

Las tic's en sociedades rurales: el caso de las cooperativas pesqueras de pequeña escala de Centla, Tabasco

ICT as a strategy for marketing in rural societies: The case of small-scale fisheries cooperatives, Centla, Tabasco

Gerardo Enrique Gutiérrez Romero

Universidad Tecnológica de Tabasco (UTTAB)

tengu23@hotmail.com

Resumen

Se desarrolló un esquema tecnológico (E-commerce) para las cooperativas pesqueras de pequeña escala, localizadas en la carretera municipal que comunica al municipio de Centla con el municipio de Jonuta, del Estado de Tabasco, con lo que se busca integrar un mercado directo entre productores (pescadores) y los consumidores intermedios y/o finales, con la finalidad de que los pescadores obtengan un mejor precio para su producto y los consumidores obtengan los menores precios, a través de la eliminación de los intermediarios (coyotes) que durante años han obtenido los mayores beneficios, en perjuicios de los cooperativistas, que no han podido modernizarse y ser más competitivos. Esta problemática (intermediarismo) fue detectada a través del proyecto de investigación, intitulado: Dinámica, Económica, Social, Cultural y Ambiental de humedales en Tabasco: un Enfoque Holístico, que se realizó en la DACEA UJAT, por lo que el presente esquema tecnológico se encamina a resolver una parte de las problemáticas identificadas.

Es importante señalar que a pesar que existe el conocimiento para el desarrollo de este tipo de programas y que puede llevarse a cabo la implementación de este esquema, ésta herramienta tecnológica será viable en la medida que los actores (cooperativistas) puedan ser capacitados y se plantee una estrategia (universidad-gobierno local) que permita su

implementación y seguimiento hasta que se logre el empoderamiento por parte de los usuarios (pescadores).

Palabras clave: E-commerce, cooperativas, mercado, pescadores, consumidores, intermediarios, esquema tecnológico.

Abstract

We developed a technological scheme (E-commerce) for small-scale fishing cooperatives, located in the municipal road that connects the town of Centla Jonuta the municipality of the State of Tabasco, which seeks to integrate a direct market between producers (fishermen) and intermediate customers and / or end, in order that the fishermen get a better price for their product and consumers get lower prices through the elimination of intermediaries (coyotes) who for years have obtained the greatest benefits in damage of the cooperative, which could not modernize and become more competitive.

This problem (middlemen) was detected through the research project entitled: Dynamics, Economic, Social, Cultural and Environmental wetlands in Tabasco: A Holistic Approach, held in DACEA UJAT, so this technological scheme works to address some of the problems identified.

It is important to note that although there is knowledge to develop these programs and which can be carried out the implementation of this scheme, this technological tool will be viable to the extent that actors (cooperative) can be trained and raised strategy (university-local government) to allow its implementation and follow up is achieved by empowering users (fishers).

Key words: E-commerce, cooperatives, market, fishermen, consumers, intermediaries, technological scheme.

Reception Date: February 2012 **Acceptance Date:** April 2012

Introduction

The middleman or coyote as it is known, is a negative factor in the economic activity of agriculture and fishing, some of the references that mention this problem are listed below:

As indicated "The middlemen is a phenomenon whose dimensions plague the country for decades; better known as coyotes, intermediaries absorb most of the gains in the agricultural sector. The problem is such a kilo of oranges in the orchard was paid 20 cents reaches the final consumer in six pesos.

What happens is that Mexican peasants, not having efficient models to market their products, are left to the coyotes and the malbaratan duplicated in a few hours investment. The problem is enhanced because it is not one but a whole chain of intermediaries that can exceed the half dozen until the product reaches the hands of the housewife.

It is precisely the intermediation process which absorbs most of the resources for the field. Both producers and researchers and farmers organizations agree that the coyote lowers the price received by producers and encourages the consumer pays "(Cortés, 2003, Field in the hands of coyotes, para. 4).

As indicated "the middlemen causes 80 percent of all corn growers in the state and country only for crops for their own consumption and living in deprivation" (Damian, 2010, CNPAMM: 80% of corn farmers living in middlemen poverty and lack of training, para. 1).

Specifically citing the fisheries sector, the problems of the ongoing struggle against the middlemen "The problem of low prices paid by intermediaries has also led women to strengthen their cooperatives organization follows: We pay little, but until we have some way to sell directly we can not do anything, so we are planning to organize to have a truck and take up our harvest Mexico "(Steps, 2007, Women Entrepreneurs, para. 4).

The problem as it was observed in the aforementioned quotes, is the marketing of products derived from the lack of financial and administrative resources to get products to the final consumer, a proposed solution to this problem is mentioned below: "as for the marketing of fishery and aquaculture products, CANAINPESCA states that there must be a reduction and eventual elimination of "intermediate steps" in addition to the reduction of losses due to

poor management of products, through the modernization and expansion of the cold chain, and the incorporation of new mechanisms of sale.

Effective marketing will be by reducing intermediate steps, creating commercial markets with electronic access to auctions and future operations, upon creation of a system of management rules to ensure adequate quality standards.

Another determining factor will be the modernization of collection centers, distribution and sale of fishery products, with regional basis, providing them with the infrastructure required, such as port terminals integrated or ways "(Anonymous, 2010, The potential, para. 7).

Introduce the problem by intermediaries and encouraging the use of commodity markets with electronic access, Gomez and Suarez (2010) mention the E-commerce as an alternative solution, arguing the following "E-commerce is therefore a new channel ... It also provides access directly to consumers, eliminating the various intermediaries "

Under these circumstances and based on studies considered that a technological tool known as E-commerce could eliminate the problem of middlemen and thus bringing together producers with buyers, allowing for both figures the market, achieving fair negotiations with prices that leave better margins both buyers and sellers.

Materials and methods

This research is characterized by a qualitative and exploratory study because it allows us to approach unfamiliar phenomena, in order to extract relevant variables and hypotheses to test them in subsequent investigations.

As noted above the original research project used the fieldwork and participant observation during 2008-2009 and part of 2010, which also rose census, surveys, interviews were conducted with residents of communities in the municipality of Centla, Tabasco and data enabled the researcher to identify the issues that were presented in populations living in areas of wetlands that have been published in the journal Economic milestones administrative sciences DACEA1 obtained.

In order to interpret the data we use the documentary and bibliographical research, which integrate the theoretical framework, for not only administrative and computer science but the new concepts that replace the concepts of traditional commerce, such as: internet, electronic commerce, cybermarketing, information system, database, shopping cart.

For the design of the technological scheme, in the part that refers to ICT theory analysis and development of information systems and Kendall Kendall was used, based on the model of the B2C e-commerce.

In the development of the information system Appserv Open Project version 2.5.10 was used, such distribution is free, includes the following tools:

- Apache Web Server.
- PHP 5.
- DBMS MySQL Version 5.0.51 b.

This distribution allows quick configuration of the above tools for developing web applications.

In the modeling and creation of the database, the CASE tool called TOAD Data Modeler freeware² version that allows visually, modeling and creating databases was used. In programming, given the work platform in the information system (internet) will unfold, the Dreamweaver version 8 tool was used, which is a web editor, which enables the design and programming of applications based on web programming leguajes , being 5 the PHP programming language to use.

In part that corresponds to the administrative part in the creation of the collection center of fishery products and organizational structure information to the FAO (Food And Agriculture Organization of the United Nations³) related to fishing community centers, operation consulted , proper management of fishery products, insurance in the same locality and recommendations on the use of facilities and marketing their products. Management theory in regard to the development in the organization, job description, SWOT analysis.

Qualitative methodology implied fieldwork, carrying out a series of interviews seeking to gather data that would allow us to know the reality of the problem they have, and their

views on the circumstances and the environment. For the development of the interview he had the support of a GPS (global positioning system) to have the precise geographical location of cooperatives, given that these have a number or address to locate them when they are required.

For the realization of this particular research were interviewed staff of small-scale fishing cooperatives (Table 1) located on the banks of rivers Usumacinta and San Pedro., In Centla-Jonuta road. This information was crucial to have knowledge of the context where artisanal fisheries, the instruments used, the types of fish caught, season each and cooperative prices put their products develops, physical characteristics of cooperatives, as well as how to deliver the goods to the buyers (middlemen).

Table 1

Facts coastal fishing cooperatives

Nombre de la cooperativa	Geo- referencia	Presidente	No. De socios
S.C.P.P y A. "Gallineta de Centla" S.C.L. de R.L	18o 30.559N 092o 39.028O	Román Contreras Valencia	
"Richard"	18o 30.460N 092o 39.030º	Ricardo León García	6 permisionarios
S.C. Frimarez de S.C. de R.L	18o 30.181N 092 39.075O		
S.C "Flor del Junco"	18o 23.147N 092o 36.440O	Feliciano Magaña	13 socios
Particular (Persona Fisica)	18o 23.730N 092 34.951O	Daniel Hernández Salvador	10 pescadores
S.C. "Rivera Alta 3ra. Sección" S.R.L. de C.V"	18o 23.725N 092o 34.759O		85 socios
S.C "Pescadores Unidos del Río Prieto"	18° 18.74´N 092° 27. 9790 5m	Domingo León Hernández	

Development technological scheme

The first point we proceeded to the corresponding analysis for the design and development of information system, for it is taken as a basis the theory analysis and design of systems Kendall and Kendall.

Identifying problems, opportunities and objectives

Problems:

The absence of a mechanism or strategy for marketing of fishery products from small-scale cooperatives Centla, Tabasco, so an information system intends to market its products, the system is based on the premise of electronic commerce, proper B2C4 mode.

Cornella (2000) mentions some important aspects of Internet use (p 234.)

- Was the client.
- Organization is removed.
- Virtual complete to the real.

These features provide for easy access of information from the customer about the products, making the market more transparent, the client being the enforcer of the rules, this requires organizations to be competitive, the fact of using the Internet, originates practically adopting the culture of using the strength of the company (brand, market knowledge, etc.) making efficient value chain.

Opportunities:

As there is no formal mechanism for commercialization is possible to create a technological framework for the marketing of products.

Objectives:

The marketing of fishery products, relying on the use of an information system based on business rules established by the company (organizational structure of the collection center).

limitations:

The development of the information system to enter the name by which prototype concerning the implementation and commissioning of the same is not true for the moment.

Determining information requirements

To develop the proposed technological scheme, it is necessary to identify the processes involved in fishing cooperatives:

- Must fishery products as input.
- The broker speculates on the price of products.
- The broker quotes a price.
- If the price is "convenient" online cooperative and this sale is made and is the intermediary who determined the price of the products.

If the price is not suitable for the cooperative, which almost does not happen, because these are at risk of losing their products, they choose to sell their products at unprofitable prices for cooperatives, being the intermediary a constant that determines the price at all times.

In the case of a proposed information system it was determined the following requirements:

1. 1 Check the sale of fishery products.
2. 2 Input: capturing the products by the cooperative.
3. 3 processes: negotiation or bargaining between buyers, in this case the broker, specifying a suitable price for the broker.

Taking as starting point the processes observed in the form of fishing cooperatives work, the process represents roughly based on the proposed use of the information system:

1. The capture of fish products.
2. Catches product information system are introduced.
3. Showing 3 products through a catalog name, supply and price.
4. The buyer examines the catalog and decide the effect of the transaction.
5. If registered you can interact with the cart.
6. After accepting the purchase of a note purchase and / or invoice is generated.

7. To purchase you need a record exists about customer data allowing the use of future strategies and sales promotions.

As we observed the steady intermediary becomes regarded as a variable in this case buyer, breaking price speculation, being cooperators who determine the price of their products at their own convenience.

Coming to the identification of three major players in the role of the proposed information system:

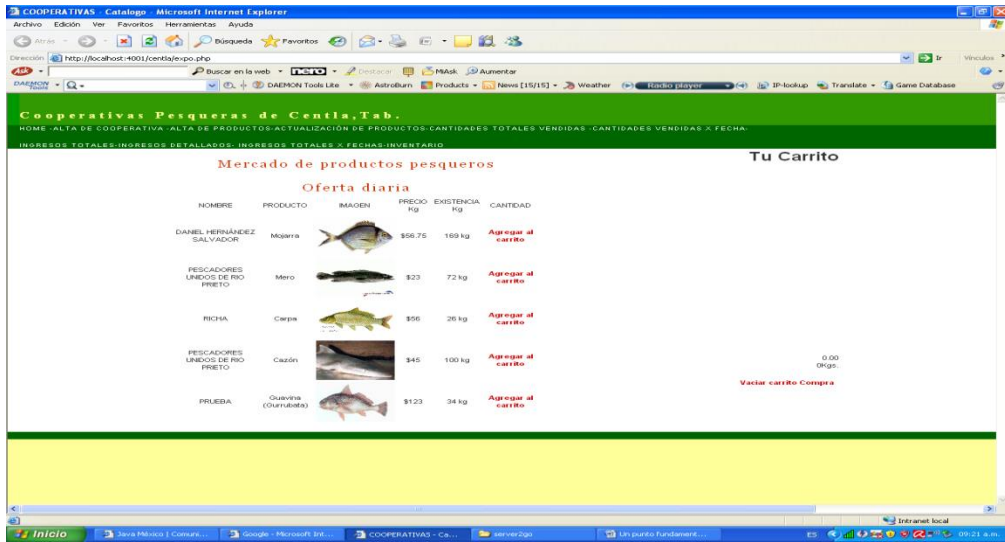
- Cooperative.
- Customer.
- System Manager information.

The first two actors are currently persist, entering a third party given the scene raised proposal. As indicated by Kendall and Kendall (2005), "the implications entail the use of E-commerce, indicating that these go beyond just website design" (p. 425), some of the considerations (Figure 1) have are:

- Customers need to feel safe buying the right amount.
- Getting the right price.
- And the total cost of a purchase over the Internet.

Figure 1

Graphical interface of the information system.

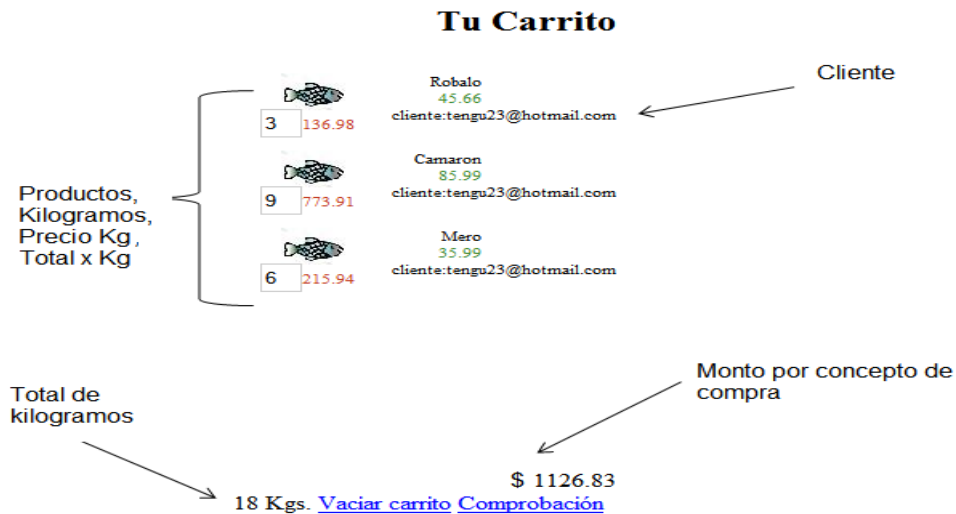


Source: own.

Kendall and Kendall For the most common way of establishing this trust is to use the metaphor of a shopping cart (Figure 2) to a customer who makes a purchase. One of the important features in a shopping cart is the ability of the customer to check the amount of the item requested or remove the article altogether, according to customer requirements.

Figure 2

GUI in cart.



Source: own.

1. In the above figure a virtual market is outlined in your case is the supply of fishery products of cooperatives, indicating the name of the cooperative, product, product image, price kilogram kilograms existence, amount to add to Shopping.
2. turn has a cart where the customer selected products will be added, or if empty cart. Specifically interface representing the shopping cart, the selected product, the price per kilogram of product, total kilograms in general and the amount for the purchase of products and customer details, being this part of the distinctive email, which asks a requirement when registering in the system and thus linking the client with the email.

Using the metaphor of a cart or shopping cart, as is well known, is essential given the particularity of the medium, looking resemble the physical presence of the buyer, exercise allowing actions like making a purchase (check), or choose not to effect it, can empty the already selected (empty cart).

Conclusions

The problem of marketing has been a central problem of both the economic and sociological literature. Most of the proceeds from the sale of primary products is in the hands of intermediaries, the middleman or coyote has a leading role in most of the primary activities of our country, unfortunately not for the better, since the profit generation is not equitable in producer-intermediary relationship, the latter who is the one who takes the best part in commercial activities due to which feature both technological and economic resources and knowledge of the characteristics of the market for money, demand and supply-versus producer, who most often unknown such characteristics, also the broker performs the tasks of the physical product movement (transport, storage, delivery) to final markets.

Added to this situation populations engaged in primary activities are facing a number of problems of social, cultural, economic, environmental and political, which worsens the situation of these sectors of the population who are increasingly more marginalized and food poverty despite having the resources provided by nature and while major environmental problems to be destroying their ecosystems.

The electronic information system proposed emula⁵ a market of fishery products, providing the ease of making purchases without having to be present in the area to sell such products, especially given the problems in marketing the products by the coastal fishing cooperatives, the direct approach of cooperatives and the consumer is looking for. Due to the approach of the proposed technological scheme is necessary to perform a series of activities to implement the proposal, among them is a study to measure the performance, so the possibility of developing a thesis opens to determine the economic and financial feasibility of the collection center.

It has tried to promote the agricultural and fisheries sector in the pursuit of equity and better living standards for people who engage in these activities, but for this to work you need to enlist the help of the government, it must promote and promote the consumption of fishery products, as compared with other countries to mention Norway, a person consumes about 40 kg. Of fish per year while in Mexico per person are consumed 9 kg.

Expanding domestic supply, with greater quantity and variety of fish products in diversified presentations and creating franchises are also required to establish a modern distribution network and sales of fresh and processed products being the last point in the activity commercial fish products.

By educational institutions is necessary to design according to the needs of the region productive projects, as well as knowledge for the creation of infrastructure and technology to promote the development of fisheries in the quest not to sell in small quantities its products but sell in an organized manner.

Finally, it is important to note that the proposal presents an ideal scheme which leads the implementation of the different theories and models used in the academic world, but the results to be obtained to be enacted this proposal are unknown, so the be implemented must conform to reality, which is completely unpredictable. Likewise, it is unknown how economic actors (producers, intermediaries (coyotes) and intermediate and final consumers) and social actors (members, fishermen and families) react to the technology and administrative systems.

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