

## INFORMATION AND COMMUNICATION TECHNOLOGIES APPLICATIONS IN GREEK FOOD AND BEVERAGES COMPANIES

Savvas Mavridis<sup>1</sup>, Iordanis Kotzaivazoglou<sup>2</sup>, Theodora Xinidou<sup>3</sup>, Christina Triantafyllidou<sup>4</sup>

### Abstract

New technologies can help companies improve their performance, achieve better customer satisfaction and increase their profits. This paper refers to the role of Information and Communication Technologies (ICTs) in Greek Food and Beverages (F&B) companies. The methodological tool used is the structured questionnaire. The research findings show that many new technologies are used by enterprises in the F&B sector. These technologies are adapted to the activities and the demands of each company. The most important reasons for using the new technologies are better and faster communication among partners and the promotion of companies to the consumer.

Key Words: **Greek Food and Beverages companies, ICTs, e-commerce**

JEL code: **L 810**

### 1. Introduction

During the last two decades, enterprises of all shapes and sizes have made great strides towards acceptance of Information and Communications Technologies (ICTs). The use of the Internet is an integral part of a professional's everyday life, while extranets and electronic data interchange have dramatically transformed the relationship between suppliers and clients. Today the challenge facing businesses is to take optimum advantage of the existing technologies by maximizing the profits and minimizing the relative costs and risks that these investments imply.

There are many advantages that the new technologies and the Internet can offer to enterprises. They can, for example, assist marketing research, create on-line sales and purchases, minimize promotion and distribution expenses, increase the response of communication and delivery, and tailor the promotion mix to the individualized needs of each customer. In this way enterprises can substantially improve customer service, satisfaction and loyalty, and boost their results (Futrell 1999: 65).

This paper focused on the ICTs used by Greek Food and Beverages (F&B) companies. F&B is a sector that uses ICTs not only in internal procedures like production and financing, but also for marketing purposes. After reviewing the findings of related studies, the paper presents an investigation of the application of ICTs to managerial procedures in Greek companies.

### 2. Findings of related studies

A few studies focusing on the use of ICTs in Greek enterprises have been conducted. According to a National Network of Research and Technology (Ethniko Diktyo Erevnas kai Technologias) survey carried out in June 2001 in companies with 11-250 employees, the rate of ICT use in Greece was 84%, the lowest in the Eurozone. In the other 11 countries covered, the rates ranged from 86% (Italy) to 98% (Finland). While Greek companies with more than 10 employees appear to converge with European ones in their use of ICTs, an important lag was recorded in companies that employ fewer than 10 workers ([www.gnet.gr](http://www.gnet.gr)).

Another study, conducted by the Foundation for Economic and Industrial Research (Idryma Oikonomikwn kai Viomichanikwn Erevnwn) (Sakellaris 2000), showed that the contribution of the ICT sector to Greek GNP is 3.8%, compared to 6% and 8% in other EU countries. The same survey found, however, that Greek F&B companies were expecting to increase their annual expenditure on ICTs to 9.6% by 2004.

In 2005 the Ministry of Development's General Secretariat of Industry (Geniki Grammateia Viomihantias Ypourgeiou Anaptixsis) carried out a study to look into the adoption of new technologies in companies in the F&B sector. The research showed significant differences between big and small-to-medium-sized enterprises, mainly regarding the use of e-business tools. It also recorded a large discrepancy between big and small-to-medium-sized enterprises as regards the use of network applications like local networks (LAN) and wireless local networks, Intranet, and Virtual Private Networks (VPN). Factors that influenced companies' decisions to invest in ICT related to food safety, the complete digitisation of the supply chain and the improvement of the level of customer service. ICT helped companies improve their competitiveness and grow specialized markets ([www.go-online.gr](http://www.go-online.gr)).

Another Pan-Hellenic survey realized in 2006 by the same institution aimed to record current and future tendencies for ICT use in SMEs in the F&B sector. The results showed that ICT applications were used mostly in commercial transactions and dealings with the state. In addition, 52% of the companies studied used the Internet daily for information about general news, 25% for sectoral news and 16% for news about their competitors. Advanced services for administration, logistics and production are expected to grow substantially in the next 3 years ([www.ebusinessforum.gr](http://www.ebusinessforum.gr)).

<sup>1</sup> Assistant Professor of Sociology at the Department of Marketing of the Technological Educational Institutes of Thessaloniki, Greece. Address correspondence to Savvas Mavridis, Lehovu 10, 56626, Sykies, Greece. Tel: +302310246402. E-mail address: [smavrid@libd.teithe.gr](mailto:smavrid@libd.teithe.gr)

<sup>2</sup> Visiting lecturer in Advertising and Communication at the Department of Advertising and Operations Management of the University of Macedonia, the Department of Marketing of the Technological Institutes of Thessaloniki and the Department of Business Administration of the Technological Institutes of Serres, Greece. Address correspondence to Iordanis Kotzaivazoglou, Spartis 41, 54640, Thessaloniki, Greece. Tel: +306932720915. E-mail address: [ikotza@jour.auth.gr](mailto:ikotza@jour.auth.gr)

<sup>3</sup> Graduate of Marketing Department of Technological Educational Institute of Thessaloniki, Greece. Address correspondence to Theodora Xinidou, K. Aitolou Ad. D' 3, 69100, Komotini, Greece. Tel: +306942424741. E-mail address: [theodoraxgr@hotmail.com](mailto:theodoraxgr@hotmail.com)

<sup>4</sup> Graduate of Marketing Department of Technological Educational Institute of Thessaloniki, Greece. Address correspondence to Triantafyllidou Christina, Xatzitsirou 4, 54629, Thessaloniki, Greece. Tel: +306938783724. Email address: [triantafyllidouxr@hotmail.com](mailto:triantafyllidouxr@hotmail.com)

### 3. Research Objective, Questions and Methodology

The research objective is to record the ICTs used by Greek companies in the F&B sector in their activities.

The research answers the following questions:

- Which ICTs are used by Greek F&B companies and in which activities?
- To what extent is the Internet used by F&B companies and how much does it affect their activities?
- Which ICTs systems are used by Greek F&B companies and how effectively?
- Do the companies carry out on-line transactions and how?
- How do the companies regard future investments in ICTs?

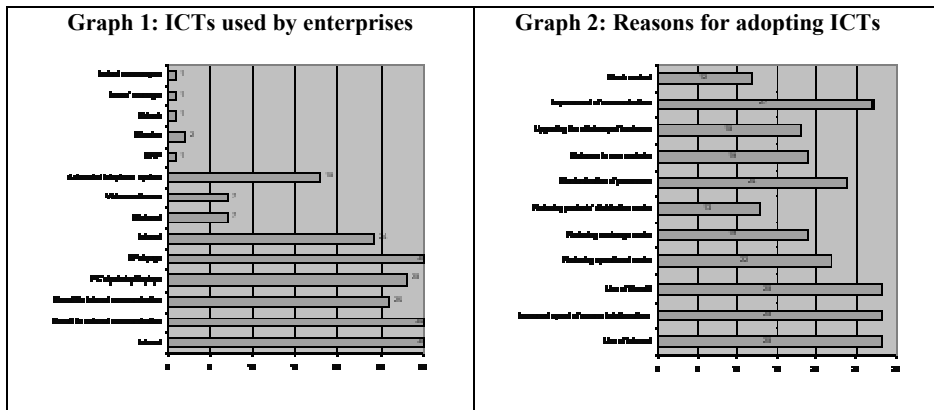
The method used was the structured questionnaire. 30 Greek enterprises in the F&B sector were chosen from among those with websites, by random sampling. The participating companies are listed in the following table. The study was conducted from September to November 2007.

**Table: The names of the participating companies**

A/A	THE COMPANIES' NAMES
1	CADBURY HELLAS S.A. CONFECTIONARY PRODUCTS
2	COCA-COLA 3E
3	NESTLE S.A.
4	OLYMPUS FOODS A.B.E.E.
5	ATHENIAN BREWERY S.A.
6	ANATOLI
7	ATTIKI MELISSOKOMIKI - A. PITTAS A.E.B.E.
8	VITOM
9	EURIMAC S.A.
10	DIMITRIA D.N. PSARRA
11	DODONI S.A. Milk production industry of Epirus
12	EVGA A.B.E.E.
13	EVROS NUTS S.A.
14	EY.GE PISTIOLAS
15	EPSA S.A.
16	MACEDONIAN THRACE BREWERY S.A. VERGINA BEER
17	KATSELIS CH. & SONS A.B.E.E.
18	KOUNINIOTIS
19	KOXYLI S.A.
20	DOMAIN GEROBASSILIOU
21	KTIMA KYR.YIANNI
22	MILLS OF CRETE S.A.
23	CHATEAU NICO LAZARIDI
24	MEVGAL
25	NEOGAL S.A.
26	P.G NIKAS S.A.
27	PELEKAN CANNING CO
28	TRIFYLLI LTD
29	TROFOTECHNIKI
30	KOUKAKI'S FARM S.A.

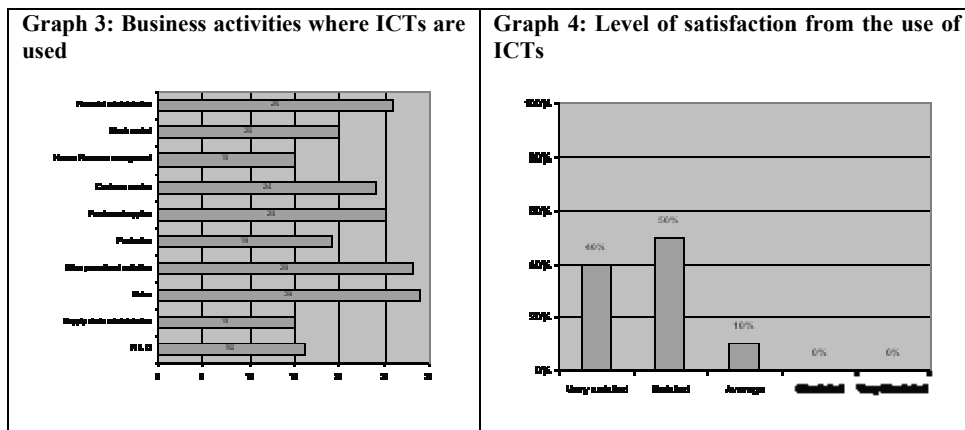
### 4. Research findings

The ICTs that are used by Greek F&B companies are mainly the computer, the Internet, the internal computer network (intranet), e-mail for external and internal communication and the automated telephone system. A small percentage use ERP systems, e-sales, e-tracking, Inners' Manager and instant messengers. Videoconferencing does not seem to be widely used, except by 23% of the companies (graph 1).

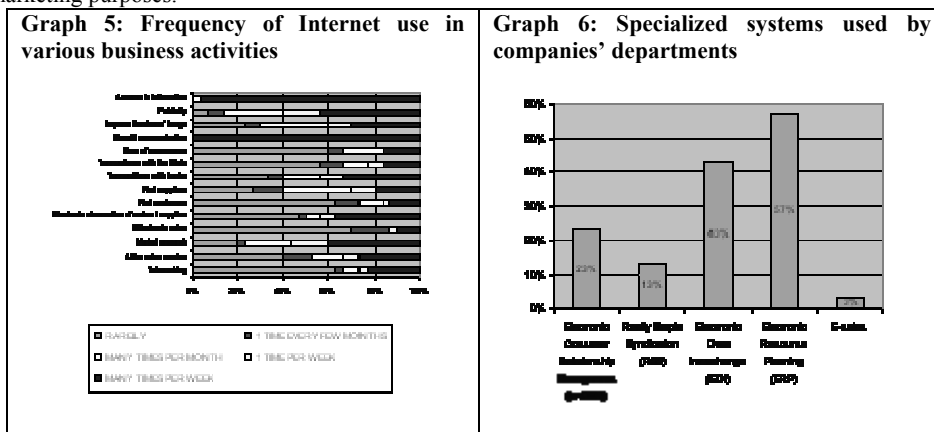


The main reasons why companies choose to adopt ICTs are use of the Internet, improvement of internal and external communication, increased speed of access to information and simplification of business processes. Specifically, 28 of the 30 industries have adopted ICTs in order to use the Internet and/or e-mail and for faster access to information. Many enterprises have adopted ICTs in order to simplify their processes, to upgrade business efficiency or to reduce operational or exchange costs. Only 40% of the companies investigated have adopted ICTs for better stock control and reduction of product distribution costs (graph 2).

ICTs are adopted mainly for marketing activities, sales and other promotion activities, customer service, and financial administration. They are not widely applied in supply chain administration, human resource management or research and development. 40% of the companies studied declare themselves very satisfied with the ICTs adopted. It is remarkable that no companies reported themselves dissatisfied. According to the findings, ICTs correspond to a great degree to the requirements of Financial Administration, Purchases/Supplies and Sales Departments, and to a lesser degree to the activities of Personnel Management and Supply Chain Administration (graphs 3 and 4).

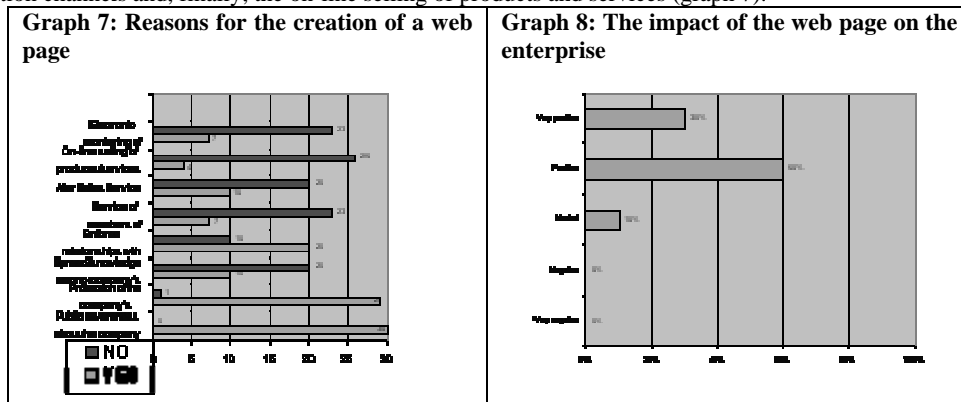


As shown by graph 5, the Internet is used several times a week, mainly for e-mail communication and for access to information. The Internet is rarely used for e-sales and other e-commerce activities, such as finding customers, teleworking and transactions with the State. Many times per month the Internet is used to improve business image, find suppliers or for marketing research. The use of the Internet varies, depending on each company's activities. Most of the companies, however, use the Internet several times a week for information, communication or marketing purposes.



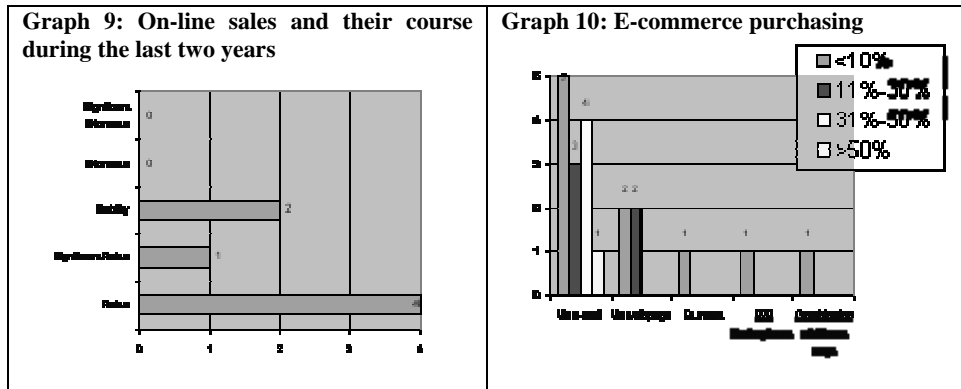
As graph 6 shows, 57% of the companies surveyed use the Enterprise Resource Planning (ERP) system. Electronic Data Interchange (EDI), electronic Customer Relationship Management (e-CRM), Really Simple Syndication (RSS) and E-Sales systems follow. RSS appears not to be widespread, with only 4 in 30 companies using it.

The main reasons for creating a web page are promotion of the company’s products and public awareness about the company. Secondary reasons are the spread of knowledge among the company’s staff and partners, electronic monitoring of orders and supplies, the service of members of distribution channels and, finally, the on-line selling of products and services (graph 7).



The study shows that 30% of the participant companies believed that the creation of a web page had a very positive effect on their image and activities, and 60% just positive. 10% of them thought that the web page affected the enterprise neither positively nor negatively (graph 8).

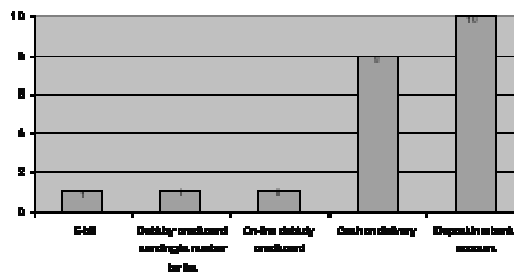
Seven out of 30 participating companies answered that they carry out on-line sales. Four of them declared that their on-line sales have risen in the last two years. In two companies, on-line sales were stable, while only one reported a significant rise in sales via its web page (graph 9).



The study found that only one company ordered more than 50% of its supplies over the Internet. Companies tend to use e-mail for on-line purchasing (graph 10).

10 out of the 21 companies that perform on-line transactions use deposits to a bank account. Eight of them pay cash on delivery and the other three prefer on-line debit by credit card.

**Graph 11: Methods of payment from on-line transactions**



The findings showed that 77% of the companies participating organise seminars to educate employees in the use of new ICTs. Finally, 53% of the participants forecast that their investments in ICTs will increase in the next year, while a small percentage (3%) expects a decrease in investments in ICTs for 2008.

**5. Conclusions**

The results of this research suggest that:

- The ICTs that are used by Greek F&B companies are, mainly, computers, the Internet, the intranet, e-mail for external and internal communication and the automated telephone system.

- The companies surveyed have adopted ICTs in order to use the Internet, improve communication, get information faster and simplify their business procedures.
- Many companies use ICTs mainly in marketing, especially for sales and other promotion activities, and in financial administration. ICTs are not widely applied in supply chain management, HRM, and R&D.
- The main reasons why companies use the Internet are communication via e-mail and the promotion of the company's products and services.
- The use of the Internet varies, depending on the activities of each enterprise.
- 57% of companies use an ERP system.
- The main reasons for creating a web page are promotion and information.
- The majority of the companies believe that the creation of a web page has a positive effect on their business.
- Only seven of the participant companies perform on-line sales. These sales have shown a rise in the last two years.
- 21 companies purchase supplies on-line.
- The companies respond positively to the question of ICT training for their employees, and they forecast that investments in ICTs will increase in 2008.

The final conclusion is that Greek F&B companies are interested in ICTs, although they seem to lag behind companies abroad. They use ICTs for greater access to information, to improve their internal and external communication, their products and their procedures, and to facilitate their relations with customers and suppliers. The companies are satisfied with their adoption of ICTs and they intend to increase investments in this sector next year.

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