

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Technology Transfer to Algeiennes Enterprises Which Impairment?

Dr. Djazia CHIB

Teacher, University of ABU BAKR BELKAID, Tlemcen, Algeria

Dr. Tarik SAIDI

Teacher, High School of Management, ESM, Tlemcen, Algeria

Abstract:

The technology transfer process (TT) has become a major issue for both political institutions and for economic actors. Technology transfer is a means for the construction of new economic activities through exchange of expertise between different structures. The transfer of technology not only enables rapid adaptation to technological developments but at the same time improve the ability of companies to innovate. Through the survey, we tried to analyze the major reasons behind the failures encountered after using the process of SCADA, the results provide useful information for the understanding of the latter. They validated the importance of contract negotiations as a key indicator influencing project dynamics and its ultimate success.

Keywords: process, technology transfer, failures

1. Introduction

Technology transfer is a complex problem that can be in different areas such as development economics, that of the industrial economy or that of the international economy. It can be exchanged between different countries, of equal or unequal development between business the same size or different size which can be from the same country or not, or even within the same firm between its subsidiaries.

The majority of work on technology transfer have focused on the problems of transfer between developed and developing countries as the work of L. Well, 1975; WY Hamami and V. Rutt, 1971; CA Rodriguez, 1975; Mr Fransman and King K. 1984.

On the macroeconomic level, this work is mainly based on what is called "technology gap", they analyze economic policies voluntarist which means the various incentives and support to improve the technology acquisition and mastery.

(J. Enos and UHPark, 1987, the direct or indirect involvement of the Government in the technology transfer process).

At the microeconomic level, the dominant literature that focuses on the term "transfer" and often refers to the distribution is based on the current industrial organization (Z. Griliches, 1957 E. Mansfield, 1961 ; to 1968).

The obstacles for technology transfer are numerous: lack of information, inadequate human capacity available, political and economic constraints such as lack of capital, high transaction costs, lack of pricing cost full, trade and political barriers. The lack of understanding of local conditions, assessment of financial risk, legal protection, the inadequate regulation.

There is no easy answer to improve conditions for technology transfer. The barriers must be identified, analyzed and classified in order of priority on a national basis. It must adapt measures to the nature of barriers, interests and influences of specific stakeholders to develop effective instruments to attract technology companies.

For a technology transfer takes place in the rules, it is subject to different methods depending on the countries that use. Indeed, for the latter to take place, it is necessary to hold an activity, skill or advanced technology, that may be relevant to an industry or a country. All this goes through an industrial cooperation agreement (patent license or know-how, industrial franchise, technical cooperation, technical assistance, outsourcing, creation of joint activities) that frame the transaction, after the partners have been found. Then follows the planning of the action implementation strategy and the establishment of technology transfer itself.

Concerning Algeria, it is a country that is not free from the technology transfer problematic because it does not have capacity for autonomous development.

2. What is the Technology Transfer (TT)?

The issue of technology transfer is very complex. In Greek terminology (see D. Ruach. 1999 p8), the word "*tran*" means the transition from one entity to another. Technology transfer can then be considered as the transition from a technology company to another, and in the case of international transfers from one country to another.

According to the United Nations (taken over by D. Ruach. 1999 p8), technology transfer "is the transfer of knowledge necessary for the manufacture of a product, application of a process or the provision of a service, and does not extend to transactions with the simple sale or simple lease of goods"

On a consolidated basis, the transfer of technology is a set of activities whose goal is to help a business or institution to master the skills and abilities needed for the effective use of new technology. So transfer technology is putting the purchaser in reproduction position of certain production processes while being able to explain and formalize. This results in transfer of knowledge and know-how of a compulsory way.

In the usual sense, technology transfer can be defined as a contractual transfer of information between partners. This assignment is to convey technical or knowledge, for financial compensation in favor of the holder. Broadly, the transfer of technology is a set of valuation of shares, consisting of a first industrial exploitation of the results of research.

We can define the transfer of technology as moving a technological and organizational know-how between partners for increased expertise and at least one partner knowledge who wants to strengthen its competitiveness.

3. The Conditions for Success of a TT

CNUCED stresses that the success of a technological partnership "mutually beneficial" depends on certain conditions, such as:

- Transparency patterns and structures
- Careful preparation
- Create the conditions for learning
- regular monitoring and evaluation of progress of the partnership
- Ensure that the working cycle is completed
- The trust must be present throughout the collaboration and take three profiles:
 - Contractual trust
 - Mutual trust
 - Confidence in Skills

4. Technology Transfer in Algeria

This study aims to identify problems and failures that have arisen after the transfer and integration of the technology of supervising the electricity grid system SCADA by the Canadian firm AREVA to SONELGAZ. The sample consists of 60 people affected by the process spread over Oran, Tlemcen, Mascara, SBA, Ain Temouchent, and Algiers through a survey (survey attached).

The questionnaire consists of 39 questions closed & open, the measurement scales used are Nominal & Ordinal (treatment tables on SPSS 21.0 statistical software attached).

Questionnaire data were analyzed according to a specific template:

- The Univariate analysis
- The Bivariate analysis
- The Multivariate analysis

The technique used in the multivariate analysis is the ACP: this is an exploratory factor analysis; the results of the analysis will be new hypotheses to expand and better understand the problem studied. The diagram of the main components (attached) helped us to review all the results.

The results of the interpretations have shown that after the transfer and integration of technology: supervising the electricity grid system SCADA by ALSTOM AREVA in SONELGAZ, there have been many failures such as the lack of maintenance of some positions that fail and unable to find replacement parts such as data cards, relay protection ...

Through this research we also found that the conditions of technology transfer have not been traded on well maintenance contracts that are critical to the system followed by the (spare parts, research lab, a service laboratory with this advanced technology ...).

There is no preventative maintenance plan, it should be noted also that a number of staff is not sufficiently qualified to acquire the knowledge and control relating to technology transfer which implies a lack of skills and the wrong choice of speaker to different operations (Telecom, SAP, OCR, ...) and finally the training by the technology holders (ALSTOM, AREVA) to stakeholders (Sonelgaz) are not 100% effective.

5. References

- i. André TIANO, Technology Transfer From Industrial, Ed. ECONOMICA, 1981.
- ii. Claude DURAND, "The international technological cooperation: technology transfers," Ed De Boeck 1994
- iii. Daniel and Joseph ROUIACH Klatzmann, "What I know: the technology transfer," Ed PUF 1993
- iv. Daniel ROUACH, "Technology Transfer Management: the art to cooperate, innovate, ensure" Ed PUF, 1999 Paris
- v. PEETERS ANNE, STOKKINK, "Globalization: understand to act" GRIP Editions, Brussels, 2002.
- vi. Arcangelo Figliuzzi, International Economics, Facts - Theories - Contemporary Debates, Ellipses, 2008.

- vii. Patrick Cohendet, Organizational Learning and consistency: the economic importance of the concept of network, the Discovery 1997
- viii. Bertrand Bellon and Ridha GOUIA, "Foreign Direct Investment and Industrial Development Mediterranean" Ed ADIS, and GREP Economica, 1998
- ix. Bertrand Bellon and Ridha GOUIA, "Foreign Direct Investment and Industrial Development Mediterranean" Ed ADIS, and GREP Economica, 1998,
- x. Noreddin Benfreha, "Multinationals, and Globalization: Challenges and Opportunities for Algeria," Ed Dahlab, 1999 Sekhi, Technology Transfer From Around The Public Sector and Private Algerian Analysis And Comparison, 1987.
- xi. Omar Benbekhti, "The State, business and management in Algeria» Ed Dar El Gharb, 2004;
- xii. FZ OUFRIHA and A. Djeflat, "Industrialization and transfer of technology in developing countries: the case of Algeria," Ed OPU and PUBLISUD, 1986 Algiers
- xiii. Philippe Kahn and Mahmoud Salem, Technology Transfer and Development, University of Dijon. technical libraries. Paris. 1977.
- xiv. Leger Robic Richard, Strategic Management Of Intellectual Property In The Subject Of Contracts International Transfer Of Technology And Business On Contracts Commons Business Law Centre and International Trade (CDACI) of the Faculty of Law of the University of Montreal the 1998.03.25. Publication 223.
- xv. Régis Larue Tournemine, "The role of multinationals in technology transfer: Case Study of relations between the EEC and India (Note)", International Studies, vol. 16, No. 2, 1985, p. 343-357.
- xvi. Biró Gerd., The new role of technology transfer in the Hungarian economy. In: Journal of comparative studies, East-West. Volume 10, 1979, No. 4. pp. 51-56.
- xvii. Technology Transfer, Standing Committee Of Law Of Patents Fourteenth Session; Geneva, January 25 to 29, 2010.
- xviii. PVILLIEU and AI Economic Review, Volume 49 No. 6, November 1998, pages 1415-1434.
- xix. RM Solow, Technical Change and the Aggregate Production Function, The Review of Economics and Statistics, vol 39, August 1957.
- xx. 2nd meeting of residents Algerian researchers abroad on the theme of "Advanced Technologies Development" 6-7-8 Algiers in December 2011.
- xxi. Swiss National Science Foundation Of Scientific Research, Multiannual Programme 2012-2016, Transfer Of Knowledge And Technology.

Annexure

Attachments

Treatment Questionnaire data on SPSS 21.0

Nom	Type	Largeur	Décimales	Etiquette	Valeurs	Manquant	Colonnes	Align	Mesure	Rôle
25 TT_mat	Numérique	8	0	transfert technologique du matériel	{0, NON}...	Aucun	5	Centre	Nominales	Entrée
26 expTT_mat	Numérique	8	0	expérience de transfert technologique du matériel	{0, NON}...	Aucun	7	Centre	Nominales	Entrée
27 Not_exp	Numérique	8	0	note expériences du TT	{1, NOT10}...	Aucun	6	Centre	Ordinales	Entrée
28 Pbl_TT	Numérique	8	0	problèmes du transfert technologique	{0, non}...	Aucun	5	Centre	Nominales	Entrée
29 pbl2	Numérique	8	0	manque de ressources	{0, non}...	Aucun	4	Centre	Nominales	Entrée
30 pbl3	Numérique	8	0	manque de pièces de rechange	{0, non}...	Aucun	3	Centre	Nominales	Entrée
31 pbl4	Numérique	8	0	pas de labo de maintenance	{0, non}...	Aucun	3	Centre	Nominales	Entrée
32 pbl5	Numérique	8	0	manque de compétences	{0, oui}...	Aucun	3	Centre	Nominales	Entrée
33 pbl6	Numérique	8	0	contrat mal négocié	{0, non}...	Aucun	3	Centre	Nominales	Entrée
34 Dem_TTmat	Numérique	8	0	demande par l'entreprise d' TT du matériel	{0, NON}...	Aucun	8	Centre	Nominales	Entrée
35 Faç_TT	Numérique	8	0	façon préférée du TT	{0, non}...	Aucun	5	Centre	Ordinales	Entrée
36 faç2	Numérique	8	0	conseil technologique, expertise	{0, non}...	Aucun	4	Centre	Nominales	Entrée
37 faç3	Numérique	8	0	ressources (équipement, laboratoires)	{0, non}...	Aucun	4	Centre	Nominales	Entrée
38 faç4	Numérique	8	0	capital	{0, non}...	Aucun	4	Centre	Nominales	Entrée
39 faç5	Numérique	8	0	licences, prototypes, développement prêt à marcher	{0, non}...	Aucun	3	Centre	Nominales	Entrée
40 faç6	Numérique	8	0	recherche sur demande	{0, non}...	Aucun	4	Centre	Nominales	Entrée
41 faç7	Numérique	8	0	formations	{0, non}...	Aucun	3	Centre	Nominales	Entrée
42 faç8	Numérique	8	0	contact informel	{0, non}...	Aucun	4	Centre	Nominales	Entrée
43 Pbl_TTmat	Numérique	8	0	problème dans le domaine du TT de matériel	{0, NON}...	Aucun	7	Centre	Ordinales	Entrée
44 Sign_IE	Numérique	8	0	signification de l'intelligence économique	{1, un moye...}	Aucun	5	Centre	Ordinales	Entrée
45 inf_util	Numérique	8	0	informé utilement	{0, NON}...	Aucun	5	Centre	Nominales	Entrée
46 surch_info	Numérique	8	0	surchargé d'information	{0, NON}...	Aucun	7	Centre	Nominales	Entrée
47 part_inf	Numérique	8	0	partage de l'information	{0, NON}...	Aucun	6	Centre	Nominales	Entrée
48 suivi_act	Numérique	8	0	suivi des principaux acteurs de l'environnement	{0, NON}...	Aucun	6	Centre	Nominales	Entrée
49 suivi_inf	Numérique	8	0	compété à recevoir l'information utile	{0, NON}...	Aucun	6	Centre	Nominales	Entrée

Figure 1

Nom	Type	Largeur	Décimales	Etiquette	Valeurs	Manquant	Colonnes	Align	Mesure	Rôle
1 Post_occup	Numérique	8	0	poste occupé	{1, directeur...}	Aucun	7	Centre	Nominales	Entrée
2 Fil_Sonelgaz	Numérique	8	0	filiale SONELGAZ	{1, SDO}...	Aucun	8	Centre	Nominales	Entrée
3 Org_TT	Numérique	8	0	organisation du transfert technologique	{0, non}...	Aucun	5	Centre	Nominales	Entrée
4 org2	Numérique	8	0	ALSTOM_AREVA	{0, non}...	Aucun	3	Centre	Nominales	Entrée
5 org3	Numérique	8	0	MATELEC	{0, non}...	Aucun	3	Centre	Nominales	Entrée
6 org4	Numérique	8	0	ABB	{0, non}...	Aucun	3	Centre	Nominales	Entrée
7 org5	Numérique	8	0	ENERGOINVEST	{0, non}...	Aucun	3	Centre	Nominales	Entrée
8 org6	Numérique	8	0	G.E	{0, non}...	Aucun	4	Centre	Nominales	Entrée
9 org7	Numérique	8	0	SIEMENS	{0, non}...	Aucun	3	Centre	Nominales	Entrée
10 org8	Numérique	8	0	NOVEXIA	{0, non}...	Aucun	3	Centre	Nominales	Entrée
11 org9	Numérique	8	0	SHNEIDER	{0, non}...	Aucun	3	Centre	Nominales	Entrée
12 org10	Numérique	8	0	AMC	{0, non}...	Aucun	4	Centre	Nominales	Entrée
13 Contact_Org	Numérique	8	0	Contact avec les organisations	{1, OUI}...	Aucun	8	Centre	Ordinales	Entrée
14 Mani_contact	Numérique	8	0	manière de contact	{1, on est e...}	Aucun	9	Centre	Ordinales	Entrée
15 Motiv_TT	Numérique	8	0	motivation de participation au projet du TT	{1, centre d...}	Aucun	6	Centre	Ordinales	Entrée
16 Contr_TT	Numérique	8	0	les contraintes majeures du TT à SONELGAZ	{0, non}...	Aucun	6	Centre	Nominales	Entrée
17 cont2	Numérique	8	0	manque de formation spécialisée	{0, non}...	Aucun	4	Centre	Nominales	Entrée
18 cont3	Numérique	8	0	problèmes de confidentialité, aspects légaux & droit de propriété intellect...	{0, non}...	Aucun	4	Centre	Nominales	Entrée
19 cont4	Numérique	8	0	aucun partenaire de recherche adéqua connu	{0, non}...	Aucun	4	Centre	Nominales	Entrée
20 cont5	Numérique	8	0	haut niveau de bureaucratie dans l'entreprise	{0, non}...	Aucun	4	Centre	Nominales	Entrée
21 cont6	Numérique	8	0	questions financières	{0, non}...	Aucun	4	Centre	Nominales	Entrée
22 cont7	Numérique	8	0	compétence insuffisante du partenaire de recherche	{0, non}...	Aucun	4	Centre	Nominales	Entrée
23 cont8	Numérique	8	0	les conditions du TT ne sont pas bien négociées sur les contrats	{0, non}...	Aucun	4	Centre	Nominales	Entrée
24 Eff_RD	Numérique	8	0	les efforts dans R&D	{0, NON}...	Aucun	5	Centre	Nominales	Entrée
25 TT_mat	Numérique	8	0	transfert technologique du matériel	{0, NON}...	Aucun	5	Centre	Nominales	Entrée

Figure 2

Nom	Type	Largeur	Décimales	Etiquette	Valeurs	Manquant	Colonnes	Align	Mesure	Rôle	
49	recup_inf	Numérique	8	0	capacité à récupérer l'information utile	{0, NON}...	Aucun	6	Centre	Nominales	Entrée
50	axe_inf	Numérique	8	0	axes de recherche d'information	{0, NON}...	Aucun	5	Centre	Nominales	Entrée
51	axe_infcoll	Numérique	8	0	axes de recherche d'information communiqué aux collaborateurs	{0, NON}...	Aucun	7	Centre	Nominales	Entrée
52	doc_inf	Numérique	8	0	utilisation de docs spécifiques pour remonter l'info	{0, NON}...	Aucun	5	Centre	Nominales	Entrée
53	serv_inf	Numérique	8	0	service pour les infos remontées	{0, NON}...	Aucun	5	Centre	Nominales	Entrée
54	analy_inf	Numérique	8	0	analyse systématique de l'info	{0, NON}...	Aucun	6	Centre	Nominales	Entrée
55	diffu_inf	Numérique	8	0	manière de diffusion de l'info	{0, non}...	Aucun	6	Centre	Nominales	Entrée
56	mani_diffu	Numérique	8	0	intranet	{0, non}...	Aucun	7	Centre	Ordinales	Entrée
57	man2	Numérique	8	0	messagerie internet/externe	{0, non}...	Aucun	4	Centre	Nominales	Entrée
58	man3	Numérique	8	0	process: formulaires, rapports	{0, non}...	Aucun	5	Centre	Nominales	Entrée
59	man4	Numérique	8	0	diffusion ciblée (part service, niveau hiérarchique)	{0, non}...	Aucun	4	Centre	Nominales	Entrée
60	man5	Numérique	8	0	formel (écrit)	{0, non}...	Aucun	4	Centre	Nominales	Entrée
61	man6	Numérique	8	0	informel (oral)	{0, non}...	Aucun	4	Centre	Nominales	Entrée
62	man7	Numérique	8	0	réunions	{0, non}...	Aucun	4	Centre	Nominales	Entrée
63	man8	Numérique	8	0	autres	{0, non}...	Aucun	4	Centre	Nominales	Entrée
64	stock_inf	Numérique	8	0	stockage de l'info dans des bases de données exploitables	{0, non}...	Aucun	6	Centre	Ordinales	Entrée
65	protect_inf	Numérique	8	0	procédure de protection des systèmes d'information	{0, NON}...	Aucun	7	Centre	Nominales	Entrée
66	strategic_inf	Numérique	8	0	formation des collaborateurs au caractère stratégique de l'info	{0, NON}...	Aucun	8	Centre	Nominales	Entrée
67	practice_IE	Numérique	8	0	l'entreprise pratique l'intelligence économique	{0, NON}...	Aucun	8	Centre	Nominales	Entrée
68	méth_IE	Numérique	8	0	intérêt au méthode de l'intelligence économique	{0, NON}...	Aucun	7	Centre	Nominales	Entrée
69	format_IE	Numérique	8	0	formation à l'intelligence économique	{0, NON}...	Aucun	7	Centre	Nominales	Entrée
70	market_concu	Numérique	8	0	l'entreprise sur un marché concurrentiel	{0, NON}...	Aucun	8	Centre	Nominales	Entrée
71	concu_m	Numérique	8	0	des concurrents à l'échelle mondiale	{0, NON}...	Aucun	7	Centre	Nominales	Entrée
72	market_inov	Numérique	8	0	l'entreprise sur un marché innovent	{0, NON}...	Aucun	8	Centre	Nominales	Entrée
73	pit_ess	Numérique	8	0	situations rencontrées dans l'entreprise	{0, NON}...	Aucun	6	Centre	Ordinales	Entrée

Figure 3

The ACP principal component diagram

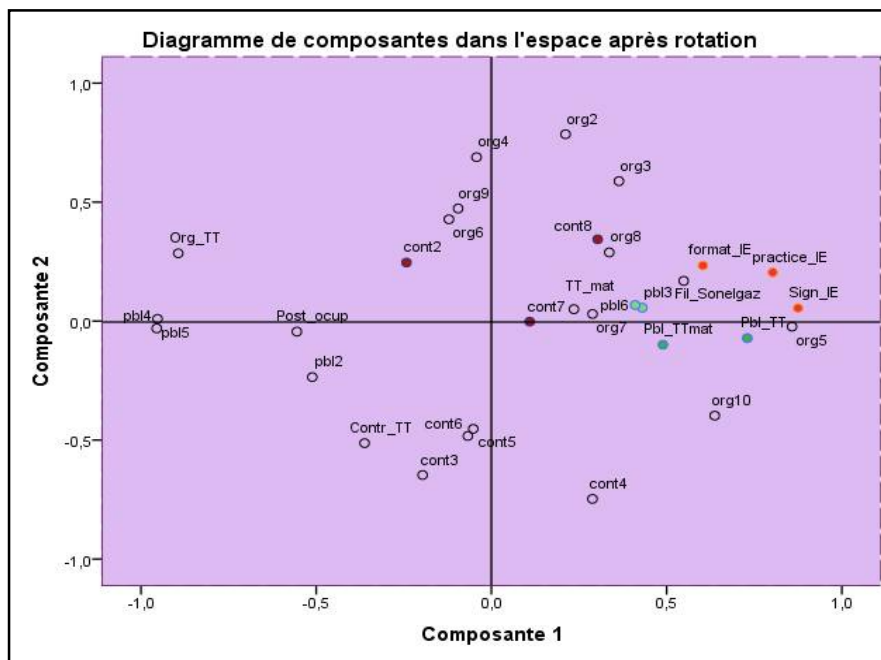


Figure 4