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Impact of the Introduction of an e-CRM Solution in the Feed Industry: The Case of Progeo - Mangimi

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Summary

Feed industry is very demanding in terms of logistics. This activity implies supplying, processing and, most of all, distributing perishable products (raw materials and feed), to a very large number of clients, often scattered in wide market areas (animal farms) with different qualitative, quantitative and timing needs. So far the use of ICTs within the feed industry in Italy regarded mostly the production phase in terms of feed composition optimisation, and the internal logistics. External relationships like e-CRM, etc. have so far been rarely adopted. For many Italian small and medium enterprises, mostly in the agro-food sector, the diffusion of ICTs solutions for the management of their client relationship has been quite slow. The aim of this paper is to examine the factors affecting the success in the implementation of an e-CRM solution in an Italian feed industry; the implementation strategies adopted and their impact on the company logistics performances have been investigated; the methodological framework for the e-solution implementation strategy analysis is the “Building of organizational support for Supply chain Improvement” as defined in the SCOR model (Bolstorff P., Rosenbaum R., 2003). The SCOR model provided a useful analytical framework in order to define the variables affecting the successful implementation of the e-CRM. The results show a dramatic improvement in the *Progeo-Mangimi* customer relationship performances; the fundamental role of the Progeo management to organise and motivate the personnel involved, and to interact with the customers, emerged.

Introduction

ICTs adoption is very important for activities with demanding logistics, like the feedstuff industry. Many studies involving ICTs acceptance underlined different variables affecting the rate of adoption or the degree of perceived usefulness and *user friendliness*. The results showed the relevant role of the socio-demographic variables associated to the users (Gelb E., Parker C., Wagner P., Roskopf K., 2001) and (Ferrer S.R.D., Schroder D.H., Ortmann G.F., 2003) and the necessity to implement an effective communication strategy from the ICTs providers to their customers (Zanasi C, Romano R., 2007). Another important issue is represented by the role of the internal staff in making the company able to fully exploit the innovations' potential to improve their performances. This involves not only the capacity to promote the adoption of innovations, but also the capacity to adapt the ICTs solution implementation to the company organisation, culture and technical structure (Ravagnani, R., 2000), (Ross J. W. , Vitale M. R, 2000). The SCOR approach, in particular the “Educate for support” phase within the “Building of organizational support for Supply chain Improvement” section, can provide an interesting analytical framework to this end (Bolstorff R., Rosenbaum R., 2003).

Goal of the paper

The aim of this paper is to examine the role of the internal staff in influencing the success in the implementation of an e-CRM solution in an agro-food company.

Method of analysis

First the structure and organisation of an Italian feed industry (Progeo Mangimi), and its production and distribution processes, have been considered. This allowed for a better understanding of the customer relationship and logistics needs related to its activity. The role of the internal staff in the E-CRM implementation was also compared to the one depicted in the SCOR guidelines for the support to an innovation adoption in the company supply chain management. In particular the “Educate for support” phase was considered (Bolstorff R., Rosenbaum R., 2003 pp. 10-22). The personal and groups characteristics, and their interactions, were considered; the aim was to provide indications on the factors affecting the Progeo E-CRM implementation strategy effect on the level of logistics efficiency. To this end a logistics performances statistical analysis was carried out, following the indications coming from the E-CRM solutions implementation analysis.

The company structure, CRM management and logistics

PROGEO SOC. COOP, a cooperative among farmers, is divided into two branches: PROGEO MANGIMI (Feed) and PROGEO MOLINI (Food). The number of Progeo associates is about 20000, with about 500 employees. The total turnover was 300 million € in 2006; its share of the different branches is the following: animal farms 1.8%, cereal production 8%, feed 57%, food 16.6%, other inputs for agriculture 9.6%, pet food 3%. 20000 associated farmers, operating in 5000 farms, supply part of the raw material in 40 collection and storage facilities.

Progeo clients amounted to 8000 farmers.

The PROGEO MANGIMI total turnover in 2006 amounted to 160 million €; they sell feed to 4600 animal farmers; the larger share of feed (95%) is sold through agents operating, both at a local and national level, directly in touch with the clients (animal farmers) under the supervision of area managers. Feed distribution in 100 shops amounts to only 5% of total feed sales. Part of the animal farms are vertically integrated to Progeo and absorb 5% of the feed production.

This short presentation shows that Progeo Mangimi is an important part of the PROGEO SOC. COOP; it is a middle sized company with a very complex client relationship, from a logistics and, in general, customer services point of view.

Focusing on the feed production, distribution, logistics and client relationship the variables influencing the transaction complexity are the following:

- product perishability;
- high number of clients with different farms size, communication attitudes and skill in ICTs management, scattered in a relatively large area;
- high expectations in terms of technical (in particular nutritional) and economic consultancy and support from the Progeo salesperson;
- a highly volatile feed demand both in quantity, quality and delivery timing needs;
- lead times (from order reception to feed reception at the farm) of 1-2 days.
- an extremely large number and variability of orders and deliveries :an average of 200 shipments/day, 280 different quality of feed delivered, and 50 lorries loading cells available.
- a consequent high inventory turnover

These aspects lead to the necessity of very short planning production and delivery times, quick

tracking of the shipments and tracing of their products; farmers should be supplied with not only the right feed at the right time in the right quantity, but also with nutritional and sometimes sanitary and generally technical consultancy.

With these considerations in mind the Director of Progeo cattle feeding division discussed with the company software provider the introduction of an E-CRM solution for the company feed production branch; they stressed the importance of making the information exchange with farmers quicker and broader to increase the internal and external logistics performances and to improve the before and after-sales services.

The E-CRM solution will be described and in the following paragraphs its implementation phases and consequent impact on the company logistics performances will then be discussed.

The solutions devised

Progeo E-CRM solution is based on three different platforms differentiated according to the level of complexity and client involvement in the on-line order management

- “Vendite Progeo”
- It is an off-line orders management software: the orders are collected off-line at the animal farm, uploaded and sent on-line by the salesperson to the production plant. The off-line solution includes a Vendor managed inventory (VMI) software; the salesperson manages the farmers inventory replenishment without the farmers’ intervention. The replenishment is based on a re-order priority list based on a time-area priority. The timing and area of shipment are defined by an algorithm processing information on animals daily consumption and location of the farmers. Nearly 40% of the orders managed through the web use the VMI solution.
- On-line order management using the Company Portal
- Using the Progeo portal it is possible for the salesperson to access all the technical and economic services available on-line, including the orders management. The portal provides a data base containing the different clients’ positions. Different levels of access to the data base content are granted according to the personnel task and hierarchic level. The Portal allows a 12 hours shorter lead time in the order management, when compared to the off-line solution.
- HI-line Software

It is the most important technological and organisational innovation adopted in the customer relationship management. The client directly manages the orders on-line. The access to the Progeo services information for the order management is differentiated according to the clients’ level of confidence with ICTs (Fax/SMS/Computer. The software provides the following services

- a. Deliveries tracking
- b. Products traceability from the animal farm back to the production plant at Progeo
- c. Order management and client personal financial position towards Progeo are available on-line
- d. Automatic Alert System (SMS, Fax , e-mail) at the order reception and product delivery stages
- e. Personal web access to a technical help desk provided by specialists in animal farming related subjects, both from internal and external sources.
- f. A free use of an animal diet optimisation software (RATIO COW).

The PROGEO staff role in the E-CRM Solution implementation: a comparison with the SCOR guidelines

The proposal of introducing the E-CRM solution, coming from the software provider, was discussed with the cattle feed branch director, also supervising the sales of feed for cattle; the director is an expert ICTs user and software programmer; he developed its skill autonomously and is the ideal interface between Progeo and the software providers. The top management in Progeo left him a free hand in implementing the E-CRM solution. He started the project by creating a core team buy-in and a design team to start implementing a pilot solution; the involvement of the salesperson in the software adoption was managed separately by him, the General Director, and other peers.

The salespersons, more than the clients (farmers) were initially hostile to the introduction of an E-CRM; this mostly “anthropological” problem was partially overcome by adopting an internal education initiative; the E-CRM introduction was gradual and, under the supervision of the area manager, carried out through a peer to peer (vendor to vendor) relationship. The salespersons were also involved in improving the solution by inviting them to submit suggestions based on their field experience; incentives, in the form of a participation to the profit increase derived by the E-CRM adoption, were also granted to the vendors. Central to the Progeo strategy was the consideration of the role of internal staff behaviour. The need to organically analyse the Progeo E-CRM implementation strategy arose as a consequence of the partially negative feedback coming from the salespersons in terms of adoption and/or correct application of the solution.

The logical framework of the “Education for support” described in the handbook for the SCOR model application by Bolstorff R., and Rosenbaum R. (Bolstorff R., Rosenbaum R., 2003 pp. 10-22) was then adopted.

The analysis focuses on the initial phase of the project, where the higher ranks of the company must be involved, and a positive attitude and efficient organisation must be set in order to implement the solution throughout the organisation.

The information comes from an in-depth interview to the company staff members at different level: sales agents, sales managers and other staff members involved in the Core team buy-in and solution design team.

In Table 1 the SCOR “Educate for support” guidelines are compared to the Progeo experience related to the introduction of an E-CRM solution. The differences between the Progeo experience and the SCOR guidelines reported can help focusing the attention on key aspects influencing the implementation strategy success.

Table 1. Progeo compliance to the SCOR “Education for support” characteristics

SCOR LOGICAL FRAMEWORK	PROGEO COMPLIANCE
DEVELOP AN “EVANGELIST	Yes (the Cattle feed branch director)
Evangelist characteristics	
Experienced in a variety of fields and roles related to the e-CRM implementation	Yes. He is an expert both in ICTs and the different Progeo processes management and organisation
Understands the Innovation /learns how it works/appreciates its impact	Yes. (see points 2)
Is generally self selected/appointed from above/ becomes the project manager	Yes. He is recognised as an expert and the higher ranks had no problems in giving him a free hand in developing the project. Its appointment was not strongly emphasised though.
Pilots the project; is able to explain when and why problems arise and how to solve them	Yes. (see points 2 and 4)

Able to motivate higher ranks lower ranks peers Sells the innovation to the different business areas	a. yes b. yes c. no. Although has a good reputation among higher ranks, the lack of coordination with them makes its role not so popular among peers. He is a "Process thinker" other peers are "Functional thinkers"; his "activism" is frowned upon.
Setting an atmosphere that supports team learning	Yes. Its knowledge of the technical aspects, its familiarity with the staff and its culture, its strong motivation towards the introduction of the E-CRM made it possible to create the right atmosphere.
Foster dialogue among individuals and groups (departments)	Only partially some areas were not keen on collaborating (se point 6)
Natural talent in Listening communicating with peers upper ranks	a. yes b. no c. yes
Prerequisites of an Evangelist to effectively communicate with upper ranks: a. professional credibility b. expert in the subject c. able to assemble effective presentation d. balance formal with informal group communication	a. yes b. yes c. yes d. yes
DEVELOP AN ACTIVE EXECUTIVE SPONSOR	Yes. (General Director and Cattle feed branch Director).The roles of upper management, of the Evangelist and of the Active executive sponsor somewhat overlaps
Active Executive Sponsor characteristics	
a. leader role in the organization b. can authorise the use of resources to make changes happen c. responsible for reviewing and approving changes proposed by the design team	a. yes b. yes c. yes
Sells the changes to upper and lower ranks behind the scenes	Not entirely
Helps the upper ranks in participating to the project stages	Not entirely
Eliminate barriers to project progresses	Yes
He is a "Process thinker" looks at the company from a "process" perspective; favours interaction between different departments and: Allows for a better organisation of the project implementation Encourages the progress of the evangelist Facilitates the "core team buy-in"	a. yes b. yes c. yes
Strong commitment to lay the ground work for E-CRM introduction	Yes
Actually design the solution with the Design team	Yes
Establishing the Core team buy-in with Evangelist on the base of their personal knowledge of the people	Yes, but not completely effective
CREATE A CORE TEAM BUY-IN	Yes, but not completely involved the key figures: the sales directors
Characteristics of a Core Team Buy-in members	
Level of authority: must be similar	Yes
Should be in a position to assign members of their group to the project team	Yes
Willing to provide resources: willingness coming from motivations absorbed by "Evangelist" and "Active executive sponsor"	Partially; motivations were not completely absorbed by some key figures as they were only partially involved
Developed cooperative relationship with other functional leaders	Partially; some act as "Functional thinkers" creating barriers to cooperation, putting their role first
Knowledge of the company history and culture	Yes
Positive attitude: Immune to the "not invented here" syndrome Controlled and adaptable style of communication Should be effective learners	a. yes b. partially c. partially

Effective communication skills: the team members dictate the effectiveness of the learning environment by being Deliberate about expectations Spelling out exactly type and frequency of feedback needed to keep the project working	a. yes b. yes
Most valued feedback: Critique: effective when members understand material under review, have assembled a list of questions for the design team Clarifying dialogue: to understand the design team's point of view with an open mind Opinion: important to decide where to go when "forks in the road" emerge; comes after critique and dialogue	a. yes b. yes c. yes
Ability to cope well in chaos: adopting a "process thinking" approach it is possible to "manage chaos"; considering the organisation from a "system" point of view it is possible to see the relationship among agents in its complexity and avoid shutting out the rest of the world in an attempt to avoid chaos (as functional thinkers do)	Partially (see point 24)

Five categories of influencing variables can be found throughout the SCOR "Educate for support" framework regarding all of the figures identified as important in implementing this phase.

1. Knowledge of the technical and organisational features of the company (including history, company culture, staff attitude etc..)
2. Knowledge of the issue at stake (the E-CRM solutions in our case)
3. Skill in communicating with/motivating the upper and lower ranks and peers
4. Skill in fostering dialogue and collaboration
5. Power to make things happen (directly or through appointment).

The analysis showed that Progeo basically complied to the guidelines reported in the SCOR handbook with few, but relevant, exceptions. The roles of the Evangelist and Active Executive support sometimes overlapped. Other differences relate to the communication skill and capacity in fostering dialogue and collaboration (see table 1).

A possible explanation derived from the analysis could be related to the higher level management decision to nearly completely delegate the E-CRM introduction to the "Evangelist". The lack of control and participation from the upper management made the Active Executive Sponsor role less effective in supporting the "Evangelist", mainly in the involvement and motivation of the Evangelist peers in the project implementation. As a consequence key figures, as other managers involved in the E-CRM implementation, were not effectively involved in the Core team buy-in and the design team. Their sceptical attitude towards informatics was still there when the E-CRM solution was implemented throughout the company. Their role in motivating the salesperson under their control in the E-CRM adoption is bound to have been less effective than the one performed by the salespersons under the Evangelist control. It is then important to verify if differences in the E-CRM level of adoption and performances occurred in the sales areas controlled by the Evangelist when compared to other less "involved and motivated" managers.

The impact of E-CRM on the Progeo logistics performances

The logistics performance, following the introduction of the E-CRM system in the year 2005, was measured. The indicator adopted is the share of delayed and urgent (last minute) orders (DUO) of the total feed orders from animal farmers. This variable was considered as the introduction of the E-CRM software not only should increase the Progeo reliability in fulfilling the

orders (reducing the delayed orders) but should also make the farmers more aware of their feed replenishment needs (through the clients managed orders on-line or Vendor managed inventories software).

In table 2 the change from year 2001 to year 2007 in the logistics performance is shown.

The average share of delayed/urgent orders decreased from an average 21.4% in the period 2001-2004 to an average 14.7% in the period 2005-2007.

Considering the different managers influenced areas it turns out that the area 1 where the “Evangelist” educated the sales persons for support performed better than the other managers controlled areas (grouped in area 2). Starting from a very similar share of delayed/urgent orders in 2001-2004 (21.7% and 21.0 respectively) the first area reduced the share of -39.4% while the other area of -20.9%.

Table 2. Delayed/urgent orders/total orders (%)

	Before E-CRM					After E-CRM				
	2001	2002	2003	2004	average '01-'04	2005	2006	2007	average '05-'07	Diff.%
Area Manager 1										
Average	25,3	21,7	19,0	21,0	21,7	12,7	13,5	13,3	13,2	-39,4%
Area Managers 2										
Average	21,4	20,5	19,6	22,5	21,0	12,6	19,0	18,2	16,6	-20,9%
Diff. %	-15,5%	-5,5%	3,3%	7,1%	-3,4%	-0,5%	40,7%	36,5%	26,1%	
Total										
Average	23,5	21,1	19,3	21,7	21,4	12,6	16,0	15,5	14,7	-31,1%

Source: our calculations on Progeo data

A statistical test was performed to confirm the effect both of the introduction of the E-CRM and the different managers role on the logistics performances increase.

The variable (DUO) is the share of delayed/urgent (last minute) orders of the total feed orders from animal farmers. The other variable adopted is the share of E-CRM managed orders of the total orders (EMO).

The data come from Progeo and refer to the period 2005 to 2007, when the software was in use.. First a t test was performed for the years 2005 and 2007, to appreciate the influence of the different area managers on the share of E-CRM managed orders and delayed-urgent orders (Table 3). The results for year 2007 show that the area managers played a significant role, the probability of t is in fact far below 0.1% both for the share of E-CRM based orders and delayed/urgent orders share. The same test for the year 2005 resulted not significant for delayed/urgent orders. A correlation index was then calculated (tab.3). It turned out a much higher negative correlation among the two variables when the “Evangelist” is concerned (-0.66 against -0.26 in year 2007). The correlation indexes are weaker for the year 2005 when the innovation was first introduced.

Table 3. T-test and correlation analysis

Year 2005	Var.	Prob.	Year 2007	Prob.
test t	EMO	0,0002	EMO	3,95E-10
test t	DUO	0,3747	DUO	0,002131
Correlation	Total	-0,33643	Total	-0,53551
Correlation	Area 1	-0,41735	Area 1	-0,66932
Correlation	Area2	-0,26953	Area 2	-0,26483

Source: our calculations on Progeo data

Different OLS regression analyses, according to the different market areas, were performed to appreciate the influence of the E-CRM orders (EMO) on the logistics performance (DUO), the latter being the dependent variable (Tab.4).

Again the hypothesis of a significant influence of E-CRM (EMO) on the logistics performance (DUO) improvement was confirmed, as well as the relevant role of the Evangelist, Active Executive Sponsor and “Core team buy-in” in making the E-CRM introduction effective. The independent variable is in fact always significant; the R-squared value is higher for the “Evangelist” managed sales area, underlining its more relevant influence on the logistics performance (DUO).

Tab. 4) Influence of Electronically managed orders (EMO) on Delayed-urgent orders (DUO)

Total areas 2005				Total areas 2007					
Value	Std. Error	t value	Pr(> t)	Value	S.E.	t value	Pr(> t)		
Intercept	0.7637	0.0924	8.2650	0.00002	Intercept	0.2263	0.0115	19.7039	0.00001
EMO	-3.4801	0.7260	-4.7933	0.00003	EMO	-0.2129	0.0295	-7.2053	0.00004
Multiple R-Squared: 0.3768				Multiple R-Squared: 0.5144					
F-statistic: 22.98 p-value=0.00002527				F-statistic: 51.92 p-value= 3.192e-009					
Area1 2005				Area2 2005					
Value	S. E	t value	Pr(> t)	Value	S.E.	t value	Pr(> t)		
Intercept	0.6441	0.0665	9.6818	0.00002	Intercept	0.4945	0.1970	2.5103	0.0274
EMO	-1.8863	0.4846	-3.8921	0.0005	EMO	-2.3239	1.4404	-1.6134	0.1326
Multiple R-Squared: 0.3355				Multiple R-Squared: 0.1783					
F-statistic: 15.15 p-value = 0.0005132				F-statistic: 2.603 p-value = 0.1326					
Area1 2007				Area2 2007					
Value	S.E	t value	Pr(> t)	Value	S.E	t value	Pr(> t)		
Intercept	0.2235	0.0197	11.3526	0.00001	Intercept	0.2258	0.0171	13.2176	0.00001
EMO	-0.2105	0.0417	-5.0458	0.00004	EMO	-0.1912	0.0773	-2.4726	0.0230
Multiple R-Squared: 0.4762				Multiple R-Squared: 0.2434					
F-statistic: 25.46 p-value = 0.00002447				F-statistic: 6.114 p-value= 0.02303					

Conclusions

The analytical framework derived by the SCOR approach provided a deeper understanding of the factors affecting the efficiency of the E-CRM solution adoption in Progeo. The role of a correct education for support turned out to be a key factor in helping a company to better exploit the possibility supplied by the E-CRM, and in general any technological innovation, to increase the company efficiency and competitiveness.

The role of the internal staff, encouraged by the Progeo flexibility related to the sales management, resulted of paramount importance in influencing the E-CRM results, both positively and negatively. From the positive side the chance given to the cattle division sales manager to develop the E-CRM represented an advantage; from the negative side the lack of involvement and motivation from part of the management during the education for support phase, seems to have led to an uneven application of the E-CRM, both from the quantitative and qualitative point of view.

Further researches should better define the role of management in influencing the involvement and motivation of the internal staff in the application of the different E-CRM solutions. The analysis of the “organisational culture” following the classification reported by C. Handy (Handy C., 1999) could represent a useful analytical tool; in its work the Author considers how the relationship among people and groups, within the company, are influenced by the prevailing culture in different functional areas; it also describes how different culture can efficiently adapt to the different company functional areas goals and external environment.

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