. A culture is in a good state if people looks for and *cultivates/cares* common good, and if it is auto-generative. A culture is auto-generative if it autonomously generated in accordance to the needs of the society. If the culture is in a good state, material things, and strategies (and/or planning) for achieving goals are created in relation to what is good for that culture. On the other hand, a culture is not autonomous when it is highly imitative and oriented by external influence, actors and interests, creating some processes of change that overpasses its auto-generative capacities.

Until the first decades of 1900, Venezuelan culture was in a good state. It was mainly of a rural character, auto-generative, and common good (including the culture) were cultivated. After these decades, a high percentage of people from the country side moved to the cities (the relation: “people in the cities/ people in country side” changed from 80/20 to 20/80) due to an increase of work opportunities in the cities, as a consequence of the important new monetary income, sourced on the export of oil. Along this, imitation of other cultures facilitated by the opportunities the new income allowed, and promoted by communication media like radio, TV, CINEMA, etc., increased the demand for material instruments and beings that were poorly pertinent for the Venezuelan society (this kind of non culturally pertinent material things are not common good) in detriment of common good. Afterwards, over time, also the quality of education and caring of common good in general decreased. Finally, the Venezuelan culture became ill in the sense described above as it lost its auto-generative capacity.

Under this state of things, organizations (including institutions) also have poor behavior and have little sense for many people inside and outside the organization itself. Actors in the organizations often have “bad”

attitudes, distracting and directing their effort towards activities different from their duties, for instance, in favor of personal interests. These attitudes have created or are part of a cultural and institutional problem.

Some researchers and public servers aware of this cultural and institutional problem have promoted the creation of the Foundation of which the TDPM forms part, aiming at dealing with and changing such a situation. This was considered as a first step towards more widely changing public organizations in order to improve the social *pertinence* of public good, i.e., to increase its social validity and impact. In this sense, a critical/reflexive attitude should be promoted (*reflective/CriticalAction*), and the spreading of the products will be important, in order to be able to discern about pertinent/appropriate technologies and to increase their impact. This is why, apart from the research and development units (existing in any other organizations related with technological or scientific promotion), the Foundation also has the pertinence and technological spreading units. The concept of technology includes not only specific tools, but also organisational forms, and methodologies to implement such organisational forms.

1.2 Its job, activity what are the expected services and products: ...

Each Unit has a role in each project of the Foundation, working all together to achieve the aim of the project. Thus, their interrelationship is basically found in each project. As said above, the Foundation must help in increasing technological social pertinence in the Venezuelan society. In this sense, the most important tasks are to reflect about the nature of the Venezuela society, its problems and needs; and then, from here, define the character and specifications of pertinent technologies. These are the tasks of the *Pertinence Unit*.

After a certain technology is considered pertinent, the *Research Unit* should design such a technology, and then the *Development Unit* should develop the tools to implement it, in accordance to that design. Finally, the *Technological Spread Unit* should work along the communities of users to assist them and facilitate the use of the technologies, in order to expand their use and generate social benefits. This process is shown in Fig. 1. for the particular case of developing a methodology for planning in the public sector (carried out by the TDPM).

The meeting/dialogue activity (in the middle of figure 1) is an important activity to *coordinate* action of the different actors of a team working, and increase the *common understanding/view* of the project. This activity allows planning, and re-planning, of activities and tasks. It helps in increasing the synergy of the team; preventing, reducing and eliminating conflicts; promoting collaboration and preventing duplicated efforts; expanding knowledge of an actor about the duty and situation of other members of the team, as well as about the situation and whole nature of the project.

The Foundation has been involved in projects of software, hardware and telecommunications, in collaboration with other public institutions and enterprises. Among the kind of projects, actually being developed or developed in the past, we can mention:

- A methodology for free software development.
- An integrated free system for public administration (SAID), which assists institutions and organisations in finance, budget management, etc.
- Software security for the public sector.
- Comunitas: a project aimed at increasing people awareness about their social, community, and environment situation in order to increase people's socio-environmental participation and responsibility.
- Digital Television.
- A methodology for planning in the public sector (being developed by the TDPM).

1.3 The TDPM

The TDPM includes seven actors coming from all the five units of the Public Foundation: two actors from the Research Unit, two actors from the Development Unit, and one from each of the three other units. The work process of the TDPM follows the cycle shown in Fig. 1. Each actor of the team has some duties and controls some relations, as explained below:

- Director. It controls the relation: *projectSupport*. It expresses the degree of involvement of the director in the project, in order to control the work, and, in proportion, give the needed means.
- Researcher_C. It designs the planning methodology, and specifies the requirements of the tools. It controls the relation *researchMeth_C*. The state of this relation evaluates the quality of the methodology – highest values mean that the methodology is easy to spread, but possibly difficult to implement.
- Researcher_W. It operatively helps the Researcher_C. It controls the relation *researchMeth_W*.
- Developer_C. It develops software tools, and so controls the relation *develTool_C*, which represents the strategical tasks for the development of the software tools for the planning methodology.
- Developer_W. It helps the developer_C actor operatively, developing particular functionalities of the software, and controlling the relation *develTool_W*.
- pertAdviser_C. It is responsible for advising the rest of the team about the social pertinence of the methodology, controlling the relation *pertinence*.
- techSpreader_W. It is responsible for technological spread, for promoting the use of the methodology, controlling the relation *techSpread*.

1.4 The members' expected behaviours

The Foundation requires workers highly identified and committed with the Foundation, and strongly collaborative with their partners. Ideally, the workers must show a specially critic and autonomous attitude, cultivating themselves in this way, in order to find out the sense and pertinence of the technology in Venezuela. It is expected that the higher the collaboration of all actors and the coordination/synergy of their interaction, the better the quality of the products of the project/team.

1.5 The actual (deceiving) outputs of the agency

However, non-surprisingly the above named bad attitudes and cultural problems of the Venezuela culture, context of the Foundation, have also appeared in the Foundation itself. A common wrong attitude is to give little attention to the organizational duties, and preference to personal and familiar activities, their membership to a political party, or to academicism. Fortunately, not all actors have this kind of behaviour and there can be found also actors highly compromised with the organisation. We have then that some actors of the team are highly engaged and creative, identified with the organisation, while other members of the team are weakly identified with the organisation, and thus their work is of less quality and they are little creative.

In the TDPM, the actors *pertAdviser_C*, *researcher_C* and *developer_C* reveal to be positively engaged; while the other four actors are distanced at different degrees.

2. Acteurs et solidaritŽs

2.1. Identification des acteurs

2.1.1. director

Description : This actor is conformed by the director of the organisation and his assistant. It controls the relation *projectSupport*, understood as the director interest in the project, and reflected as work report and evaluation mechanisms, as well as assistance to the team in general, e.g., material assistance (computers, video beams, transport and communication media, monetary help for meetings and workshops). The assistant is who participates in the meetings of the team and reports to the director.

2.1.2. researcher_C

Description : Designs the planning methodology, including its main processes and how these processes will be carried out. This actor specifies also the main characteristics and requirements of the tools needed for the methodology, and must know very well about the best known planning methodologies, and brings ideas from them. His involvement is strategic, controlling the relation researchMeth_C. He has become in practice the head of the whole team, and is responsible for generating the plans and direction of the project, after consulting and discussing with the rest of the group and with the director.

2.1.3. researcher_W

Description : Operatively helps the researcher_C, doing only at most the work it is assigned to. For instance, to describe detail of some particular steps of the methodology. It do not understand well the whole methodology. It is an actor preferring to receive or to take than to give in the team, and so weakly engaged.

2.1.4. developer_C

Description : It develops software tools for the methodology. It is positively engaged and his behaviour is strategical.

2.1.5. developer_W

Description : It helps the developer_C actor operatively, developing particular functionalities of the software. The deloper_C has to remember him about his tasks and continuously assist him in order to keep him working. He prefers to receive or take than to give, being weakly engaged to the team..

2.1.6. pertAdviser_C

Description : It is responsible for advising the rest of the team about the social pertinence of the methodology and the software tool. It is positively engaged.

2.1.7. techSpreader_W

Description : It is responsible for technological spread, i.e., for promoting the use of the methodology and its tools by the public sector. For this, it has to help users of the methodology in its implementation and use. It has a weak engagement to the team.

2.2. SolidaritŽs

solidarity	director	researcher_C	researcher_W	developer_C	developer_W	pertAdviser_C	techSpreader_W
director	0.8	0.0	0.0	0.0	0.0	0.2	0.0
researcher_C	0.0	1.0	0.0	0.0	0.0	0.0	0.0
researcher_W	0.0	0.0	0.9	0.0	0.0	0.0	0.1
developer_C	0.0	0.0	0.0	1.0	0.0	0.0	0.0
developer_W	0.0	0.0	0.0	0.0	1.0	0.0	0.0
pertAdviser_C	0.2	0.0	0.0	0.0	0.0	0.8	0.0

techSpreader_W	0.0	0.0	0.1	0.0	0.0	0.0	0.9
-----------------------	-----	-----	-----	-----	-----	-----	-----

Matrices des solidarités entre acteurs. Chaque cellule représente la solidarité qu'un acteur (en ligne) accorde à un autre (en colonne). La valeur absolue indique l'intensité de la solidarité, elle peut être positive ou négative.

2.2.1. Solidarité de director

^ Pour director : President is consistent with his own interest

^ Pour pertAdviser_C : The director and pertAdviserS have a similar interest outside the team, as they are part of a group active in politics.

2.2.2. Solidarité de researcher_C

^ Pour researcher_C : This actor is consistent with his own interest

2.2.3. Solidarité de researcher_W

^ Pour techSpreader_W : techSpreaderO and developerO have a similar interest different from that of the project and of the organisation, as they are part of a group active in academics.

2.2.4. Solidarité de pertAdviser_C

^ Pour director : The director and pertAdviserS have a similar interest outside the team, as they are part of a group active in politics.

2.2.5. Solidarité de techSpreader_W

^ Pour researcher_W : techSpreaderO and developerO have a similar interest different from that of the project and of the organisation, as they are part of a group active in academics.

3. Relations

Relation	Controller	Bmin	Bmax	Frequence
projectSupport	director	-10.0	10.0	1.0
researchMeth_C	researcher_C	-10.0	10.0	1.0
researchMeth_W	researcher_W	-10.0	10.0	1.0
develTools_C	developer_C	-10.0	10.0	1.0
develTools_W	developer_W	-10.0	10.0	1.0
pertinence	pertAdviser_C	-10.0	10.0	1.0
techSpread	techSpreader_W	-10.0	10.0	1.0

Liste des relations pertinentes du SystŽme d'Action Concret.

effect	director	researcher_C	researcher_W	developer_C	developer_W	pertAdviser_C	techSpreader_W
projectSupport							
researchMeth_C							
researchMeth_W							
develTools_C							
develTools_W							
pertinence							
techSpread							

Matrice rŽcapitulative de l'ensemble des fonctions d'effet.

For all actors, up to some point it is good for the actor to engage on its duty (the relation it controls). After that point the actor becomes distressed because of the high level of work, and because hard work takes time the actor prefers to spend in activities different from the project.

Also, in general, for all relations, the effect of a relation someone else (an actor B) controls in an actor A increases as the collaboration (level of the relation the other actor B controls) increases. However, the effect of changes of the relation around the nule point (0) have a higher change in the effect than changes occuring far from this point (closer to the extreme points 1, or -1).

3.1. projectSupport

Description : The director involves himself in the project: he assists and controls the work and, in proportion, gives the needed means.

	director	researcher _C	researcher _W	developer_ C	developer_ W	pertAdvise r_C	techSprea der_W
projectSup port							

Matrice des fonctions d'effet de la relation "projectSupport".

Intervalle	Interpretation
[-10.0 ; -5.0]	project support is poor. The director might be very busy or his attention to the project is low. He might have other priorities. The project might take a way of research to which later he does not agrees with
] -5.0 ; 0.0]	there is a low level of project support. The director controls and support the work but such as control is not good enough to guarantee a good direction of the team's job
] 0.0 ; 5.0]	project support is good, the director is able to check and feedback work of the team properly without perturbing their job.
] 5.0 ; 10.0]	project support is high. The high control of the work might perturb activities of the team, as they need to continuously spend time for elaborating reports in detriment of the activities of the project

Echelle d'intervalle de la relation "projectSupport" et interprŽtation(s) sociologique(s) associŽe(s).



Effet sur director

Justification : For all actors, up to some point it is good for the actor to engage on its duty (the relation it controls). After that point the actor becomes distressed because of the high level of work, and because hard work takes time the actor prefers to spend in activities different from the project.



Effet sur researcher_C

Justification : As the responsible of the project, he fully benefits of the director's support, but after some point the strict bureaucracy perturbs the actor activities. The higher the work control, the better for the coordination of the team and its effectiveness (also it helps to control deviations of the operative actors),



Effet sur researcher_W

Justification : In general, for all relations, the effect of a relation someone else (an actor B) controls in an actor A increases as the collaboration (level of the relation the other actor B controls) increases. However, the effect of changes of the relation around the nule point (0) have a higher change in the effect than changes occuring far from this point (closer to the extreme points 1, or -1).



Effet sur developer_C

Justification : As an engaged actor, he fully benefits of the director's support, but after some point the strict bureaucracy perturbs the actor activities. This actor is highly compromised with his duty, but he is also involved in other diverse activities, so work control perturbs his other activities.

3.2. researchMeth_C

Description : it state evaluates the quality of the lmethodology. Highest values mean easy to spread, possibly difficult to implement. It determines the state of the strategical design of the planning methodology, including its main processes and how these processes will be carried out, and the specification of the main characteristics and requirements of the tools needed for the methodology. It is necessary to deal with the best known planning methodologies, in order to bring ideas from them.

	director	researcher_C	researcher_W	developer_C	developer_W	pertAdvise_r_C	techSpreader_W
researchMeth_C							

Matrice des fonctions d'effet de la relation "researchMeth_C".

Intervalle	Interpretation
[-10.0 ; -5.0]	Quality of the methodology is poor, the methodology is bad designed and the processes are poorly described. There is bad specification of requirements for the software tool
] -5.0 ; 0.0]	The methodology is not well designed but there is some general linements about what it could be. These linements are not good enough to give the development of the software tool
]0.0 ; 5.0]	The methodology is designed in an standard form, and its design can guide the develoment of the software tool, but that work is not satisfactory at all
]5.0 ; 10.0]	The methodology is very well designed and guides satisfactorily the development of the software tool

Echelle d'intervalle de la relation "researchMeth_C" et interprŽtation(s) sociologique(s) associŽe(s).



Effet sur director

Justification : In general, for all relations, the effect of a relation someone else (an actor B) controls in an actor A increases as the collaboration (level of the relation the other actor B controls) increases. However, the effect of changes of the relation around the nule point (0) have a higher change in the effect than changes occuring far from this point (close to the extreme points 1, or -1).



Effet sur researcher_W

Justification : Nothing done by his colleague will point that he don't work hard, so he needs that the

research team produces something. BUT if his colleague is too much demanding is not is interest. The higher the strategically work for the methodology, the better for the operative design of the methodology. However, up to some point, after which the advance in the strategical design of the methodology generates high requirements to operative work, what collides with the interest of this actor in academics, this is less desirable by this actor.



Effet sur developer_C

Justification : The better specified the methodology is and the software requirements are, the better guided the strategically work for the software methodology will be. But it it may be difficult to implement.



Effet sur techSpreader_W

Justification : The better the methodology, the easier to spread it.

3.3. researchMeth_W

Description : Operative work about the design of the methodology , i.e., detail about how to implement it and carry out the processes. This operative work complements the strategical relation researchMeth_C.

	director	researcher_C	researcher_W	developer_C	developer_W	pertAdvise_r_C	techSpreader_W
researchMeth_W							

Matrice des fonctions d'effet de la relation "researchMeth_W".

Intervalle	Interpretation
[-10.0 ; -5.0]	Quality of detail about the methodology is poor. Actually, the actor prefers to dedicate its effort to academics (to some activity in collaboration with the university or to some course no connected with his duties in the organisation).
] -5.0 ; 0.0]	Quality of detail about the meth. is low. The actor dedicates more time to academics but also dedicates some time to operative research, though it is not enough for the needs of the project
]0.0 ; 5.0]	Operative research and detail about the method. is good but not enough for the need of the project. However, most of the need of the project are satisfied.
]5.0 ; 10.0]	Operative research is excellent. The actor is not dedicating time of the project for academics or other kind of activity (e.g., politics)

Echelle d'intervalle de la relation "researchMeth_W" et interprétation(s) sociologique(s) associée(s).



Effet sur director

Justification : The higher the operative work in the methodology the more the achievements of the whole methodology advances.



Effet sur researcher_C

Justification : The higher the operative work of he meth. the higher the help for the strategical work, as it allows to describe detail of the methodology. A poor contribution is negligible until it reaches a critical point from which its effect becomes important.

3.4. develTools_C

Description : This relation respresents the strategical tasks for the development of software for the planning methodology. Some of these tasks are to design the tools (software), to know about existing tools, to be aware about the pertinence and characteristics of these tools, in order to design one with good features in accordance to the needs of the public sector and the policies of the organisation, to plan its development, and to develop the planned functionalities. Its state determines the quality of this tasks.

	director	researcher_C	researcher_W	developer_C	developer_W	pertAdviser_C	techSpreader_W
develTools_C							

Matrice des fonctions d'effet de la relation "develTools_C".

Intervalle	Interpretation
[-10.0 ; 0.0]	bad quality and pertinence of the designed software. There is a highly unsatisfactory product
]0.0 ; 5.0]	The design of software is good, but the product is not good enough as to fit completely the requirements of the methodology.
]5.0 ; 10.0]	good quality of the design and of the product, in accordance to the requirements of the methodology

Echelle d'intervalle de la relation "develTools_C" et interprétation(s) sociologique(s) associée(s).



Effet sur director

Justification : The higher the level of the strategical development of the software, the better for the director



Effet sur researcher_C

Justification : The higher the level of the strategical development of the software the better for the strat. design of the methodology. However, it needs to reach a critical point before its effect became important.



Effet sur developer_W

Justification : The higher the level of the strategical development of the software, the better guided the operative development of software will be.



Effet sur pertAdviser_C

Justification : The higher the level of the strategical development of the software, the better for its pertinence and for facilitating this kind of work for the whole methodology.

3.5. develTools_W

Description : Indicates the quality of the operative work, i.e., detail at the level of developing software functionalities, for developing the software methodology. The product of this relation is complementary to that of the relation develTools_C.

	director	researcher_C	researcher_W	developer_C	developer_W	pertAdviser_C	techSpreader_W
develTools_W							

Matrice des fonctions d'effet de la relation "develTools_W".

Intervalle	Interpretation
[-10.0 ; -5.0]	Complementary work to develop software functionalities is poor.
] -5.0 ; 0.0]	Complementary work to develop software functionalities is low. It not enough for the needs of developer_C actor.
] 0.0 ; 5.0]	Complementary work to develop software functionalities is good for supporting develTool_C tasks and the rest of the project.
] 5.0 ; 10.0]	Complementary/operative level of work to develop software functionalities is excellent and wholly fulfills the needs of the whole project.

Echelle d'intervalle de la relation "develTools_W" et interprétation(s) sociologique(s) associée(s).



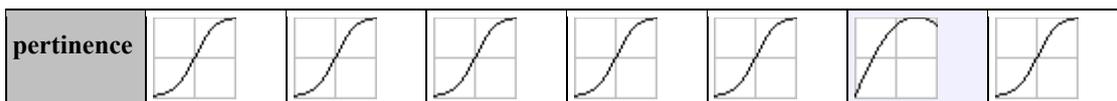
Effet sur developer_C

Justification : He fully benefits of the work done, even if little The higher the level of operative dev. of software, the higher the impact for strat dev. of software, as this activity will be facilitated and verified. However, a poor contribution is negligible until it reaches a critical point from which its effect becomes important.

3.6. pertinence

Description : Represents the state (in quantity and quality) of the action afforded for dialogue/reflection about social pertinence/validity of the planning methodology and its tools. It helps in choosing the form and specificities of these two elements in accordance to the goals of the organisation.

director	researcher_C	researcher_W	developer_C	developer_W	pertAdviser_C	techSpreader_W
-----------------	---------------------	---------------------	--------------------	--------------------	----------------------	-----------------------



Matrice des fonctions d'effet de la relation "pertinence".

Intervalle	Interpretation
[-10.0 ; -5.0]	Pertinence assistance and related dialogue are poor, and pertinence of the meth. and sub-products are poor. The pertinence of the sub-products is smaller than that of similar products found somewhere else (e.g., in the market or in the internet)
] -5.0 ; 0.0]	Pertinence assistance and related dialogue are low. The outputs of the team do not differentiates from those found some where else
] 0.0 ; 5.0]	Pertinence assistance and related dialogue are good. Sub-products are better than those found somewhere else, but the difference is not important
] 5.0 ; 10.0]	Pertinence assistance and related dialogue are excellent. It clearly overcomes available product in relation to its validity and good qualities for its application in the public sector.

Echelle d'intervalle de la relation "pertinence" et interprŽtation(s) sociologique(s) associŽe(s).



Effet sur director

Justification : The higher the level of pertinence, the better for the whole project.

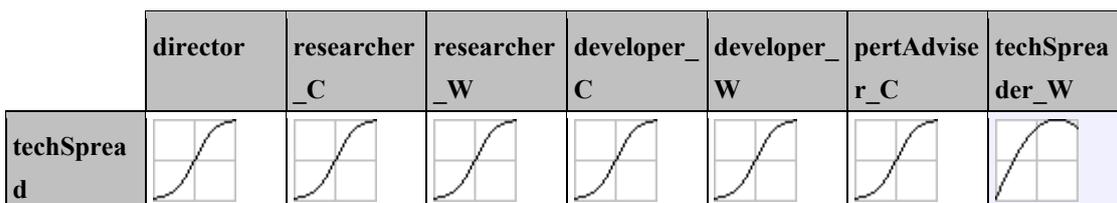


Effet sur researcher_C

Justification : The higher the level of pertinence, the better for the strat. dev. of the method, as each one of these activities facilitates the other.

3.7. techSpread

Description : Quantity and quality of the effort for promoting the spread of tthe methodology in the society. It should help in increasing usability of the planning methodology and its tools in Venezuelan public sector.



Matrice des fonctions d'effet de la relation "techSpread".

Intervalle	Interpretation
------------	----------------

[-10.0 ; -5.0]	Spreading of the methodology is poor. Contact with public sector with this aim is almost nule.
] -5.0 ; 0.0]	There is a low efford for spreading the methodology. There is a low promotion of the meth. in the public sector, which finds a defficient level of assitence in the team.
] 0.0 ; 5.0]	Good promotion and spreading of the methodology, but it still does not covers the needs of the users and the aims that the team has defined in this sense.
] 5.0 ; 10.0]	Promotion and spreading of the technology is excellent. It fulfills the expectation and needs of the public sector and of the team

Echelle d'intervalle de la relation "techSpread" et interprŽtation(s) sociologique(s) associŽe(s).



Effet sur director

Justification : The higher the level of technological spread, the better for the whole project.



Effet sur researcher_C

Justification : The higher the level of use of the methodology by the public sector, the higher the experience and the feedback for improving its strat. design.



Effet sur pertAdviser_C

Justification : The higher the technological spread, the better its pertinence can be verified in practice, and then improvements can be introduced.

4. Enjeux

stake	director	researcher _C	researcher _W	developer_ C	developer_ W	pertAdvise r_C	techSprea der_W
projectSup port	3.5	2.0	1.5	1.0	1.0	1.0	1.5
researchM eth_C	1.5	2.0	2.5	1.5	1.5	1.5	1.0
researchM eth_W	1.0	1.5	3.5	1.5	1.5	1.0	0.5
develTools _C	1.0	1.0	0.5	3.0	2.0	1.0	1.0
develTools _W	1.0	1.0	0.5	2.0	3.0	1.0	1.0
pertinence	1.0	1.5	1.0	0.5	0.5	3.0	1.5
techSprea d	1.0	1.0	0.5	0.5	0.5	1.5	3.5

Matrice des enjeux. La somme de la distribution des enjeux pour chaque acteur est normalisŽe à 10.

5. Constraints

Contraintes	projectSupport	researchMeth_C	researchMeth_W	develTools_C	develTools_W	pertinence	techSpread
projectSupport							
researchMeth_C							
researchMeth_W							
develTools_C							
develTools_W							
pertinence							
techSpread							

Matrice rŽcapitulative de l'ensemble des fonctions des contraintes.