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THE ROLE OF SHARED INFORMATION SYSTEMS IN DISTRIBUTION CHANNELS

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Introduction

- As a part of **supply chains**, Distribution Channels are configured as **non-equity alliances**, which in the most common form involve an upstream manufacturer and a set of downstream independent agents (Stern *et al.*, 1999).
- Distribution Channels require of inter- and intra-organizational relationships and **coordination of different types of flows** (physical and informational).
- Previous studies suggest that these agreements are not always successful, showing that **information sharing** may be one key factor that prevents their failure (Frazier and Summers, 1994).

Introduction

- Despite its benefits, once the Distribution Channel is established, the **risk and vulnerability** for the manufacturer may increase (Frazier and Antia, 1995).
 - Manufacturer's ability to satisfy customers **depends** largely on agents' ability.
 - **Conflict** is pervasive throughout all channels (Stern *et al.*, 1999). Differences in objectives arise in distribution channels, which in turn can lead to emergent management problems.
 - **Merchant and Van der Stede** (2003):
 - (i) Lack of direction.
 - (ii) Motivational problems.
 - (iii) Personal limitations.

Introduction

- We can consider **monitoring and coordination** as two key factors in the inter-firm management.
- Inter-organizational **integration and coordination** via IS has become a key to an improved distribution channel performance (Barut *et al.*, 2002).
- In order to achieve full potential designed benefits from IS, organizations must both **exchange and use information** (Barut *et al.*, 2002).
- Due to the competitive and adversarial nature of the business itself, managers tend to overestimate the possible risks without seeing the potential benefits and thus are **reluctant** to share IS with their trading partners (Huang and Gangopadhyay, 2004).

Aim

Despite its importance, literature do not explain exhaustively the role that IS play to ongoing manage these Distribution Channel relationships.

- **To explore the role of shared IS to manage Distribution Channels already established and its contribution to mitigate the underlying management problems.**

Research Methodology

- An **exploratory case study** approach has been adopted because it allows us to capture the complexities of distribution channels.
- We consider as research site the distribution channel of a manufacturer firm called **CMD**.
- **Why?**
 - During the period of study, 1985-2004, the findings show how CMD chooses to lead the management of its distribution channel, establishing new shared IS to mitigate the management problems.

Years	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
No electronic interchange	X	X	X	X	X	X	X											

- In **1985**, CMD introduced:
 - a general **contract**, and
 - an uniform system of **commissions**.
 - a network of **commercial** staff, each of whom assists and supervises a reduced group of agents.

- The agents fulfilled in a **manual way** the delivery notes in each product delivery.
 - These notes were sent **monthly** by postcard to the different centres of CMD for its record. CMD carried out the billing from its products to the final customers.
 - But CMD could **not foresee** neither assign appropriate stocks to the agents, overstocking the own and agents warehouses, at the same time that detected many billing **mistakes**.

Years	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
No electronic interchange	X	X	X	X	X	X	X											
Informatization project								X	X	X	X	X	X	X	X	X	X	X

- In **1992**, a consultant firm recommended transforming the distribution channel into re-sellers (like its competitors).
- Although this option could facilitate the administrative tasks and the agents' control, CMD **refuse the proposal** because in turn they would lose the control of the final market.

- CMD decided to install an **IS** in larger agent centres
 - To **outsource** the administrative activities.
 - With the information transmitted twice monthly via modem, CMD was **able to know** the localization of the containers and to obtain information of the sales, and stocks in agents and final customers.
 - Reduction of errors and a smaller load office work → **Gradual staff reductions**, closing and reducing the load of work of its own centres.

Years	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
No electronic interchange	X	X	X	X	X	X	X											
Informatization project								X	X	X	X	X	X	X	X	X	X	X
Electronic data integration														X	X	X	X	X

- In **1998**, CMD installed new computers and shared software in **all its agents**,
 - **Delegating** new functions to the agents, increasing the externalisation of activities, and maintaining the control through the establishment of authorizations and passwords.
 - This system, with **two weekly** transmissions, allowed CMD to increase their knowledge of the allocation of inventory among the agents, **gaining greater information and control of agents**.

Years	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
No electronic interchange	X	X	X	X	X	X	X											
Informatization project								X	X	X	X	X	X	X	X	X	X	X
Electronic data integration														X	X	X	X	X
Agent's marketing plan														X	X	X	X	X

- In **1999**, CMD develop a Marketing plan based on two key stakes:
 - **Agents' control scorecard**
 - It is an application to share management commercial information with its agents, to *“improving **coordination between the commercial department and agents**”*.
 - Even this IS improved the own commercial department activities by providing an extra management tool.

Years	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
No electronic interchange	X	X	X	X	X	X	X											
Informatization project								X	X	X	X	X	X	X	X	X	X	X
Electronic data integration														X	X	X	X	X
Agent's marketing plan															X	X	X	X

■ *Agents' database*

- This internal tool gathers information on the different tasks and functions of the agents (e.g. sales, commissions, dedication percentage, number of sales staff, capacity of trucks, or customer attention schedule).
- The interviewees contemplate it like a tool to be able to carry out **benchmarking** analysis and to evaluate each agent's **evolution**.

Years	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
No electronic interchange	X	X	X	X	X	X	X											
Informatization project								X	X	X	X	X	X	X	X	X	X	X
Electronic data integration														X	X	X	X	X
Agent's marketing plan															X	X	X	X
Web-based integration																		X

- Since **2002**, the IS is completely integrated through different databases with **on-line access** via Internet. CMD designed a web page that currently includes **all of the former tools**, as well as some **new services**.
- Finally, in the course of this shared IS establishment **a reduction in the number of agents is observed**, falling from almost 300 agents in the late 80's to 178 at present. CMD managers highlight that it has been necessary to reduce the number of small agents, assigning their area to other more medium-size agents.

Discussion

- CMD managed the established relationship through the contract, the direct supervision and the commission systems.



- **Bidirectional informational asymmetry in the relationship.**
 - These tools did not allow to CMD the access to the private information of the agent.
 - This is aggravated by the necessity of information about the final market, critical aspect to CMD.
 - CMD equally possesses privileged information, referred to strategies, or about the evolution of the sector that it would improve the decision-taking process of agents.

Discussion

- **Lack of Direction:** The contract is incomplete because it is understood as a legal framework. The commercial department was the only speaker between CMD and the agents that lead often to loss of communication, misinterpretation or oversight.
- **Motivational problems:** The agents can benefit from a fixed level of income from the beginning of the relationship. A bad agent in a good area may obtain high commissions and vice-versa. This system did motivate neither the search of business opportunities nor a customer optimal service. Tendency of some agents to dedicate uneven attention to customers with a higher sales volume that makes the service more profitable. Fails to motivate the package collection.
- **Personal limitations:** CMD detected lack of training, resources, and capacity within the agents group.

Discussion

- The results show that when improving the information of the agents, CMD improves the **coordination** among both parties.
- We could understand that to share information is not gratuitous.
 - Shared IS represents benefits to CMD that are derived of the **information** that was gathered from the agents.
 - Shared IS helped additionally CMD to make sure about the **reliability** of the data, reducing errors and guaranteeing that is supervising with correct information.
 - Shared IS make possible to **check** if agreements are being fulfilled, as well as detecting those agents' weak points, reducing CMD's **dependence** on its agents.
- CMD accepts the potential risk that agents may use the information against them, weighed against the benefits of a consolidated **partnership**.

Conclusions

- We report on how shared IS are developed in an already established non-equity alliance to increase the **extent** of outsourcing; and to **mitigate** the management problems.
- An inherent aspect of distribution channels is the conflict. Therefore the problems defined in an intra-organizational context (lack of direction, motivational problems and personal limitations) **persist** in an outsourced distribution channel.
- It highlights the need to develop and increase interorganizational IS that permit to **share** information and to **monitor** the key aspects of the relationship.

Conclusions

- The growth of partnerships **demands** IS, which could be a key enabler of this strategic relationship.
 - Case findings show how a manufacturer firm accepts the potential risk that agents may use the shared information against the **benefits of develop a partnership**, to reduce manufacturer's dependence on its agents.
 - The case supplies empirical evidence showing how shared IS **complete and ease the re-drive** of inter-firm agreements and constitute a key tool to manage and maintain inter-firm relationships, **in a flexible and non-coercive way**.