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# Essential Functionalities for Commercial Internet Presence: A Portuguese Study

*Alexandre Ferreira, Department of Management and Economics, Beira Interior University, Covilhã, Portugal*

*Francisco Antunes, Department of Management and Economics, Beira Interior University, Covilhã, Portugal & Institute for Systems Engineering and Computers at Coimbra, Coimbra, Portugal*

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## ABSTRACT

*A balanced implementation of functionalities within a commercial internet presence is important, because of not only the involved complexity and cognitive load required in their use, but also for financial reasons. Investing money on features (e.g., software modules, programming time, maintenance and update, etc.) that are not valued by online consumers, hinders an efficient allocation of resources, especially when financial resources are scarce, a situation that corresponds too many small businesses operating on the internet. However, literature provides little help for managers to decide which functionalities should be implemented, according to a rational basis. Within this context, this research sought to fill in the gap between literature review and the need for helping companies to understand better how to build and keep online businesses. The authors work identified 16 essential functionalities grouped into four sets: order processing, advertising and prominence, product analysis, and payment.*

*Keywords: E-commerce, Online Consumer Behavior, Website Functionalities*

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## INTRODUCTION

The internet and web technologies provide means and tools for an advanced comprehension and improved service of online customers, helping companies to gain their loyalty (Valvi & Fragkos, 2012). If a company directs its resources to potential and current customers, in order to gain their trust, and to use web technologies to better understand them, then

that company is building the foundation for profits of years to come (Reichheld, Markey, & Hopton, 2000; Shin, 2001).

Even “small online business” (with non-transactional websites consisting of approximately 10 – 20 pages with some basic content management and social media widgets), incur in costs associated with designing, developing and building a website. Just to report some indicative numbers (for some interesting numbers

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please see: <http://www.executionists.com/blog/cost-to-build-websites-2014/> or <http://www.webpagefx.com/How-much-should-web-site-cost.html>, for instance), a small business will normally contact a Web developer to discuss the site content and design, with the developer offering a quote to deliver the site. Non-transactional sites can be delivered in a huge range of budgets. A five-page small-business site could cost as little as \$500, while a five-page site for a major firm could have a \$100,000 budget. The difference in budget relates to the complexity of design, cost of custom photography, motion graphics, animation and interactive tools. A simple but professional non-transactional website can usually be produced starting at \$2,500, plus basic Web hosting.

When referring to transactional websites, costs can increase quite drastically with every extra functionality or modules of functionalities. A Custom Content Management Systems – for clients who want to manage their own content – costs can range from \$2,000 to \$20,000, while the costs of e-commerce shopping carts, catalogs, payment processing range from \$1,500 to \$5,000 (or more, depending on requirements) and the creation and management of a social media network profile such as *Twitter*, *Facebook*, *YouTube*, *Google+*, *LinkedIn* etc., range from \$500 to \$2,000.

In spite of the fact that it is expectable to pay a lot more on a brick and mortar retail shop (which include inventory, interior design, furniture, rent, utilities, staff, equipment, insurance, etc.), the presented numbers (that do not include any maintenance costs) are not irrelevant, especially when it concerns businesses (small or not) baring financial restrictions.

Literature review shows that an organization can reach customers by providing them not only general information about products or services, but also by giving them the opportunity to make businesses online (Aladwani & Palvia, 2002), through buying, selling, transferring or exchanging products, services and information via computer networks (Turban, King, Lee, Liang, & Turban, 2010). This situation helps organizations to cut costs, to interact directly

with customers, to run more smoothly/faster and, better yet, to help organizations overcome competition (Liu & Arnett, 2000).

As a commercial website is the first point of contact between an online customer and a company, or online seller, it will influence the consumer's decision of whether or not to buy (Massad, Heckman, & Crowston, 2006). In order to effectively communicate with potential consumers, a commercial internet presence has to be well built (Lin & Lu, 2000), so companies need to investment in its design to facilitate information searching, while supporting the buying or shopping process (from information gathering to actual purchase), thus contributing for increased sales (Bridges & Florsheim, 2008).

The success of a commercial internet presence is then strongly affected by its functionalities. This is due to the fact that tools and applications in customer's service are more important in e-commerce than in traditional commerce, as consumers cannot interact "face-to-face" with the dealer (Singh, 2002). When customers buy a product, they also acquire the added services of that product. In addition to the main features, online consumers also expect additional services that create added value when shopping on the internet (Schuh, Kegel, & Bistricky, 2009). Those services might constitute differentiating factors for which customers will "pay extra" and may include delivery, order processing, the selection of products and after-sales support (Schneider, 2007), etc. Those functionalities can also contribute to the development of high standards in terms of service, convenience, speed of delivery, competitive pricing, choice, and safety (Chaffey & Smith, 2008; Mich, Franch, & Gaio, 2003).

This work aims to find out which of available functionalities in a commercial internet presence (or commercial website) are more relevant to online buyers, thus helping managers to prioritize their website investments, based on a scientific approach, rather than mere "gut-feelings" or even misleading advertising from web design companies. Such knowledge can help managers to minimize or rationalize investments in functionalities (whether reducing soft-

ware development costs or software acquisition costs) that online consumers actually recognize as supporting online shopping. The novelty of our research is a science-based prioritization of the functionalities that can be implemented on websites, according to a rationale based on the perceived importance of online consumers (or e-consumers), regarding web shopping, thus aiding managers to make the decision to spend the money where it counts more, according to their financial restrictions. Our intents aim at a deeper understanding of online shopping in general and Portuguese online shopping, in particular. To do so, we based the study on the functionalities (identified by Schuh, et al., 2009), which includes the most extensive set of identified web presence functionalities and also the vast majority of identified functionalities within the literature review.

The study resorted to an online questionnaire, an exploratory factor analysis and a confirmatory factor analysis (using structural equation modeling) as well, having identified 16 “essential” functionalities, encompassed within four sets: order processing; advertising and featured items; product analysis; and traditional payment.

The remainder of this paper is organized as follows. Section 2 encompasses the literature review, as well as the identified problem gap. The used methodology and obtained results are presented in section 3. The results are later discussed in section 4. In the last section, we draw the conclusions of our study and present future research directions.

## LITERATURE REVIEW

The internet and web technologies, by allowing an extended commercial presence, have not only reduced the cost of entering a market, but have also developed the means for sellers to attract new and engage returning customers, enhancing the chances for increased financial returns (Otim & Grover, 2010; Reichheld, et al., 2000). Electronic commerce is defined as the sharing of business information, maintain-

ing of business relationships, and conducting of business transactions by means of telecommunications networks, thus combining technical and economical sides (Alt & Klein, 2011; Zwass, 2003). Therefore, online businesses must understand the level of technical knowledge of their customers, their price sensitivity, brand preferences and the types of services, the attractiveness and usage of provided digital systems (Wirtz, Piehler, & Ullrich, 2013) and website functionalities that they value.

Online shopping allows companies to gather rich information on customer's searches and activity patterns within a website, offering the opportunity to better understand their clients (or potential clients), thus saving customers from time losses and frustrations (Otim & Grover, 2010; Singh, 2002). A company that responds to its clients' needs and helps them to make buying decisions, provides them additional value, while gaining their preference, trust and loyalty (Chang & Fang, 2013; Singh, 2002; Valvi & Fragkos, 2012).

Online consumers are innovative and impulsive, while seeking convenience and variety. They are more risk-prone, value products that meet their needs and possess a positive attitude towards advertising and direct marketing (Donthu & Garcia, 1999; Reichheld & Scheffer, 2000). In addition, they increasingly seek hedonic values (López-Bonilla & López-Bonilla, 2008) and register information and ideas for future purchases (as established in Bridges & Florsheim, 2008), looking for various alternatives as they shop and search the internet.

Regarding this paper, our research focuses more objectively on the B2C model (Business to Client, also known as storefront model). This business model combines transaction processing, security, online payment and information storage to enable merchants to sell their products on the Web. This is a basic form of e-commerce where the buyer interacts directly with the seller, using the functionalities provided by the seller's website. Those functionalities range from organizing an online catalog of products, take orders, accept payments, send merchandise to customers and manage customer data.

Table 1. Website attributes

Literature Crosscheck																	
Attributes	Literature																
	Katakota & Whinston, 1997	Bellman, et al., 1999	Donthu & Garcia, 1999	Swaminathan, et al., 1999	Voss, 2000	Eisenmann, 2002	Ranganathan & Ganapathy, 2002	Singh, 2002	Zeithaml, et al., 2002	Parasuraman, Zeithaml, & Malhotra, 2005	Massad, et al., 2006	Schneider, 2007	Chaffey & Smith, 2008	Chaffey, Ellis-Chadwick, Mayer, & Johnston, 2009	Ramanathan, 2010	Guo, Ling, & Liu, 2012	D'Avanzo & Kuflik, 2013
Choice				•									•				
Compensation and returns									•						•		
Competitive prices				•									•		•		
Convenience in terms of offered services			•	•									•				
Design		•				•	•	•								•	
Easiness in information access and services offered				•	•	•	•	•					•		•		
Efficiency											•	•					•
Fast responses					•			•	•				•		•		
Frequently updated website	•										•		•				
High quality services		•				•		•					•		•		
Privacy/security		•		•			•	•		•			•	•	•	•	
Proactive service								•									•
Quality products		•													•		
Reliability				•		•		•									•
Responsiveness					•			•	•								
Service fulfillment								•									
Simplicity								•									
Timely delivery													•	•	•	•	
Trust				•										•			
Usability								•				•	•	•			•
Variety		•	•			•											•

Literature presents many important website attributes. Some of the most common are presented in Table 1. Although far from being exhaustive, the previous list provides major clues on how commercial companies should structure their online services. Such services, and mostly their standards, will influence buyers' satisfaction, thus enhancing the probability for returning customers and new sales. As web browsers make it relatively simple to find product alternatives, allowing an easier catalog and price comparison, online users have gained more control over the buying process (Donthu & Garcia, 1999; Otim & Grover, 2010). In addition, online product reviews help consumers to make informed decisions about purchasing new products and has become a major driving force in new product sales (Baek, Ahn, & Choi, 2012; Cui, Lui, & Guo, 2012).

As online users evaluate online stores before buying, online sellers and the design of their websites play a major role, especially at the beginning of the buying process (Chen & Teng, 2013; Swaminathan, Lepkowska-White, & Rao, 1999). Online users feel safer to buy from previously known sellers (Brashear, Kashyap, Musante, & Donthu, 2009; Otim & Grover, 2010) and, for that reason, online sellers need to ensure that the products being ordered will reach their destiny, while respecting agreed conditions (J. Kim, Jin, & Swinney, 2009; Reichheld, et al., 2000). Therefore, online sellers need to find a way to build, rapidly, a trusting relationship (which is especially difficult to implement in first orders J. B. Kim, 2012), in order to gain credibility that sometimes takes years to develop within the so-called "traditional" businesses (Schneider, 2007).

As online shopping refers to a non-presential environment, the interaction between costumers and online sellers relies on the available functionalities of the commercial presence solutions, which try to mimic human interaction.

There is no consensus on how to classify or to aggregate any possible functionality to implement within a commercial internet presence (which we will refer, so forth, simply as web presence). Nevertheless, it is recognized

that the proper design of the functionalities is directly related to a web presence success (Ramanathan, 2010; Tucker, 2008). When a web presence encompasses only a few pages or the most common functionalities, navigation is usually a trivial process to the buyer. However, when it expands, in terms of page number and contents, the navigation load and cognitive demand is also enhanced (Katz & Byrne, 2003).

A web presence, much more than merely being "neat" and informative, needs to provide a reliable system to support the buying experience (Wu, 2011). To enhance that experience, social interaction functionalities (e.g. discussion forums or chats) Swaminathan, et al., 1999, entertainment functionalities and interactivity might have a positive effect on costumers' satisfaction, fidelity and retention (Massad, et al., 2006). In addition, if a potential buyer does not perceive that a company values his interest on its web presence and that there are tools or functionalities that will help him along the buying process, his motivation to buy or even to navigate within a web presence will be drastically compromised (Luo & Seyedian, 2003). Determining the proper set of functionalities is a hard balance to achieve, as the implementation of a large number of functionalities might distract or dislike a potential buyer, rather than contributing towards value creation (Schuh, et al., 2009; Song & Kim, 2012).

Balancing functionalities within a web presence is not only important when regarding user needs and cognitive load, but also due to financial reasons. Investing money into functionalities (e.g. software modules, programming time, maintenance and update, etc.) that are not valued by the users (even though they are "pretty"), is not a resource efficient measure, especially when financial resources are scarce, a situation that corresponds to many small businesses that operate on the internet. Nevertheless, literature offers little help to managers when deciding which functionalities should be implemented, according to a rational framework. To this matter, rather than describing which functionalities a web presence should provide, literature focus much more on describing large

Table 2. Functionalities for web presence

Literature Crosscheck																		
Functionalities	Kalakota & Whinston, 1997	Bellman, et al., 1999	Donthu & Garcia, 1999	Swaminathan, et al., 1999	Voss, 2000	Eisenmann, 2002	Ranganathan & Ganapathy, 2002	Rodrigues, 2002	Singh, 2002	Zeithaml, et al., 2002	Massad, et al., 2006	Schneider, 2007	Chaffey & Smith, 2008	Chaffey, et al., 2009	Schuh, et al., 2009	Turban, et al., 2010	Guo, et al., 2012	D'Avanzo & Kuflik, 2013
Advertising			•															•
After-sales support									•			•				•		•
Chat rooms	•		•	•					•						•			•
Company information							•			•					•			
Complaints and returns													•	•	•			•
Contact information										•		•		•				•
Credit card acceptance														•	•			•
Customization	•	•		•					•	•			•		•			•
Delivery details									•			•	•	•	•			
Detailed information						•	•		•						•			•
Dispatch delivery notification													•		•			•
E-mail and automatic response					•				•									
Entertainment											•				•			•
FAQ's					•	•			•						•			•
Helpdesk/Call center					•				•						•			
Negotiation of terms									•						•			•
Order and package fulfillment/placement					•				•			•	•	•	•	•		•
Payment information	•						•		•	•		•	•	•	•			•
Payment method															•			•
Phone follow-up					•													•
Price comparison			•															•
Price information and specification	•		•			•		•	•				•	•	•			
Product catalog														•	•	•		•
Product comparison						•	•	•							•			•

*continued on following page*



Table 2. Continued

Literature Crosscheck																		
Functionalities	Kalakota & Whinston, 1997	Bellman, et al., 1999	Donthu & Garcia, 1999	Swaminathan, et al., 1999	Voss, 2000	Eisenmann, 2002	Ranganathan & Ganapathy, 2002	Rodrigues, 2002	Singh, 2002	Zeithaml, et al., 2002	Massad, et al., 2006	Schneider, 2007	Chaffey & Smith, 2008	Chaffey, et al., 2009	Schuh, et al., 2009	Turban, et al., 2010	Guo, et al., 2012	D'Avanzo & Kuflik, 2013
Product selection support	•						•	•	•			•		•	•			•
Promotions	•		•												•			•
Response to questions					•	•		•				•			•			•
Search and navigation					•			•	•				•		•			•
Shipping cost calculator																•		•
Shopping cart															•	•		
Tracking	•				•			•	•				•		•			•

sets of functionalities or abstract attributes that should be implemented, as described in Table 2, thus lacking a greater level of detail.

Within this context, our work sets out to bridge the gap between literature review and the need to aid people (i.e. managers and programmers) in choosing the right functionalities to implement a proper and rational web presence of a company. In addition, we also intended to help developers to adjust software packages, according to the possibility for a wider modular offer, adapted to the needs of very small businesses or to the ones of large corporations, trying

to reduce risks and promote sustainability of web presences (Alt & Klein, 2011).

To do so, we based the study on the functionalities identified by (Schuh, et al., 2009), which includes, to the best of our knowledge, the most extensive set of identified web presence functionalities and also the vast majority of identified functionalities within the literature review (as expressed in Table 2). Nevertheless, in this study (as it is encompassed within a larger research agenda), we limited our focus solely on internet acquisition of physical goods.

Table 3. Frequency table (gender)

		Frequency	Percent
	Feminine	55	42,6
	Masculine	74	57,4
	Total	129	100,0



Table 4. Frequency table (age)

	Frequency	Percent
<=35 years	10	7,8
36-45 years	45	34,9
46-55 years	54	41,9
56-65 years	14	10,9
+65 years	6	4,7
Total	129	100,0

## METHODOLOGY AND RESULTS

The study used an iterative approach, as described in the following subsections. After an initial online survey, the second phase of the study regarded an exploratory factor analysis, based on the obtained results, by using principal component analysis with *Varimax* rotation and the software *SPSS Statistics – v.21*, IBM SPSS. In the last stage, we used a confirmatory factor analysis, by applying structural equation modeling analysis and using the software *AMOS v.21*, IBM SPSS.

### Survey Instrument and Sample

The attributes were summarized into various items and a survey instrument was created (please see appendix A). This instrument, implemented as an online survey using *GoogleDocs* (<https://docs.google.com>), asked the respondents to identify the extent to which they agreed/disagreed with these items in relation to their experience in shopping from web sites. Respondents rated each item using a Likert scale from 1 to 7, where 1 represented “strongly disagree” and 7, “strongly agree”.

Although websites should cater to experienced and less experienced consumers, our research focuses on the perceptions of experienced users to benefit from their knowledge in repeated experiences. Therefore, the survey was administered to a sample of heterogeneous Portuguese higher education teachers, as they usually have web-shopping experience of physical goods (e.g. books, printing supplies,

electronics, etc.) and they are easily targeted using their e-mails, as the vast majority of them are publically available at the websites of their institutions.

In spite of the fact that the selection of Portuguese higher education teachers indeed carried an element of convenience (in terms of time, effort and money in data gathering), the sample selection was not without further thought. In order to achieve the purposes of our research we wanted to target users that would possess a set of intrinsic characteristics, beyond usual geographic and demographic dispersion (in terms of gender and age), namely: a repeated web-shopping experience; informatics literacy; computer availability; and even willingness to participate.

Although we acknowledge that other professional categories could have been included, as later expressed in the limitations of this study, it is our belief that the selected sample (a key informant sample) was representative and adequate to the objectives of our research. Accordingly, a list of emails was gathered, using the respective higher education institutions websites and an email, containing a link to the online survey, was sent. The e-mail stressed out that only people with repeated web-shopping experience of physical goods should answer. The process returned 129 validated responses over a period of two months (age and gender descriptive analysis of the respondents is shown in Tables 3 and 4).

Table 5. Total variance explained

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,711	40,584	40,584	7,711	40,584	40,584	5,769	30,365	30,365
2	2,235	11,761	52,346	2,235	11,761	52,346	2,830	14,896	45,261
3	1,445	7,605	59,950	1,445	7,605	59,950	1,766	9,295	54,555
4	1,339	7,045	66,995	1,339	7,045	66,995	1,723	9,069	63,625
5	1,008	5,307	72,303	1,008	5,307	72,303	1,649	8,678	72,303
6	,696	3,662	75,965						
7	,554	2,917	78,882						
8	,513	2,700	81,582						
9	,485	2,554	84,136						
10	,463	2,436	86,572						
11	,433	2,280	88,852						
12	,375	1,971	90,823						
13	,348	1,834	92,657						
14	,319	1,678	94,334						
15	,262	1,376	95,711						
16	,251	1,323	97,034						
17	,233	1,224	98,258						
18	,176	,927	99,186						
19	,155	,814	100,000						

Extraction Method: Principal Component Analysis.

## Exploratory Factor Analysis

Exploratory factor analysis (EFA) is a data exploratory analysis technique, which aims to unveil and analyze the structure of a correlated set of variables, in order to develop a measure scale for intrinsic factors that control (more or less explicitly) the original variables. This means that, in principle, if there are two correlated variables (where the correlation is not spurious), such association derives from a common characteristic, even though not directly observable (i.e. a latent factor).

EFA uses the observed correlations among the original variables to estimate the common factors, as well as the structural relationships that connect the latent factors. Therefore, the main goal of EFA is to quantify non-observable constructs (factors) (Marôco, 2011), assuming that any measured variable might be associated with any factor and there are no assumptions about relationships among factors.

## Sampling Adequacy and Multicollinearity

Sampling was found adequate, as the Kaiser-Meyer-Olkin measure (KMO-test) was 0.876 (and, therefore, greater than 0.5), the Bartlett's Test of Sphericity was significant and all the

elements on the diagonal of the anti-image matrix of covariance and correlations were greater than 0.5 (Field, 2000). As the determinant of the correlation matrix was greater than 0.00001, it was assumed that multicollinearity was not present (Field, 2000).

## Factor Extraction

Retained factors presented an *eigenvalue* greater than 1, as shown in Table 5, yielding 5 factors that accounted for 72.303% of the variance (a level within usual acceptance in social sciences, according to Hair, Black, Babin, Anderson, & Tatham, 2006).

The component correlation matrix, after *Varimax* rotation and the description of the variables associated to each factor is shown in Table 6, while the interpretation of the obtained factors is presented in Table 7.

## Internal Consistency of the Scales

To analyze the internal consistency of the scales of the obtained factors, we used Cronbach's Alpha coefficient. The results, presented in Table 68, were much higher than the threshold level of 0.6 considered appropriate for exploratory research.

Table 6. Observed variables and corresponding factors

Factor	Variables	Description
1	<i>EstimDeliveryDate</i>	Provides a costumer the information on the expected date of delivery
	<i>OrderConfirmation</i>	Allows confirming the order of selected products
	<i>OrderStatusTracking</i>	Allows to check on the status of any order (from ordered to delivered)
	<i>PreDeliveryInfo</i>	Sets or provides information on delivery time, delivery insurance, delivery cost, method of delivery, available destiny countries, available transport packaging and secure delivery
	<i>ComplaintStatus</i>	Allows customers to consult, at any time, the status of registered complaints
	<i>MethodOfDelivery</i>	Allows to define or change the delivery method
	<i>DeliveryDigitalGoods</i>	Allows downloading digital goods
	<i>CancelationOfOrders</i>	Refers to the possibility of canceling a previously completed purchase
	<i>PrePaymentInfo</i>	Refers to the existence of information about payment, accepted payment methods and the existence of secure payments
2	<i>Newsletter</i>	Informs subscribed customers about the company and its products
	<i>ProdAdvertisement</i>	Displays new products, novelties or featured products
	<i>RssFeed</i>	Publishes frequently updated information, such as news, audio, video
	<i>CompAdvertisement</i>	Exhibits news about the company
3	<i>ProductCatalog</i>	Presents information regarding the name, brand, category, description, price, product illustration, duration of offers, duration of a contract, special discounts/offers, scope of delivery, and an introduction to new products
	<i>DetProductCatalog</i>	An extension of the previous functionality, encompassing the information about weight, size, audio examples, special delivery requirements, spare parts, accessories, place of manufacture, warranty information, assembly and usage information, installation instructions, product-related insurances, product-related support, information on maintenance, information and direction for use, certificate or seal of quality and types of packaging (e.g. gift wrap)
4	<i>PaypalPayment</i>	Allows to set PayPal as a means of payment
	<i>PaysafecardPaym</i>	Allows to set PaySafecard as a means of payment
5	<i>MoneyTransfer</i>	Allows to set a bank transfer as a means of payment
	<i>CashAtPickup</i>	Allows to set the payment upon delivery

## Confirmatory Factor Analysis

Based on the retained five factors in EFA, we performed a confirmatory factor analysis (CFA) using structural equation modeling (SEM).

SEM regards a generalized modeling technique used to test the validity of theoretical models that define hypothetical relationships among variables. Such relationships are associated to parameters that represent the magnitude in which independent affect dependent variables,

within a composite of hypothesis regarding the association patterns among the variables of the model (Marôco, 2010). SEM is an extension of the generalized linear models that implicitly considers that the measurement errors, which are associated to the variables under study, are a combination of the classical techniques of factor analysis and linear regression (Marôco, 2010).

Table 7. Extracted factors

Factor	Description
1	<i>Order processing</i> Encompasses functionalities that support the ordering process as well as all aspects related after sales support (e.g., complaints)
2	<i>Advertising and featured items</i> Integrates functionalities that allow a user to be informed of products conditions, news about product and about the company
3	<i>Product Analysis</i> Combines functionalities that inform users on the characteristics of the products for sale and relevant information about them
4	<i>Electronic card payment</i> Includes functionalities that allow paying orders by electronic means (e.g., PayPal and PaySafecard)
5	<i>Traditional payment</i> Covers functionalities that allow paying orders by traditional means (e.g., money transfer and cash at pickup payment)

## Data Normality

As the maximum likelihood estimation (MLE) was applied to the model, it was necessary to guarantee that observed variables presented a multivariate normal distribution. To this matter, the skewness (*sk*) and kurtosis (*ku*) of every variable, evidenced in Table 9, presented values that are within the range that allows the assumption of normality existence ( $|sk| < 3.0$ ;  $|ku| < 7.0$ ) (Finney & DiStefano, 2006; Kline, 2011; Marôco, 2010). Therefore, MLE produced efficient and consistent results.

We used the squared Mahalanobis distance to test the existence of multivariate outliers (i.e.  $p1$  and  $p2 < 0,001$ ), although we found no evidence of their presence.

## Factor Analysis

The initial model, depicted in Figure 1, presents adequate standardized factor weights ( $\lambda \geq 0.50$ ) and, consequently, adequate individual reliability values (individual  $R^2 \geq 0.25$ ). Nevertheless, the model presents a set of merely acceptable quality adjustment indexes ( $\chi^2/df = 1.498$ ;  $CFI$  (Comparative Fit Index) = 0.945;  $GFI$  (Goodness of Fit Index) = 0.858;  $TLI$  (Tucker-Lewis Index) = 0.934;  $RMSEA$  (Root Mean Square Error of Approximation) = 0.062;  $P[rmsea \leq 0.05] = 0.122$ ). Particularly, a  $p$ -value  $< 0.05$  associated to the Qui-square test indicates that the hypothesis of having an estimated covariance matrix of the model that is equal to the population covariance matrix should

Table 8. Retained factors

Cronbach's Alpha Coefficients		
Factor	Cronbach's Alpha	Evaluation Kline, 2011
1	0.93	Excellent
2	0.83	Good
3	0.76	Good
4	0.78	Good
5	0.70	Acceptable

Figure 1. Initial model

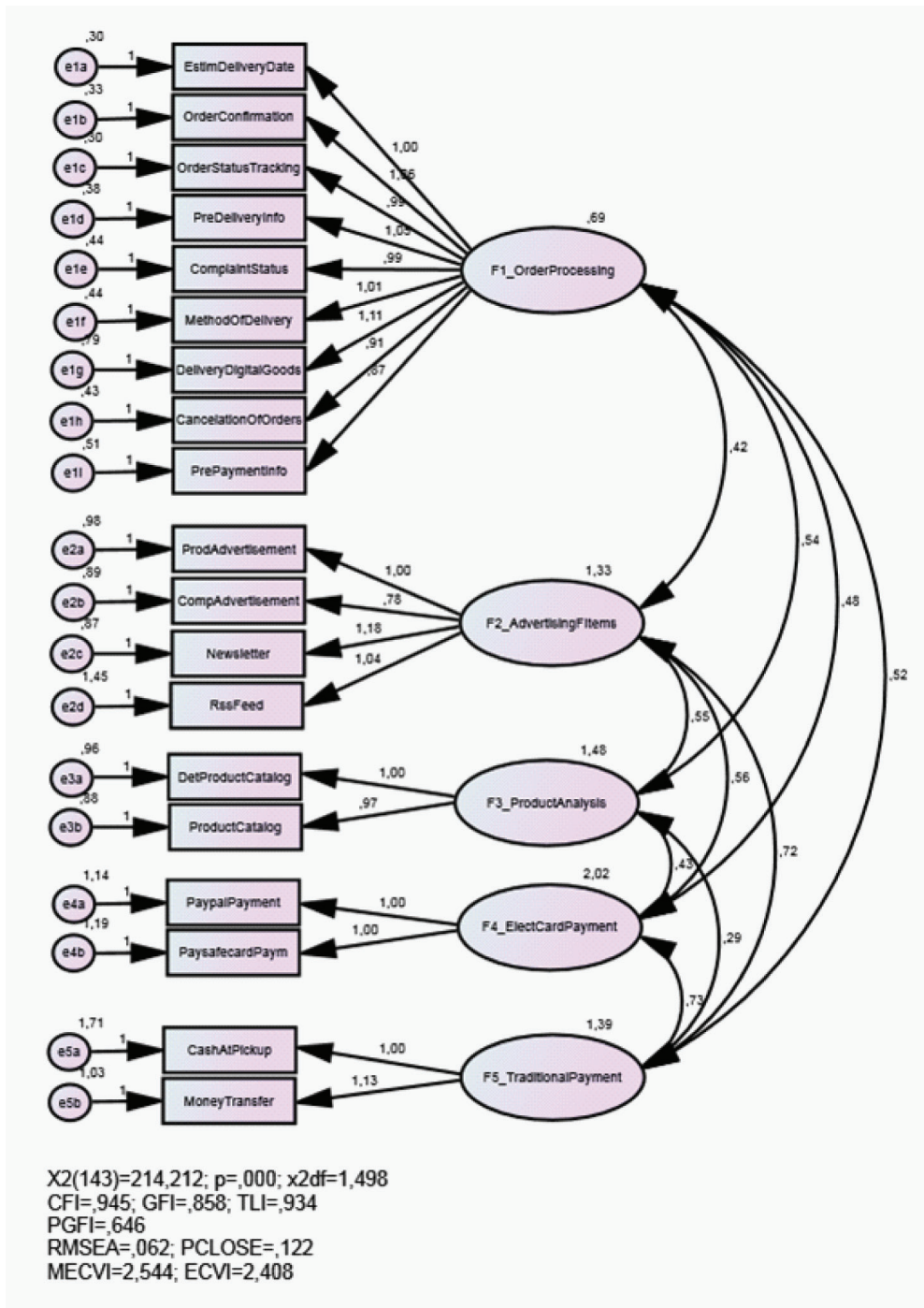




Figure 2. Modified model

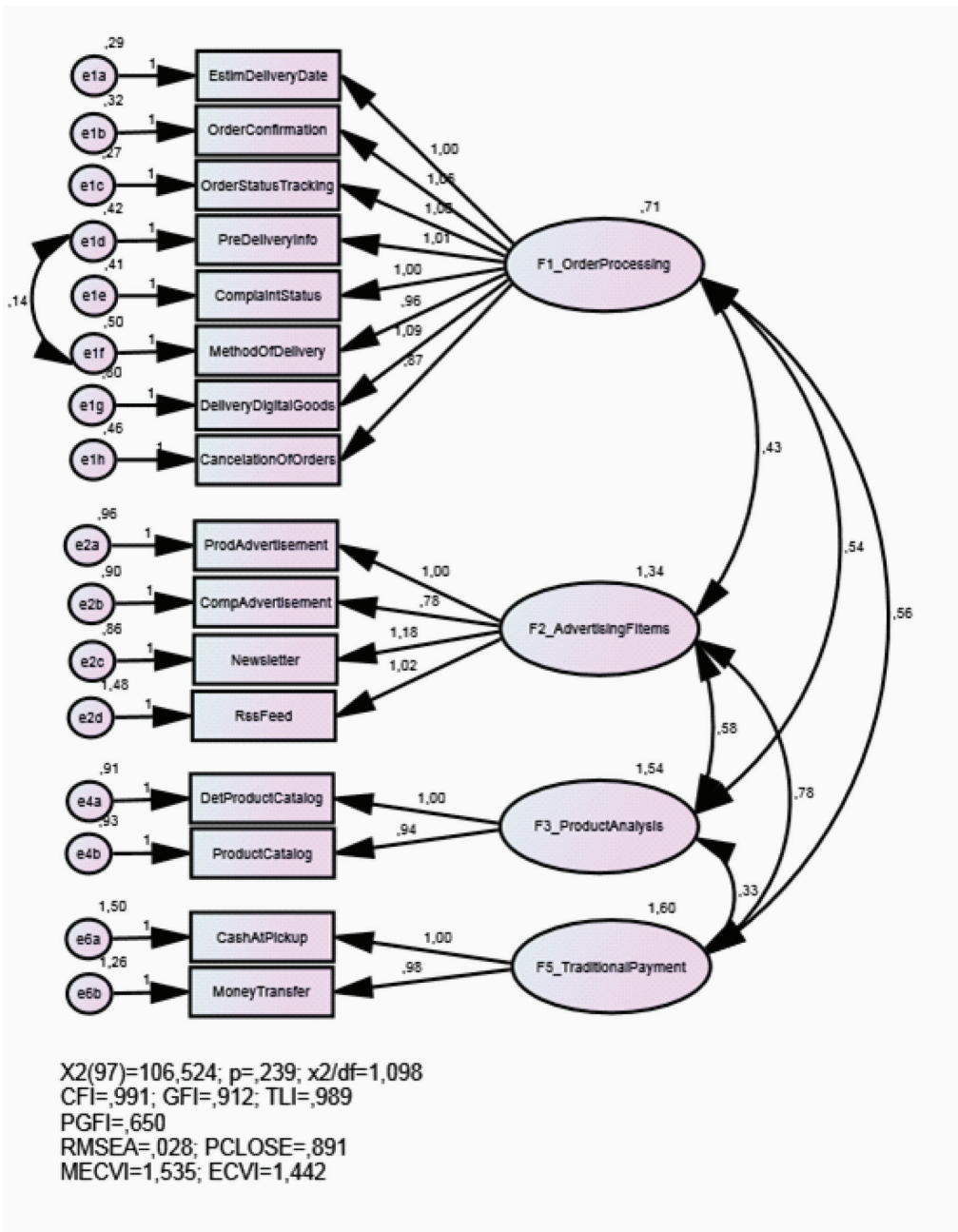


Table 9. Assessment of normality

Variables Values						
Variable	min	max	sk	c.r.	ku	c.r.
CancelationOfOrders	1.000	7.000	-2.165	-10.038	6.915	16.031
DeliveryDigitalGoods	1.000	7.000	-1.434	-6.650	2.787	6.461
MethodOfDelivery	1.000	7.000	-1.227	-5.689	2.749	6.373
ComplaintStatus	1.000	7.000	-1.558	-7.224	3.453	8.005
RssFeed	1.000	7.000	.274	1.271	-1.074	-2.490
CashAtPickup	1.000	7.000	-.780	-3.614	-.285	-.660
MoneyTransfer	1.000	7.000	-.958	-4.444	.216	.501
PreDeliveryInfo	1.000	7.000	-1.831	-8.492	4.778	11.077
OrderStatusTracking	1.000	7.000	-1.882	-8.726	6.107	14.158
OrderConfirmation	1.000	7.000	-1.823	-8.452	4.889	11.335
EstimDeliveryDate	1.000	7.000	-1.897	-8.795	5.959	13.816
CompAdvertisement	1.000	7.000	-.082	-.379	-.428	-.993
ProductCatalog	1.000	7.000	-1.361	-6.313	1.471	3.410
Newsletter	1.000	7.000	-.111	-.513	-.877	-2.034
ProdAdvertisement	1.000	7.000	-.095	-.443	-.764	-1.771
DetProductCatalog	1.000	7.000	-.864	-4.005	.139	.322

Table 10. Factor composite reliability (CRe)

Variables Estimates				
Factor	Variables	$\lambda$	$1-\lambda$	CRe
F1_OrderProcessing	EstimDeliveryDate	0.843	0.157	0.96
	OrderConfirmation	0.843	0.157	
	OrderStatusTracking	0.848	0.152	
	PreDeliveryInfo	0.794	0.206	
	ComplaintStatus	0.794	0.206	
	MethodOfDelivery	0.753	0.247	
	DeliveryDigitalGoods	0.717	0.283	
	CancelationOfOrders	0.735	0.265	
F2_AdvertisingFltems	ProdAdvertisement	0.763	0.237	0.90
	CompAdvertisement	0.690	0.310	
	Newsletter	0.826	0.174	
	RssFeed	0.696	0.304	
F3_ProductAnalysis	ProductCatalog	0.769	0.231	0.85
	DetProductCatalog	0.793	0.207	
F5_TraditionalPayment	CashAtPickup	0.718	0.282	0.80
	MoneyTransfer	0.743	0.257	



Table 11. Average variance extracted for each factor

Variables Estimates				
Factor	Variables	$\lambda$	$1-\lambda$	AVE
F1_OrderProcessing	EstimDeliveryDate	0.843	0.157	0.75
	OrderConfirmation	0.843	0.157	
	OrderStatusTracking	0.848	0.152	
	PreDeliveryInfo	0.794	0.206	
	ComplaintStatus	0.794	0.206	
	MethodOfDelivery	0.753	0.247	
	DeliveryDigitalGoods	0.717	0.283	
	CancellationOfOrders	0.735	0.265	
F2_AdvertisingFItems	ProdAdvertisement	0.763	0.237	0.68
	CompAdvertisement	0.690	0.310	
	Newsletter	0.826	0.174	
	RssFeed	0.696	0.304	
F3_ProductAnalysis	ProductCatalog	0.769	0.231	0.74
	DetProductCatalog	0.793	0.207	
F5_TraditionalPayment	CashAtPickup	0.718	0.282	0.66
	MoneyTransfer	0.743	0.257	

be rejected, meaning that trying to generalize the results would not be possible.

For a better understanding of the model, modification indexes were calculated. The analysis of those indexes allowed to perceive that there was a correlation between the error of the variable “PrePaymentInfo” (e1i) and factors 2, 3 and 5, which suggested that its behavior was not explained by its associated factor (namely

F1\_OrderProcessing). In addition, the variables “PaypalPayment” and “PaysafecardPaym” loaded both on factor 2 (F2\_AdvertisingFItems), and on factor 5 (F5\_TraditionalPayment), which implied dropping those items and the adjustment of the original model (Marôco, 2011). The quality adjustment indexes of the modified model was very good ( $\chi^2/df=1.098$ ; CFI=0.991; GFI=0.912; TLI=0.989; RM-

Table 12. Correlation coefficients and squared correlation coefficients

Values Between Factors		
	r	r <sup>2</sup>
r <sub>12</sub>	0.447	0.200
r <sub>13</sub>	0.523	0.274
r <sub>15</sub>	0.531	0.282
r <sub>23</sub>	0.402	0.162
r <sub>25</sub>	0.535	0.286
r <sub>35</sub>	0.211	0.045

Table 13. AVE of each factor and squared correlation coefficient

Values Between Factors				
	F1	F2	F3	F5
F1	<b>0.750</b>			
F2	0.200	<b>0.685</b>		
F3	0.274	0.162	<b>0.736</b>	
F5	0.282	0.286	0.045	<b>0.665</b>

$SEA=0.028$ ;  $P[rmsea \leq 0.05]=0.891$ ), as represented in Figure 2.

### Factor Validity

To evaluate whether the modified model was significantly better than the original one, we performed a  $\chi^2$  differences test, as the new model was a nested model (by item elimination) of the original one (Marôco, 2011). The tested hypotheses were:

- $H_0$ :  $\chi_0^2 = \chi_m^2$  (both original and modified model have the same adjustment quality)
- $H_1$ :  $\chi_0^2 \neq \chi_m^2$  (the adjustment quality of the models is different)

The statistic of the test was:

$$\chi_{dif}^2 = \chi_0^2 - \chi_m^2 = 214.212 - 106.524 = 107.688$$

with  $143 - 97=46$  degrees of freedom. For  $\alpha = 0.05$ , we observed that  $\chi_{0.95; (46)}^2 = 62.830$ . As  $\chi_{dif}^2 = 107.688 > \chi_{0.95; (46)}^2 = 62.830$  we rejected  $H_0$ . Therefore, we concluded that the modified model presents a better adjustment, than the original model, regarding the observed correlation structure between the items of the study sample. It is also interesting to point out that the modified model presents a considerably lower *MECVI* (*Modified Expected Cross-Validation Index*) ( $1.535 < 2.544$ ) and *ECVI* (*Expected Cross-Validation Index*) ( $1.442 < 2.408$ ), as

Table 14. Quality adjustment

First and second order indexes			
Index	1 <sup>st</sup> -order modified model	2 <sup>nd</sup> -order model	Quality adjustment of 2 <sup>nd</sup> -order model
p value	0.239	0.125	Worsened
$\chi^2/df$	1.098	1.165	Worsened
CFI	0.991	0.985	Worsened
GFI	0.912	0.905	Worsened
TLI	0.989	0.981	Worsened
PGFI	0.650	0.659	Worsened
RMSEA	0.028	0.036	Worsened
PCLOSE	0.891	0.799	Worsened
MECVI	1.535	1.568	Worsened
ECVI	1.442	1.480	Worsened

shown in Figure 1 and Figure 2, which indicates that the modified model also presents a better validity, regarding the population of the study (Marôco, 2011).

### Convergent Validity

In order to evaluate the convergent validity of the factors we used the output of the standardized regression weights ( $\lambda$ ) of the modified model (Table 10) to calculate the composite reliability of each factor (CRe<sub>j</sub>, as in Equation 1). All values were higher than 0.7, presenting a good reliability (Hair, et al., 2006).

$$CRe_j = \frac{\left( \sum_{i=1}^k \lambda_{ij} \right)^2}{\left( \sum_{i=1}^k \lambda_{ij} \right)^2 + \sum_{i=1}^k \varepsilon_{ij}} \quad (1)$$

$\lambda_{ij}$ , standardized regression weights

$\varepsilon_{ij}$ , errors of each item ( $1 - \lambda_{ij}$ )

$i$ , item

$j$ , factor

$k$ , number of items

### Discriminant Validity

Discriminant validity was then assessed by comparing the Average Variance Extracted (AVE, as in Equation 2) for each factor, with the squared estimate of the correlation between the factors, whose validity we wanted to determine. All AVE (as presented in Table 11) were higher than 0.5 and also higher than the squared correlation coefficient between factors ( $r^2$ ), as shown in Table 12 and Table 13, demonstrating the discriminant validity of the factors (Fornell & Larcker, 1981; Marôco, 2011).

$$AVE_j = \frac{\sum_{i=1}^k \lambda_{ij}^2}{\sum_{i=1}^k \lambda_{ij}^2 + \sum_{i=1}^k \varepsilon_{ij}} \quad (2)$$

$\lambda_{ij}$ , standardized regression weights

$\varepsilon_{ij}$ , errors of each item ( $1 - \lambda_{ij}$ )

$i$ , item

$j$ , factor

$k$ , number of items

Although it would be theoretically adequate to consider the existence of a second-order latent factor, the obtained values for the quality adjustment indexes of that situation were worse than the ones obtained regarding the first-order modified factor model (Table 14), which made us conclude that there is no gain in adding a second-order latent factor to the model.

## DISCUSSION

This study presents divergences regarding the distinct functionalities identified by (Schuh, et al., 2009), providing evidence that many of them are perceived as similar. This means that even though the listed functionalities can be individualized in terms of software programming, according to our results many of those functionalities are seen together as single units (corroborating Chaffey & Smith, 2008 and Singh, 2002). Moreover, the referred authors stand that there are nine dimensions (or groups) of consumer-focused functionalities that should support the online selling process, but the results of our study are not consistent with such claim. The results point out that the functionalities regarding product selection, company information and contact (defined as separate groups of functionalities) are overlapped, as well as the ones encompassed within order, order management and delivery, which are actually perceived as a whole process.

Therefore, result analysis determined the existence of four distinct sets of functionalities, whose presentation order does not reflect their relative importance, to be considered as “essential” on online commercial presence.

- The first set, *Order processing* encompasses:
    - *Estimated delivery date*, which provides a customer the information on the expected date of delivery;
    - *Order confirmation*, which allows confirming the order of selected products;
    - *Order status (tracking)*, which allows to check on the status of any order (from ordered to delivered);
    - *Pre-delivery information*, as the functionality that sets or provides information on delivery time, delivery insurance, delivery cost, method of delivery, countries delivery to, available transport packaging, and secure delivery;
    - *Complaint status*, which allows customers to consult, at any time, the status of registered complaints;
    - *Method of delivery*, which allows to define or change the delivery method;
    - *Delivery of digital goods*, as the feature that allows downloading digital goods; and
    - *Cancellation of orders*, which refers to the possibility of canceling a previously completed buy.
  - The second set, *Advertising and featured items* includes:
    - *Product advertisement*, which displays new products, novelties or featured products;
    - *Company advertisement*, which exhibits news about the company;
    - *Newsletter*, which periodically informs subscribed customers about the company and its products; and
    - *RSS (Rich Site Summary) feed*, to publish frequently updated information, such as news, audio, video.
  - The third set, *Product Analysis* integrates:
    - *Product catalog*, which presents information regarding the name, brand, category, description, price, product illustration, duration of offers, duration of a contract, special discounts/offers, scope of delivery, and an introduction to new products; and
    - *Detailed product catalog*, as an extension of the previous functionality, encompassing the information about weight, size, audio examples, special delivery requirements, spare parts, accessories, place of manufacture, warranty information, assembly and usage information, installation instructions, product-related insurances, product-related support, information on maintenance, information and direction for use, certificate or seal of quality and types of packaging (e.g. gift-wrap).
  - The fourth and last set, *Traditional payment*, combines the self-explanatory functionalities of:
    - Cash at pickup payment; and
    - Money transfer payment.
- According to the results, every other functionality in (Schuh, et al., 2009) should be classified as “accessory”.
- Although, based on the literature review, it would be expectable to find the credit card payment functionality as an “essential” one, we found no evidence to support it. Instead, traditional payment methods (namely cash at pickup and money transfer) were the ones classified as such. This might reveal that there is still a feeling of distrust regarding the use of credit cards for online payment in Portugal. It could also mean that many buyers have no knowledge on secure payment options (that do not require the use of a physical card, as in *PayPal* (<https://www.paypal.com>), *PaySafecard* (<https://www.paysafecard.com>) or *MBNet* (<https://www.mbnet.pt>), in the Portuguese case) or even that Portuguese consumers try to decrease the risk of online buying, by only paying upon the delivery of ordered items.

The previous situation, nonetheless, is not a new finding. Several authors (as Antoniou & Batten, 2011; Bellman, Lohse, & Johnson, 1999; Hsieh, 2001) establish that even though online credit card payment is quite common it also poses a barrier to electronic commerce when people mistrust the privacy of the involved information. Consequently, a commercial internet presence should provide or ensure that there are so-called traditional payment functionalities, to decrease the risk of losing a sale.

To our opinion, companies that want to boost online payment (to decrease transaction costs, to lower shipping and delivery fees to their customers, to automate accounting procedures, etc.) should place and promote security indicators on their commercial internet presences (e.g. cryptographic protocols, authentication certificates for secure electronic dealing, etc.). In addition, a joint-promotion action between E-commerce associations, such as EMOTA (European Multi-channel and Online Trade Association) or ACEPI (Association of Electronic Commerce and Interactive Advertising, in the case of Portugal) and the banking system seems advisable.

Associated to the feeling of online shopping distrust, is the appreciation that order tracking functionalities seem to mitigate the situation. This is done, by allowing online buyers to follow every step of the order/buying process, especially when it concerns a first purchase (thus ratifying authors like Chaffey & Smith, 2008; Chen & Teng, 2013; Donthu & Garcia, 1999; Eisenmann, 2002; J. B. Kim, 2012; Ramanathan, 2010; Rodrigues, 2002; Schneider, 2007; Schuh, et al., 2009; Singh, 2002; Turban, et al., 2010; Voss, 2000). Therefore, advertising the existence of order tracking functionalities in the commercial internet presence seems quite important, in order to both enhance costumers' trust in the company and its suitability to satisfy an order.

In spite of the observed discrepancies, regarding (Schuh, et al., 2009), the study allowed to ratify as "essential" many functionalities that were thought to strengthen confidence and loyalty (Massad, et al., 2006; Reichheld

& Scheffer, 2000; Swaminathan, et al., 1999; Valvi & Fragkos, 2012; Zeithaml, Parasuraman, & Malhotra, 2002), as the estimated delivery date; order tracking; state of complaints; cancellation of orders; product announcements; or product category.

This study also reveals that online buyers enjoy being informed about the companies and products. Therefore, updating the information about the company and its products is critical, as it seems to instill an image of a dynamic company. It is not hard to imagine an increase in customers' distrust if the information about the company or its products have a long time since their last update, leading customers to ponder the suitability of the company to satisfy a possible order.

"Discounts and special offers" is a functionality (usually an independent section of a website) where specific products are announced at a lower price or as a novelty. When the website infrastructure (whether modular or not) is well integrated, such products and their acquisition conditions can appear alongside the visited webpages (like "internal ads"), thus enhancing their visibility to the visitors. In spite of the fact that this functionality seems to serve well the purposes of increasing product visibility within a website, the obtained results evidence that it is not recognized as an "essential" feature (that somewhat reflects Reichhart, Pescher, & Spann, 2013), as it was perceived that a well-designed and detailed product catalog was a rather more important functionality. One of the reasons for such situation is that this sort of item-promotion campaign is usually limited in time and promotion conditions are only valid during short periods. This situation imposes technical restrictions to this sort of item-promotion strategy, as websites like PriceGrabber.com, Shopping.Yahoo.com or Shopzilla.com (among many others) that keep an eye on product prices at dozens of stores, build their price indexes using web crawlers (an internet software that systematically browses the Web, typically for indexing purposes). Depending on the update time and frequency of the web crawlers, these indexing websites can miss an existing offer

Table 15. Discrepancies

Used Study and Obtained Results	
Schuh, et al., (2009)	“Essential” groups of functionalities
Product and price	Product analysis
Company	Advertising and featured items
Contact	
Entertainment	-
Order	Order processing
Order management	
Delivery	
Payment	Traditional payment
Interaction/consumer service	-

(for instance a weekend promotion sale vs. an update time of 48h for the indexes). Therefore, it seems advisable that managers consider that an item-promotion strategy may not be suitable within the online environment, especially regarding limited time offers and that the money spent with this functionality might not give a proper return in terms of sales enhancement.

Although literature presents stock availability (as the functionality feature that let customers know if there are products in stock, in transit or sold out) as being important for customers (Chaffey & Smith, 2008; Schuh, et al., 2009; Voss, 2000), results present no evidence to support their claim. This point seems to attest the idea that if a company discloses information about the unavailability of one or more items beforehand, it can directly redirect customers elsewhere (meaning a different seller or competitor). If a product is out of stock and the company gets an order, sales service can: contact the customer and inform him that the product might take longer to be delivered than expected; present product alternatives to the customer; propose a refund (if payment was performed); or to have the website engage the customer by providing product alternatives, which the potential customer would never have seen if the stock out information was given beforehand. The usual approach for doing this is presenting a list of their own products,

based on a similarity approach. Nonetheless, the functionality that allows a comparison with other retailers could be rightly used here, allowing a website to serve as a web indexing service itself (which can enhance the number of visitors, as well the length of the visit), but also to get other alternatives such as buying second hand products.

Although the product comparison functionality could enhance a collaboration network that would benefit both companies (as they can get higher revenues while helping managers to reduce storage costs and or losses in unsold products – impairment losses on inventories, for instance) and customers (as it can enhance their buying experience and loyalty to a specific website), making it expectable to be an “essential” one (as stated in Rodrigues, 2002), this situation was not confirmed. The explanation for this, perhaps, is the possibility of substituting such functionality by simply displaying multiple web pages (from one or from multiple online sellers after consulting a web shopping indexing service), using several windows or tabs of a common browser.

Despite obtained results, since modular products purchase (such as buying a computer by component assembly) was not specifically tested in the questionnaire, it might be premature to classify the product configuration functionality as “accessory”. Although it makes

sense when companies sell non-configurable products, the situation requires further research.

For many websites online publicity is another way to maximize their revenues. In order to make it interesting for any company to advertise in a website, the number of visitors and the time spent in their visits are important factors. So, visitors and time spent are key information elements that need to be demonstrated (to do so there are many different tools/software that automatically gather such data, e.g., *Goggle Analytics*, *StatCounter*, *HubSpot*, *Chartbeat*, *KISSmetrics*, etc.). The entertainment functionalities are usually associated to online discounts. For instance, if someone achieves a certain score or the high score of their online game (only possible by prolonging their visit) he gets online credit or online discounts. In addition, the scores can easily be shared using common social networks (e.g. Facebook, Twitter, etc.). In spite of the fact that these functionalities, which are thought to appeal to new and returning visitors, while prolonging their visit, are valued, along with customizable web pages (Flavian, Guinaliu, & Gurrea, 2006; Massad, et al., 2006; Schuh, et al., 2009; Singh, 2002), our results provide

evidence that online buyers assume that they are merely accessory, bearing little influence on supporting the buying process (the referred discrepancies are depicted in Table 15).

In spite of all of the above mentioned, we do not stand that “accessory” functionalities should not be implemented. Rather, it is our opinion that if it is possible to make additional investments, “accessory” functionalities are desirable as a means of attracting visitors to the website, retaining them longer when visiting the website, reinforcing visual appearance, promoting cross-selling, positively influencing impulse buying (Jeffrey & Hodge, 2007), or even implementing an advertising-supported web presence (Chen & Teng, 2013).

All these results are not, however, free of limitations and its generalization should not be carried out lightly, regardless of the performed sampling adequacy tests. In spite of the fact that a website that uses the described functionalities in Table 2 is suitable to support online sales of any kind of physical good (e.g. books, printer, cars, diamonds, etc.), having the sample solely encompassed higher education teachers in Portugal, as representatives of experienced online buyers, could have determined that

Table 16. Obtained results

List of “Essential” Functionalities	
Group	Functionalities
Order processing	Estimated delivery date Order confirmation Order status (tracking) Pre-delivery information Complaint status Method of delivery Delivery of digital goods Cancelation of orders
Advertising and featured items	Product advertisement Company advertisement Newsletter RSS feed
Product analysis	Product catalog Detailed product catalog
Traditional payment	Cash at pickup payment Money transfer payment



the list of “essential” functionalities applies to the generality of “common” online buyers (do higher education teachers in Portugal usually buy diamonds online?). Future research is needed/planned to verify if the obtained list of functionalities would still apply to specific markets (such as luxury goods, for instance).

## CONCLUSION AND FUTURE RESEARCH

This study identified 16 “essential” functionalities (grouped in four distinct sets) that should be implemented in every commercial internet presence. This finding is, in our opinion, extremely relevant, as it serves as a benchmark for companies that want to go into the online business or for those who already have a commercial internet presence.

Although many online companies try to provide all available functionalities on their websites to attract customers, our results provide evidence that such situation would mean to invest money in features that are not valued by the users. The determination of valued functionalities within a buying process allows managers to be more cost-effective when managing financial resources to acquire or develop solutions for their commercial websites, helping companies to understand better how to build and keep online businesses. In this way we have demonstrated that existing literature does offer the basis to actually support decision-making in practice settings.

As a corollary, results show that if there are budget constraints, especially regarding website maintenance and development, companies should focus on the implementation of the “essential” functionalities. On other words, if the “essential” functionalities are not present, customers’ distrust gets higher, thus affecting their shopping intentions. Later on, if it is possible to make additional investments, “accessory” functionalities are desirable to improve and expand the commercial internet presence.

In spite of the fact that results reflect the Portuguese case, it is our belief that most of

the results will stand in different economic scenarios. The next step in our research is to determine whether our conclusions still stand in specific markets, regarding European Union countries, using a similar approach.

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*Alexandre Ferreira is a researcher at the Business and Economics department of the Beira Interior University, Covilhã, Portugal. He holds a degree, as well as a Master in Management, by the Beira Interior University in 2014. His research interests include electronic commerce, information systems and web marketing.*

*Francisco Antunes is an Assistant Professor at the Management and Economics Department. He holds a PhD in Management, by the Beira Interior University, in 2008. His research interests include electronic commerce, decision support systems and information systems. He is also a Researcher at the Institute of Computer and Systems Engineering of Coimbra, Portugal. He has published in journals such as the European Journal of Operational Research, Advances in Human-Computer Interaction, International Journal of Information Technology & Decision Making, among others. He is also a member of the program committee of conferences such as GDN – Group Decision and Negotiation; CISTI – Iberian Conference on Information Systems and Technologies; KEOD – International Conference on Knowledge Engineering and Ontology Development, as well as a journal referee for the European Journal of Operations Research.*

## APPENDIX

Table 17. Questionnaire

<b>Gender</b> Male <input type="checkbox"/> Female <input type="checkbox"/>	<b>Age (years)</b> <= 35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46-55 <input type="checkbox"/> 56-65 <input type="checkbox"/> +65 <input type="checkbox"/>	<b>Scale of importance:</b> Irrelevant: 1 Very small importance: 2 Small importance: 3 Neutral: 4 Important: 5 Very important: 6 Crucial (its inexistence inhibits the purchase): 7						
<b>PRODUCT AND PRICE</b>								
<b>Product catalog:</b> Presents information regarding the name, brand, category, description, price, product illustration, duration of offers, duration of a contract, special discounts/offers, scope of delivery, and an introduction to new products	1	2	3	4	5	6	7	
<b>Detailed product catalog:</b> It is an extension of the previous functionality, encompassing the information about weight, size, audio examples, special delivery requirements, spare parts, accessories, place of manufacture, warranty information, assembly and usage information, installation instructions, product-related insurances, product-related support, information on maintenance, information and direction for use, certificate or seal of quality and types of packaging (e.g. gift wrap)								
<b>Product configuration:</b> Configures a modular product								
<b>Product comparison:</b> Makes a "side-by-side" comparison of a particular product over selected others								
<b>Product recommendation:</b> A counseling feature based on promotions, news, viewing history, etc.								
<b>Navigation:</b> Allow selecting by: price, brand, weight, size, category, novelties, best ratings, bestsellers, etc.								
<b>Availability check:</b> Check for stock availability when browsing the products								
<b>Display of alternative products:</b> Shows alternative products when selecting a product								
<b>Download of test products:</b> Downloads test items (in case of books, software, etc.)								
<b>Product advertisement:</b> Displays new products, novelties or featured products								
<b>Product Newsletters:</b> Periodically informs subscribed customers								
<b>Third-parties recommendation:</b> Sends emails with web page URLs or selected product descriptions								
<b>Product RSS Feed:</b> Publishes frequently updated information, such as news, audio, video								
<b>Product Frequently Asked Questions (FAQs):</b> Exhibits FAQs and their answers								
<b>COMPANY</b>								
<b>Information about the company:</b> Shows address, phone number, and location.								
<b>General terms and conditions:</b> Exhibits legal conditions of sale between the company and the customer								

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Table 17. Continued

<b>Gender</b> Male <input type="checkbox"/> Female <input type="checkbox"/>	<b>Age (years)</b> <= 35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46-55 <input type="checkbox"/> 56-65 <input type="checkbox"/> +65 <input type="checkbox"/>	<b>Scale of importance:</b> Irrelevant: 1 Very small importance: 2 Small importance: 3 Neutral: 4 Important: 5 Very important: 6 Crucial (its inexistence inhibits the purchase): 7						
<b>Company advertisement:</b> <i>Displays novelties about the company</i>								
<b>Company Newsletter:</b> <i>Periodically informs subscribed customers</i>								
<b>RSS-Feed:</b> <i>Publishes frequently updated information, such as news, audio, video</i>								
<b>Company Frequently Asked Questions (FAQs):</b> <i>Exhibits FAQs and their answers</i>								
<b>ENTERTAINMENT</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Sweepstakes:</b> <i>Implements sweepstakes for registered users</i>								
<b>Competitions:</b> <i>Implements competitions for registered users</i>								
<b>E-cards:</b> <i>Sends e-cards</i>								
<b>Online games:</b> <i>Implements online games</i>								
<b>ORDER</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Pre-sales information:</b> <i>Exhibits order methods, order steps, required user data, supported languages, contract of purchase, technical features to correct typing errors, security mechanisms and policy of returns</i>								
<b>Electronic shopping cart:</b> <i>Registers selected products to include in an order</i>								
<b>Submission and adaption of consumer data:</b> <i>Allows to enter and change an user's data</i>								
<b>Order availability check:</b> <i>Check for stock availability when placing an order</i>								
<b>Billing:</b> <i>Provides electronic billing</i>								
<b>Cancellation of orders:</b> <i>Cancel a previously completed order process</i>								
<b>Second purchase delivery method:</b> <i>Registers previous addresses and suggests them in posterior orders</i>								
<b>Reservations:</b> <i>Makes product reservations</i>								
<b>Service appointments:</b> <i>Registers service appointments</i>								
<b>ORDER PROCESSING</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Order confirmation:</b> <i>Confirms the order of selected products</i>								
<b>Delivery confirmation:</b> <i>Informs costumers of order delivery</i>								
<b>Order status (tracking):</b> <i>Allows to check on the status of any order (from ordered to delivered)</i>								
<b>Estimated delivery date:</b> <i>Provides a costumers the information on the expected date of delivery</i>								
<b>Complaints status:</b> <i>Allows customers to consult, at any time, the status of registered complaints</i>								

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Table 17. Continued

Gender Male <input type="checkbox"/> Female <input type="checkbox"/>	Age (years) <= 35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46-55 <input type="checkbox"/> 56-65 <input type="checkbox"/> +65 <input type="checkbox"/>	Scale of importance: Irrelevant: 1 Very small importance: 2 Small importance: 3 Neutral: 4 Important: 5 Very important: 6 Crucial (its inexistence inhibits the purchase): 7						
<b>Initiation of returns:</b> <i>Informs that a return process was initiated</i>								
<b>DELIVERY</b>		1	2	3	4	5	6	7
<b>Pre-delivery information:</b> <i>Sets or provides information on delivery time, delivery insurance, delivery cost, method of delivery, countries delivery to, available transport packaging, and secure delivery</i>								
<b>Delivery of digital goods:</b> <i>This item refers to the feature that allow the company to deliver digital goods;</i>								
<b>Method of delivery:</b> <i>Allows downloading digital goods</i>								
<b>Estimated delivery time:</b> <i>Provides the expected amount of time for a delivery</i>								
<b>Place of delivery:</b> <i>Register the delivery place, if other than the billing address</i>								
<b>PAYMENT</b>		1	2	3	4	5	6	7
<b>Pre-payment information:</b> <i>Refers to the existence of information about payment, accepted payment methods and the existence of secure payments</i>								
<b>Credit card payment:</b> <i>Allows to use a credit card as a means of payment</i>								
<b>PayPal payment:</b> <i>Allows to set PayPal as a means of payment</i>								
<b>PaySafecard payment:</b> <i>Allows to set PaySafecard as a means of payment</i>								
<b>Bank Collection Payment:</b> <i>Allows to set a bank collection as a means of payment</i>								
<b>Money transfer payment:</b> <i>Allows to set a bank transfer as a means of payment</i>								
<b>Mobile payment:</b> <i>Implements specific solutions for mobile payments (e.g. smartphones and tablets)</i>								
<b>Cash at pick-up payment:</b> <i>Allows to set the payment upon delivery</i>								
<b>Vouchers, discounts, returns, and coupons consideration:</b> <i>Implements the possibility for processing online discounts at payment time</i>								
<b>CONTACT</b>		1	2	3	4	5	6	7
<b>Contact information:</b> <i>Includes information about fax, e-mail, phone, VoIP, instant messenger and postal address of the company</i>								
<b>Forum:</b> <i>Implements discussion forums between registered users in the website</i>								
<b>Contact form (feedback, support):</b> <i>Includes online forms for returns, maintenance and requests</i>								
<b>Complaint form:</b> <i>Includes online forms for complaints</i>								
<b>INTERACTION/CONSUMER SUPPORT</b>		1	2	3	4	5	6	7
<b>Interaction and support:</b> <i>contains service related functionalities (like remote diagnosis and remote maintenance as well as warranty status and repair status requests), chatbots and wishlists</i>								