

SALES FORCE'S ATTITUDES TOWARD TECHNOLOGY: EVIDENCE FROM SPAIN

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ABSTRACT

Technology has changed company activity. It has equipped companies with elements which give them better and greater knowledge of their target audiences and clients. Within the commercial scope of organizations, it is important to understand which factors explain the use of technology. In this project, a study on vendors' attitude toward technology and on their use of technology is developed. We analyse different sales force opinions toward technology and develop a segmentation of vendors, characterizing each segment identified based on the variables used. The results show, technological use is related to the sales force job, the industry, the size of the organization, in relevance to the different vendors' segments.

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INTRODUCTION

Technology is an essential element for the development of organizations. Commercial and sales areas are no exception. Several studies have analyzed the development of different aspects of sales force automation. Sales force automation is a process wherein several organizations observe problems in adopting and implementing a strategy. The ratio of negative experiences in implementing technologies such as CRM or SFA (Sales Force Automation) is between 50% (Amerongen, 2006; Froom, 2000; Rigby, Reichheld and Schefter, 2002) and 75% (Kaido, 1999; Petersen, 1997).

It is important to understand which factors explain the use of technology. In this project, a study on vendors' attitude toward technology and their use of technology is developed. We analyzed different sales force opinions toward technology and develop a segmentation of vendors, characterizing each one of the segments identified based on the variables used.

The remainder of this paper is organized as follows. The next section examines the literature and develops the goal of this study. We then describe our data and methodology and discuss the results of our empirical tests. The final section includes conclusions.

LITERATURE REVIEW

Most companies implement sales technology in their sales forces with the aim of improving productivity, communication and customer relationships (e.g. Campbell, 1998; Goldenberg, 1996; Moncrief, Lamb & Mackay, 1991). In general, research on barriers to technology adoption is consistent with the general conclusion that organizational barriers are more important than technical barriers. Organizational barriers include issues such as fragmentation and poor relationships between functional departments, non-acceptance by the senior management of the strategic benefits of investment in technology and the absence of a clear strategy for implementation (Wright, Fletcher, Donaldson & Lee, 2008).

Schillewaert and others (Schillewaert, Ahearne, Frambach & Moenaert, 2005) note it is surprising that only a few marketing studies have dealt with adoption of sales technology within sales organizations.

Major studies have focused on consumer adoption (e.g. Steenkamp, ter Hofstede & Wedel, 1999), organizational adoption (e.g. Frambach, Barkema, Nooteboom & Wedel, 1998; Gatignon & Robertson, 1989) or salespeople's adoption of selling new products (Anderson & Robertson, 1995).

Parthasarathy and Sohi (1997) suggest that adopting automation systems goes through two stages. In the first stage, the organization takes the decision to adopt a technology, and then the vendors must choose whether or not to adopt that technology. This is a "dual adoption" (Buehrer, Senecal and Pullman, 2005). If adopting technology in the sales force is a dual adoption, for it to succeed, the second phase is critical.

In many companies, executives decide they must adopt technology and they make decisions on investments in technology for their organizations. Frequently, vendors do not understand the technology. They do not believe there is any real organizational support behind it and do not see any real benefits for them (Buehrer, Senecal and Pullman, 2005). Moreover, in many cases, once the technology is adopted, its implementation is not successful because the company management had not given adequate support (money and training) to technology or were not aware of the complexity of the system introduced.

Many academic studies have focused on technology adoption in the organization (e.g. Pullig, Maxham and Hair, 2002; Rivers and Dart, 1999), regardless of individual factors on the adoption of technology. Two exceptions are the work of Jones, Sundaram and Chin (2002) and Speier and Venkatesh (2002). There is also little development of the literature on the impact of information technology on individual performance (Avlonitis & Panagopoulos, 2005).

The literature indicates that a large part of the sales force do not adopt technologies, or adopts them using only a portion of their potential (Buehrer et al, 2005, p. 390). As indicated by Xu, Yurong, Yen, David C., Lin, Binshan and Chau (2002), employees' resistance is a main risk in implementing CRM technology. Several authors indicate the existence of factors which explain the underuse of technologies, such as (Jones, Sundaram, Chin, 2002): Natural inertia, Low perception of value (Cost vs. Benefit), Low support from the organization, Personal and demographic factors, and Low reward for change.

Many of these factors have not been empirically analyzed, and others were studied for some specific industry. Jones et al. studied the influence of individual variables on the intent-to-use for commission-based insurance agents. They found three variables explained intention to use the new technology: perceived usefulness of the new system, attitude toward the new system and the compatibility with the existing system. They also found that only salespeople's innovativeness influenced their extent of usage. Widmier, Jackson and McCabe (2002) found that technologies are heavily used for the contact management, generating proposals and scheduling. They also found that technologies were less used for automated sales plans, geographic route planning and qualifying the customer (Widmier et al., 2002).

The literature suggests the need to study the factors of the vendors' attitude toward technology in general, and evaluation of the benefits it provides. We believe that the role of vendor attitudes toward using technology, and the influence their work position, their industry or organization size has on vendors' opinions has not been sufficiently examined in the literature. We focus on evaluating vendors' attitudes regarding adopting technology in their activity, but our interest consists more specifically of determining if different vendor groups exist, characterised by showing similar attitudes toward technology.

Based on the previous evaluations, a segmentation technique was used which allows us to group vendors based on a series of items which indicate vendors' "attitude toward technology". Our hypothesis is based on the fact that vendors do not show homogeneous attitudes regarding using technology in their professional activity.

DATA AND METHODOLOGY

After revising the literature, several interviews were carried out with different vendors in order to adjust the items from the selected scales to the scope of commercial activity in Basque Country. Based on these interviews, the world café technique was applied to develop the questionnaire with the different items to be measured in the survey. Later, an empirical study was developed to collect the evaluations of vendors and sales managers. The field work for the empirical study was done between March and April of 2010. The sample type was a quota sample, wherein quotas were employed for vendor type and company activity variables.

The technique used was cluster analysis. This technique allows for making attitudinal segmentations. Cluster Analysis allows for determining how to group objects (brands, products, purchasers) into different segments within the population they form a part of.

After classifying the objects (vendors, in this case) into groups, we develop profiling for the different clusters or groups. We examine how different groups evaluate the items regarding attitude toward technology used to develop the groups. Later, we analyzed the profile of vendor groups or segments based on other classification variables used in the study, such as industry, company size, geographical scope of the company’s activity and sales position type from whence their activity is developed.

Table 1 shows the main results obtained, beginning with a descriptive analysis of the sample, and the main results from the issues referenced in each question on the questionnaire. The results show 54.5% of the sample is made up of vendors and 45.5% by sales force responsible for other vendors. The results further show 57.2% are men, and 42.8% are women. We see that 31.9% of the companies have less than 10 employees, 28.4% have between 11 and 49 employees, 20.7% of the companies have between 50 and 249 employees, and the leftover 19% have 250 employees or more.

The industries are distributed in an equal fashion, where a third of the companies are from the commercial sector, another third from industry and the remaining third from the services sector. 26% have their business scope in a local setting, 16.1% have a provincial scope, 14.7% regional, 24.5% have a nationwide scope, and 18.7% have an international scope. The majority of vendors, 82.3%, indicate that their organization uses new technologies.

Table 1: Descriptive Statistics of the Sample

		Percentage
Sales position	Vendors	54.5
	Sales force responsible for other vendors	45.5
Gender	Man	57.2
	Woman	42.8
Size of the company	Less than 10 employees	31.9
	between 11 and 49 employees	28.4
	between 50 and 249 employees	20.7
	250 employees or more	19

This table shows the percentages for the categories of the main variables used in the research

RESULTS

Respondents were asked about the use made of different technologies analyzed: mobile telephone, Black Berry, Smartphone, Pager, PDA or Electronic Agenda, computer, electronic pad, online communication platform, email, GPS, CRM, Databases, Social networks and others. For each technology, the use was differentiated between for the organization, the use for commercial information and control, the use for

vendor activity and the use for customer service. In Table 2, one can see, in general, a high usage of mature technologies such as the mobile phone, the computer, email, an average use of databases, and lesser use of more current technologies such as CRM, Web 2.0 or social networks.

Table 2: Usage Percentage of Different Technologies within the Scopes Analyzed

	In the Organization	For Commercial Information and Control	For Vendor Activity	For Customer Service	Media
Mobile phone	85.7	64.7	74.1	71	73.88
Black Berry	29.9	23.7	27.6	18.5	24.93
Smartphone	13.7	11.8	12.2	9.8	11.88
Pager	4.8	3.1	2.5	1.2	2.90
PDA (Electronic agenda)	23.6	14.1	17.4	8.5	15.90
Computer	91.5	83.6	79	74.1	82.05
Electronic pad	9.8	6.8	5.6	6	7.05
Online communication platforms (web 2.0)	33	23.6	23.9	28.6	27.28
Email	78.8	70.1	67.8	66	70.68
GPS	14.7	6.9	21.8	7.3	12.68
CRM	13.5	12.5	11.2	9.5	11.68
Databases	73	65.4	58.9	44.6	60.48
Social networks	19.1	10.8	12.9	19.9	15.68
Others. Indicate which one(s)	5	3.5	3.5	3.7	3.93

This table shows the utilization rates of different technologies. For each type of technology the use in various fields is shown: In the organization, for commercial information and control, for vendor activity and for customer service. In the last column the average values are included.

Table three shows that 56.7% of those surveyed consider technology to be used appropriately, as opposed to 16.9% that believe that technology is little or very little used in their company. In 61.9% of companies, technology is used very frequently or always. Only 26.2% of the vendors receive training with the new technologies in a habitual fashion, while 45.1% receive it on occasion.

Regarding whether the vendors are consulted for implementing new technologies within the commercial scope, 39.8% indicate that they are never consulted, 47.4% indicate that on occasion, and 12.8% indicate that they are always consulted for this type of decision. A third of those surveyed indicate that they participated in the implementation process for new technologies for sales force.

The vendors were asked about aspects regarding their attitudes concerning the use of technology and concerning the benefits of using said technology. The results are presented in Table 4. Vendors gave high scores to affirmations such as “technology is mandatory for any organization” (7.95 out of 10) and also that “technology improves the efficacy of my work, which translates to better results” (7.34 out of 10)

Included in affirmations with lower average scores is “it basically means more work for the vendor” (4.33 out of 10), “that technological difficulties are normal in my activity” (4.92 out of 10) and that “it is mainly applied at companies to control the vendor more” (4.95 out of 10). In general, we can see a favourable attitude toward technology from sales force who participated in the survey.

Regarding benefits, we highlight the high scores given by vendors to the majority of the aspects studied, particularly agreeing with the fact that technology means “agile and dynamic sales management” (7.72 out of 10), “having better and more updated information on clients” (7.64 out of 10) and “better-informed sales force” (7.61 out of 10).

Table 3: Participation and Training in New Technologies

Receives Training in New Technologies at Their Company or Organization			
		Frequency	Percentage
	Habitually	150	26.2
	On occasion	258	45.1
	I do not receive	164	28.7
Total	572	100.0	
Indicate If Vendors Are Consulted When Implementing a New Technology within the Commercial Scope			
		Frequency	Percentage
	Never	227	39.8
	Sometimes	270	47.4
	Always	73	12.8
Total	570	100.0	

This table shows the degree of participation of the vendors in the decisions about new technologies and information about their training. Frequencies and percentages are shown.

Analysis of Different Sales Force Typologies

In order to detect different vendor groups with similar characteristics, a cluster analysis was applied, using variables related to the attitude toward technology and to its benefits. The intent is that vendors in one same group be similar, and that they differ from vendors in other groups. As a grouping method, a hierarchal agglomeration procedure was used, as a linking method to the Ward method, and squared Euclidean as a distance measurement. After analyzing the results obtained and the different grouping possibilities, in 2, 3, or 4 clusters, the latter grouping was chosen, since the distances between the clusters show us an important leap in this grouping within the conglomeration record. The results obtained are also more consistent, which corroborates with the previous reasoning.

Table 4: Evaluations of Attitude and Benefits of Technology

Evaluations Concerning Attitude toward Technology Matters	Average	Stand. Dev.
I like to always use technology whenever I can, even if it is not necessary	6.613	2.186
I think technology is fun	6.490	2.200
Technological difficulties are normal with my activity	4.920	2.347
Technology improves the efficacy of my work, which translates to better results	7.341	1.903
I try to make it so the most modern technology is used at my organization	5.938	2.350
It worries me when the organization changes or implements a new technology	5.440	2.411
I consider that nowadays, technology is mandatory for any organization	7.955	1.817
I think that technology basically means more work for the vendor	4.335	2.341
Technology is mainly applied at companies to control the vendor more	4.959	2.233
I think it is good for a commercial manager to control their vendors' activity and to establish concrete guidelines	6.949	1.864
I consider that technology should be more developed within the commercial scope at my organization	6.216	1.870
Evaluations on Benefits of Technology Matters	Average	Stand. Dev.
Better-informed sales force	7.610	1.872
Satisfied clients	7.301	1.840
Agile and dynamic sales management	7.727	1.638
Real-time feedback to the marketing department	7.193	2.192
Savings on administrative expenses, on transportation and on fewer errors	7.438	1.775
Better vendor control and management	7.108	1.821
Greater vendor motivation	6.034	2.036
Having better and more updated information on clients	7.644	1.761
Greater comfort for the vendor	7.366	1.773

This table lists the mean scores given by respondents to issues related to attitude and benefits of technology. Mean values and standard deviations are shown.

The variables used were obtained by asking those surveyed to evaluate their level of agreement or disagreement with a series of affirmations and evaluations related to the attitude toward technology, as well as the benefits it provides. The evaluation scale used was from 1 to 10. The affirmations were as follows:

Attitude toward technology: 1- I like to always use technology whenever I can, even if it is not necessary 2- I think that technology is fun 3- Technological difficulties are normal with my activity 4- Technology improves the efficacy of my work, which translates to better results 5- I try to make it so the most modern technology is used at my organization 6- It worries me when the organization changes or implements a new technology 7- I consider that nowadays, technology is mandatory for any organization 8- I think that technology basically means more work for the vendor 9- Technology is mainly applied at companies to control the vendor more 10- I think it is good for a commercial manager to control their vendors' activity and to establish concrete guidelines 11- I consider that technology should be more developed within the commercial scope at my organization

Benefits of technology: 1) Better-informed sales force 2) Satisfied clients 3) Agile and dynamic sales management 4) Real-time feedback to the marketing department 5) Savings on administrative expenses, on transportation and on fewer errors 6) Better vendor control and management 7) Greater vendor motivation 8) Having better and more updated information on clients 9) Greater comfort for the vendor

Description of the Clusters

To describe the four clusters identified, we used Analysis of the Variance of a factor (ANOVA). This technique was used to determine which variables used to create the clusters show significant differences in the groups obtained. The technique indicates significant differences in all of the variables used, which means that all of them will be taken into account in interpreting the groups' profile.

The segments identified have the following characteristics: The first segment stands out from the rest as it is the segment with the highest average rating for variables related to pleasure and having fun with technology. In this sense, it is made up of those who most enjoy using technology and to whom it seems the most fun. It also has a high rating regarding the variable related to technology improving results. Additionally, it also gives high ratings regarding the fact that it is mandatory, and in the same fashion agrees with the sales manager controlling their vendors. It is characterized by the attitude that technology should be more developed in their company, and technology provides better vendor management and control. We call this segment "Technologists oriented toward control"

The second segment has more elevated ratings for two matters: technological difficulties are normal with my activity, and it worries me when my organization changes or implements a new technology. They rate technology as fun and enjoyable below the average, in addition to doing so with the majority of variables concerning the benefits of technology. This shows us a segment of vendors who are not familiarised with technology, and are not oriented toward its use. We call this segment "Those concerned by technology".

The third segment likes using technology, it seems fun to them (above average ratings for both variables), and is the most convinced group that it improves results, and it is the group to which it seems the most mandatory. Additionally, it is characterized by the attitude it does not mean more work, and does not see it as a tool for control, but rather as providing several benefits for sales and for the customer. This is the segment which provides the most elevated average ratings for the majority of benefits of technology proposed, excepting the benefit related to better management and control of vendors, where the first segment obtains better ratings. We call this third vendor type "Convinced by technology".

The fourth segment is made up of vendors who least like using technology, and to whom it seems the least fun. Additionally, it does not see difficulties when using it, nor is it worried when their organization changes the technology, but they are the ones who intend to use it the least, and do not believe that it improves results. This segment provides the lowest average ratings for practically all of the items analyzed, although it is in second place and slightly above average for the variable which refers to the company using technology mainly for control. We can call this segment “Sceptical with technology”.

Table 5 shows, the first segment, “Technologists oriented toward control” form 27.45% of vendors, the second, “Those concerned by technology”, the most numerous, at 37.61%, the third, “Convinced by technology” make up 29.23% of the total, and the fourth, “Sceptical with technology”, only make up 5.7% of the total.

Table 5. Number of Those Surveyed per Segment

Segment 1	154	27.45%
Segment 2	211	37.61%
Segment 3	164	29.23%
Segment 4	32	5.70%

The table shows the number and percentage of vendors that make up each of the segments identified

Later, we relate the segments with some of the classification variables included in the survey, such as: Vendor type (commercial manager, sales manager, delegation manager, team manager and vendor). Sex, Age, Size of the company (less than 10 employees, between 10 and 49, between 50 and 249, equal o more than 250), Activity sector (Industry, commerce and services) and Business scope (local, provincial, regional, national and international).

For this part, we used the Chi-square contrast, since these are relations between either nominal or ordinal variables, except for the case of age, where we again used the ANOVA technique. The results are presented in Table 6. Regarding classification variables, gender is a variable which does not show significant differences between segments. However, sales position type, age, size of the company, activity sector and business scope variables do relate with relevance to the different vendor segments.

Table 6: Contingency Table- Clusters and Sales position

			SALES POSITION			
			Sales managers	Intermediate sales positions	Vendors	Total
Technologists oriented toward control	Ward Method	Recount	25	32	87	144
		Expected frequency	31.0	34.4	78.6	144.0
Those concerned by technology	Ward Method	Recount	33	42	134	209
		Expected frequency	45.0	50.0	114.0	209.0
Convinced by technology	Ward Method	Recount	50	55	58	163
		Expected frequency	35.1	39.0	88.9	163.0
Sceptical with technology”.	Ward Method	Recount	10	2	20	32
		Expected frequency	6.9	7.6	17.5	32.0
Total	Ward Method	Recount	118	131	299	548
		Expected frequency	118.0	131.0	299.0	548.0

This table shows a contingency table which combines the identified segments and the variable "sales position". The respondents have been grouped in sales managers, intermediate sales positions and vendors. In each cell of the table the expected frequency is shown.

The Chi Square contingency table is presented in Table 7. The sales position variable, was re-encoded to analyse the differences between sales managers, vendors and intermediate sales positions, and to avoid problem caused to the Chi-square technique by the low expected frequency provided by some of the boxes on the contingency table. This variable shows us how “Technologists oriented toward control” and

“Concerned by technology” are largely vendors. On the other hand, for those “Convinced by technology”, the frequency observed is greater than expected for sales manager positions and intermediate positions.

In the age variable, significant differences are observed in averages with 95% confidence. As we can observe on the table, “Technologists oriented toward control” are a bit younger on average than the rest of segments (34.8 years), followed by those “Convinced by technology” (37.5 years). The third place age group is “Sceptical of technology” (37.8 years), and lastly, those “Concerned by technology” (38 years).

Table 7: Chi-square Tests

	Value	df	Asymptotic Sig. (Bilateral)
Pearson’s Chi-square	39.836 ^{a***}	6	.000***
Verisimilitude ratio	41.705	6	.000
Linear-by-linear association	13.672	1	.000
N of valid cases	548		

This table shows the Chi-square test. The Asymptotic significance shows that, with 99% of confidence, there is a relationship between the type of sales position and being of a particular segment. a. 0 boxes (.0%) have an expected frequency less than 5. The expected minimum frequency is 6.89.

The contingency table for cluster and size is presented in Table 8. Regarding the size of the company, we re-encoded the variable to simplify the analysis and avoid the existence of boxes with expected frequencies under 5, leaving two company groups, those with less than 50 employees (1) and those with 50 employees or more (2). For this variable, “Technologists oriented toward control” and those “Convinced by technology” are found, in a proportion greater than expected, in average and large companies, while those “Concerned by technology” and those “Sceptical of technology” are more concentrated in small companies. This indicates that there is a certain relationship between the size of the company and the vendor profile type regarding their attitude toward technology.

The activity sector is another one of the factors that explains significant differences between the groups. “Technologists oriented toward control” belong to all sectors in a similar proportion. However, those “Concerned by technology” belong in a greater proportion to the services sector, those “Convinced by technology” are largely from industrial companies and those “Sceptical of technology” are more concentrated in companies in the commercial sector. The Chi Square test results are presented in Table 9. Table 10 shows the Contingency table for clusters and activities. Table 11 shows additional Chi square test results.

Finally, insofar as the company’s business scope is concerned, “Technologists oriented toward control” combine different geographical scopes, those “Concerned by technology” largely belong to local-scope companies, those “Convinced by technology” are largely companies of an international scope, and those “Sceptical of technology” almost all work in companies of a local or provincial scope.

Summarizing the analysis made for the four segments, we note that: “Technologists oriented toward control” are mainly vendors, relatively younger in age, largely from average or large companies, and from all sectors and geographical scopes. -Those “Concerned by technology” are also mainly vendors without management responsibility, largely from the services sector and of local scope. Those “Convinced by technology” are more managers or sales managers, from average or large companies, largely from industrial companies and of an international scope. Those “Sceptical of technology” mainly work in small companies in the commercial sector, of mainly local scope.

Table 8: Contingency Table-Clusters and Size

			SIZE		
			1	2	Total
Technologists oriented toward control	Recount		89	65	154
	Expected frequency		93.6	60.4	154.0
Those concerned by technology	Recount		135	76	211
	Expected frequency		128.3	82.7	211.0
Ward Method	Convinced by technology	Recount	89	75	164
		Expected frequency	99.7	64.3	164.0
Total	Sceptical with technology".	Recount	28	4	32
		Expected frequency	19.5	12.5	32.0
	Recount	341	220	561	
	Expected frequency	341.0	220.0	561.0	

This table shows a contingency table which combines the identified segments and the variable "Size of the company". The respondents have been grouped in those who work in companies with less than 50 employees (1) and those who work in companies with 50 employees or more (2). In each cell of the table the expected frequency is shown.

Table 9: Chi-square Tests

	Value	Gf	Asymptotic Sig. (Bilateral)
Pearson's Chi-square	13.986 ^{a***}	3	.003***
Verisimilitude ratio	15.616	3	.001
Linear-by-linear association	1.166	1	.280
N of valid cases	561		

This table shows the Chi-square test. The Asymptotic significance shows that, with 99% of confidence, there is a relationship between the size of the company and being of a particular segment. a. 0 boxes (.0%) have an expected frequency less than 5. The expected minimum frequency is 12.55.

CONCLUDING COMMENTS

Our goal was to evaluate vendors' attitudes regarding adopting technology, but more specifically to determine if different vendor groups exist, characterised by showing similar attitudes toward technology. The adoption and implementation of technology by sales force is a process wherein several organizations have had problems. Failure percentages are elevated partially due to adaptation problems of the vendors themselves. If sales force adopting technology is a dual adoption, the sales force's attitudes toward technology becomes an important aspect for the final success of implementation of different types of technologies. The result may be not using it, or also under-using it.

The empirical study was developed to collect the assessments of sellers and sales managers on the use and attitude toward technology. The field work for the empirical study was conducted between March and April 2010. After initial data analysis, a cluster analysis was used to create groups of vendors based on their attitudes toward technology.

The empirical study shows us that the majority of vendors respond that they use technology in their professional life. Insofar as the type of technology they use is concerned, in general, we observe an elevated use of mature technologies such as the mobile telephone, the computer, email, an average use of databases, and a lesser use of more current technologies such as CRM, Web 2.0 or social networks. Regarding whether vendors are consulted or not for the implementation of new technologies within the commercial scope, one-third of those surveyed indicate that they had participated in the implementation process for new technologies for the sales force.

Table 10: Contingency Table: Clusters and Activity Sector

		ACTIVITY SECTOR				
		Commercial Sector	Industrial Sector	Services Sector	Total	
	Technologists oriented toward control	Recount	53	52	49	154
		Expected frequency	52.4	50.5	51.1	154.0
Ward Method	Those concerned by technology	Recount	72	63	76	211
		Expected frequency	71.8	69.2	70.0	211.0
	Convinced by technology	Recount	46	67	51	164
		Expected frequency	55.8	53.8	54.4	164.0
	Sceptical with technology".	Recount	20	2	10	32
		Expected frequency	10.9	10.5	10.6	32.0
Total		Recount	191	184	186	561
		Expected frequency	191.0	184.0	186.0	561.0

This table shows a contingency table which combines the identified segments and the variable "Activity Sector". The respondents have been grouped in those who work in Commercial Sector, in Industrial Sector and in Services Sector. In each cell of the table the expected frequency is shown.

Table 11: Chi-square Tests

	Value	Gf	Asymptotic Sig. (Bilateral)
Pearson's Chi-square	20,919 ^{a***}	6	,002***
Verisimilitude ratio	22,764	6	,001
Linear-by-linear association	,364	1	,546
N of valid cases	561		

a. 0 boxes (.0%) have an expected frequency less than 5. The expected minimum frequency is 10.50.

This table shows the Chi-square test. The Asymptotic significance shows that, with 99% of confidence, there is a relationship between the activity sector and being of a particular segment

Vendors give high ratings to affirmations such as “technology is mandatory for any organization” (7.95 out of 10) and also “technology improves the efficacy of my work, which translates to better results (7.34 out of 10), while they do not agree so much with “it basically means more work for the vendor” (4.33 out of 10) and with “it is mainly applied in companies to control the vendor more” (4.95 out of 10). Regarding benefits, we note high ratings given by vendors to the majority of the aspects studied.

We proposed the heterogeneity of vendor attitudes concerning the use of technology. We confirmed said hypothesis by describing four different segments. We have called the analyzed segments: “Technologists oriented toward control”, “Concerned by technology”, “Convinced by technology” and “Sceptical of technology” based on the ratings given to the variables used.

The “Technologists oriented toward control” are mainly vendors without management responsibility, of a relatively younger age, largely from average or grand companies, and from all sectors and geographical scopes. Those “Concerned by technology” are also mainly vendors, largely from the services sector and of a local scope. Those “Convinced by technology” are more managers or sales managers, from average or large companies, largely from industrial companies and of an international scope. Those “Sceptical of technology”, work mainly in small companies in the commerce sector of a mainly local scope.

REFERENCES

Amerongen, Thomas (2006) Hitting the Mark with CRM (Beating the Odds and Ensuring CRM Success...) Ideaca knowledge Services, http://www.ideaca.com/assets/resources/crm/hitting_the_mark_with_crm.pdf (March 12, 2006).

Anderson, E., & Robertson, T. S. (1995, April) "Inducing multiline salespeople to adopt house brands" *Journal of Marketing*, 59, 16–31.

Avlonitis, G. J., & Panagopoulos, N. G. (2005) "Antecedents and consequences of CRM technology acceptance in the sales force" *Industrial Marketing Management*, 34(4), 355–368.

Blodgett, Michael (1995) "Vendor tries to simplify sales force automation" *Computer World*, 32(1), 62.

Buehrer, R. E., Senecal, S., & Pullman, E. B. (2005) "Sales force technology usage: Reasons, barriers, and support" *Industrial Marketing Management*, 34(4), 389–398.

Campbell, Tim (1998) "Beating sales force technophobia" *Sales and Marketing Management*, 150(3), 68–73.

Frambach, RT, Barkema, HG, Nootboom, B. and Wedel, M. (1998) "Adoption of a service innovation in the business market: an empirical test of supply-side Variables", *Journal of Business Research*. 41, 161-174

Frook, John E. (2000) "Sales tools as friends, not foes" *B to B*, 85(3), 55.

Gatignon, H., & Robertson, T. S. (1989, January) "Technology diffusion: An empirical test of competitive effects" *Journal of Marketing*, 53, 35–49.

Goldenberg, B. (1996) "Re-engineering sales and marketing with advanced information delivery systems" *Sales and Marketing Management, Special Supplement*, S1–S31.

Jones, Eli, Sundaram, Suresh, & Chin, Wynne (2002) "Factors leading to sales force automation use: A longitudinal analysis" *Journal of Personal Selling & Sales Management*, 22(3), 145–156.

Kaydo, C. (1999, March) "Get plugged in: Friend or foe" *Sales and Marketing Management*, 43–45.

Moncrief, William C., Lamb, Charles W., & Mackay, Jane M. (1991) "Laptop computers in industrial sales" *Industrial Marketing Management*, 20, 279–285.

Parthasarathy, M., & Sohi, R. (1997) "Salesforce automation and the adoption of technology innovations by salespeople: Theory and implications" *Journal of Business and Industrial Marketing*, 12(3/4), 196–208.

Pullig C.; Maxham J.G.; Hair J.F. (2002) "Salesforce automation systems: an exploratory examination of organizational factors associated with effective implementation and sales force productivity" *Journal of Business Research*, Volume 55, Number 5, May, pp. 401-415(15).

Rigby, Darrell K., Reichheld, Frederick F., & Scheffer, P. (2002) "Avoid the four perils of CRM" *Harvard Business Review*, 80(2), 101–108.

Rivers, L.M. & Dark, J (1999) "The acquisition and use of sales force automation by mid-sized manufacturers" *The Journal of Personal Selling & Sales Management*, vol. 19, Spring, pp. 59-70

Schillewaert, N., Ahearne, M. J., Frambach, R. T., & Moenaert, R. K. (2000). *The acceptance of information technology in the sales force* (No. ISBM Report 15-2000): Institute for the Study of Business Markets, The Pennsylvania State University.

Speier, C., & Venkatesh, V. (2002) “The hidden minefields in the adoption of sales force automation technologies” *Journal of Marketing*, 66(July), 98–111.

Steenkamp, J. B. E. M., ter Hofstede, F., & Wedel, M. (1999) “A crossnational investigation into the individual and nationalcultural antecedents of consumer innovativeness” *Journal of Marketing*, 63(2), 55–69.

Widmier, S. M., Jackson, D. W., & McCabe, D. B. (2002) “Infusing technology into personal selling” *Journal of Personal Selling & Sales Management*, 23(3), 189–198

Wright, G. and Fletcher, K. and Donaldson, B. and Lee, J. H. (2008) “Sales force automation systems : an analysis of factors underpinning the sophistication of deployed systems in the UK financial services industry” *Industrial marketing management.*, 37 (8). pp. 992-1004.

Xu, Yurong, Yen, David C., Lin, Binshan, & Chau, David C. (2002) “Adopting customer relationship management technology” *Industrial Management and Data Systems*, 102(8), 442– 452.

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