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INVESTIGATING THE IMPACT OF E-CUSTOMER RELATIONSHIP MANAGEMENT ON HOTEL'S WEBSITE SERVICE QUALITY

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Abstract

As online tourists are becoming more price sensitive, less brand loyal and more sophisticated, e-Customer Relationship Management (CRM) becomes a strategic necessity for attracting and increasing guests' patronage. Despite the vital role of eCRM for e-commerce success, its deployment frequently fails or it does not always deliver the expected results. The latter has boosted research, but studies have been primarily focused on investigating eCRM implementation from a company's perspective ignoring its customer perspective. In this vein, the purpose of this study is to investigate the impact of eCRM on hotels' website service quality as perceived by their guests. To achieve that, first the concept of eCRM is analysed and then, a customer-centric eCRM model that directly identifies eCRM impact on e-services is proposed and used for measuring hotels' eCRM practices. Later, a literature review synthesizes the concept and dimensions of website service quality providing a scale of website service quality measurement. Data from eCRM hotels guests were gathered and findings provide useful implications for successful implementing eCRM and enhancing website service quality. Finally, the limitations of the study and directions for future research are discussed.

Keywords: website service quality, e-Customer Relationship Management, hotels

1   INTRODUCTION

As innovative Internet business models and increased online price and product transparency enhance tourists' purchasing power and makes them more price sensitive, less brand loyal, more sophisticated and experience seekers (Gilmore & Pine, 1997; Sigala, 2005b; Christou, 2003), effective e-Customer Relationship Management (eCRM) is becoming a strategic imperative. Indeed, eCRM benefits on customer satisfaction, online sales, website patronage, loyalty and retention are widely supported in the literature (Feinberg and Kadam, 2002; Kotorov, 2002; Anton and Hoeck, 2002). However, although eCRM is one of the fastest growing management approaches being adopted across many organizations (Adebanjo, 2003; Sigala, 2005b), eCRM applications have not always delivered the expected results, many e-CRM initiatives have failed (see review by Sigala, 2004), while Kekoe (2002) found that up to 20% of business executives claim that eCRM initiatives had actually damaged customer relationships. The inability of eCRM applications to deliver expected benefits has boosted research. Nevertheless, previous studies have been primarily focused on investigating the factors inhibiting and/or facilitating effective eCRM implementation from a company's perspective, e.g. lack of a CRM strategy, robust implementation approaches, measurement tools and IT implementation, selection and configuration of the eCRM tools and organizational change, cultural management (see review by Sigala, 2004).

On the other hand, past research has failed to examine the impact of eCRM implementation on customers' perceptions of service quality, although eCRM has also been defined as the application of technology to increase the scale and scope of customer service (Kotorov 2002). eCRM users' usability and resistance factors have been recently examined by Fjermestad and Romano (2003), but their user perspective is limited as their sample only considered company staff using eCRM systems. Sigala (2005a) advocated the importance of eCRM success to enhance hotel service quality, but she has not progressed to gather customer data to test the impact of eCRM on service quality metrics. Feinberg and Kadam's (2002) study is the only one so far adopting a customer oriented approach to successful eCRM implementation, as it examines the relations between eCRM application features and customer satisfaction. However, as customer satisfaction cannot be used as a surrogate of service quality, future studies investigating the impact of eCRM on service quality are warranted.

This paper aims to examine the impact of eCRM on website service quality as perceived by hotel guests. By adopting a customer-centric approach, this study makes a substantial contribution in the literature by feeling a gap in the eCRM customer dimension. To achieve that, the following steps were undertaken. An extensive literature review was undertaken for investigating and measuring eCRM website features and the dimensions of website service quality. Data for investigating the impact of eCRM on website service quality were collected from international guests staying at hotels' located in Greece that also claimed to use the hotels' eCRM practices. Data were analysed by using multiple regression analyses and findings provide useful theoretical and managerial implications for implementing eCRM practices and enhancing the service quality of hotels' websites. Finally, the limitations of the study and directions for future research are discussed.

2   E-CRM: CONCEPT, MODELS AND MEASUREMENT

CRM is defined as the management approach that involves identifying, attracting, developing and maintaining successful customer relationships over time in order to increase retention of profitable customers (Bradshaw and Brash 2001; Massey *et al* 2001). Fjermestad and Romano (2003) suggest that successful eCRM requires attracting and keeping economically valuable customers while repelling and eliminating economically invaluable ones. Relationship marketing emphasises building relationships that lead to customer retention and long-term customer loyalty, in juxtaposition to traditional transactional marketing, in which making a one-time, immediate sale to the customer is the

primary goal. Reicheld (1996) has shown that a small increase in retention (5%) can yield a 95% increase on the net present value delivered by customers. CRM implementation is heavily dependent and driven by ICT tools and advances (Sigala, 2005a; Bradshaw and Brash, 2001). As eCRM is CRM practices conducted over a companies' website, it is a combination of hardware, software, processes, applications, and management commitment.

However, the increased role of ICT for e-CRM implementation led to a technocentric categorization of eCRM practices. For example, Dyche (2001) and Karimi *et al* (2001) identified the following eCRM classifications: 1) operational CRM products used for improving customer service, online marketing, automating salesforce etc; 2) analytical CRM products used for building data warehouses, improving relationships, analysing data etc; and 3) collaborative CRM products required for building online communities, developing business-to-business customer exchanges, personalising services etc. While some eCRM applications (e.g. e-mail, content management software and databases) can be classified using the above taxonomy, the value proposition of this taxonomy to an organization faced with the dilemma which application to select and how to exploit it, is predictably low. This is because the exploitation of most applications (e.g. call centre software) can be classified into more than one category. Most importantly, the taxonomy does not provide an eCRM exploitation gearing to customer value creation, while it is neither aligned to any organisational function and/or process and so, it does not help organizations to identify and allocate resources, responsibilities, targets and success metrics to appropriate business departments (Adebanjo 2003). These limitations are extremely crucial, as eCRM alignment with organisational processes and customer values critically determines eCRM success (e.g. Karimi *et al* 2001; Corner and Hinton, 2002).

Sigala (2005a) developed a more holistic and business operations' integrated model of CRM implementation, but its value for this study is limited as it focuses on a strategic rather than on an operational level. Rowley (2002) identified the following functions of eCRM practices, but these practices are also very broad and do not focus on particular organizational processes or customer values: e-commerce; channel automation software; collaborative commerce software; online storefront; multichannel customer management; e-service; e-mail response management; guided selling and buying; product configuration; order management; electronic agents; catalogue management; content management; e-customer; fulfillment software; self-service. Anton and Postmus (1999) and Feinberg and Kadam (2002) developed a more customer-centric eCRM model by identifying a long list of eCRM features providing customer value. However, Feinberg and Kadam (2002) recognized that their 42 eCRM items may not really define eCRM, as eCRM is a dynamically changing process. Apart from being criticized for its inclusiveness, their list of eCRM features also lacks a systematic approach for further developing eCRM features that add customer value.

On the other hand, eCRM is also defined as the application of ICT to increase the scale and scope of customer service (Kotorov 2002), while Singh (2002) also revealed that building and maintaining customer relationships online depends on maintaining effective customer service. Thus, an eCRM customer-centric implementation and model should be viewed in close connection with e-service provision. Riel *et al* (2001: 186) defined e-service as *"an interactive, content-centered and Internet-based customer service, driven by the customer and integrated with related organizational customer support processes and technologies with the goal of strengthening the customer-service provider relationship"*. Indeed, unless service is maintained, customer loss may result to great inefficiencies and costs. Moreover, relationships in e-commerce heavily depend on information exchange during all functions of the online purchase process. In turn, there are numerous opportunities to gather the information in each function and use it to improve the possibility of continuing profitable customer relationships by improving service, save customer's time and easy frustration.

e-Service functions supporting online shoppers are widely classified into the following consumer purchase behavior stages (e.g. Otto and Chung 2000; Voss 2000; Riel *et al* 2001): problem recognition; search for information; evaluation of alternatives; choice; transactions; post sale services. This study used this e-service categorization for modeling eCRM practices for the following reasons: 1) website design and functionality developed in line with these categories are proved to significantly

affect online consumer behavior and patronage (Voss, 2000; Sigala, 2004); 2) it is a systematic customer value-oriented approach focusing on supporting consumers' use of webstores; 3) by using this framework, one can easily identify and further develop additional eCRM features that can add customer value; 4) failure to develop eCRM features in one or more steps may defeat the customer-provider relationship; and 5) the categorisation allows to relate eCRM features with organisational functions and processes, which in turn enables managers to better allocate resources, develop more appropriate metrics for monitoring and measuring successes and failures. Table 2 illustrates how the consumer purchase behaviour stages were used for modelling and measuring eCRM practices by classifying and further extending Feinberg and Kadam's (2002) eCRM features.

3 WEBSITE SERVICE QUALITY

In reviewing the literature on website service quality, it is widely agreed that research has been mainly based on the SERVQUAL model by adapting and extending its dimensions in order to make it less reliant on interpersonal interactions but more technologically relevant (e.g. Sigala, 2004; Long and McMellon, 2004; Kim and Stoel, 2004). Actually, there is a debate in the literature as to whether existing measures of service quality (e.g. SERVQUAL) apply to e-services. Zeithaml et al (2000) defined e-service quality (e-SQ) as the extent to which a website facilitates efficient and effective shopping, purchase and delivery. Voss (2000) claimed that the five SERVQUAL dimensions (reliability, responsiveness, assurance, empathy and tangibles) are also important on the Internet, with the possible exception of empathy as this is based on human interaction. However, he (2000) argued that responsiveness is vitally important for e-services, which is reflected not only on e-mail response times, but also on website customisation and the provision of proactive online service. Reliability was considered as the ability to connect to the Internet, download time, systems not crashing and order fulfilment. Assurance was also considered as critical, since on the Internet it refers to the ability to convey trust and confidence. Coupled with the lack of empathy online, the provision of online assurance becomes quite difficult. In building a construct for service quality in e-commerce, Voss (2000) considered video, animation, sound, simulations and other multimedia features to enhance the tangibility aspects of the Internet. Cox and Dale (2001) also claimed that the lack of online human interaction means that determinants such as competence, courtesy, cleanliness, comfort and friendliness, helpfulness, care, commitment, flexibility are not particular relevant in e-commerce, but determinants such as accessibility, communication, credibility, understanding, appearance, availability, integrity, trustfulness are equally applicable to e-commerce as in physical services. Yang and Jun (2002) examined perceptions of service quality by sampling both Internet purchasers and non-purchasers. They found six service quality dimensions were perceived by Internet purchasers: reliability, access, ease of use, personalization, security, and credibility. However, seven dimensions were present for the non-users. Unique to non-purchasers were the dimensions of responsiveness and availability, while the credibility dimension did not come up.

In adapting SERVQUAL to measure websites' quality, Barnes et al. (2001) developed the WebQual (including information quality, website navigation/ appearance, user empathy/mobility) for measuring service quality in PCs and mobile phones. Madu and Madu (2002) also proposed a model for e-quality including: performance (easy of navigation & information quality); website features (e.g. search engine); structure (e.g. hyperlinks); aesthetics (website appearance); reliability (consistency of website functionality); storage capability (easy of data retrieval); serviceability (complaints handling/solution); security, system integrity; trust for data sharing; responsiveness (courtesy, flexibility to respond to customer needs); product/service quality differentiation and customisation; webstore policies; reputation; assurance; empathy in elements of human contact e.g. e-mail, call centres. Recent studies have also tried to model and measure website service quality. Research in the e-tailing context (Zeithaml, 2002) showed that website service quality has seven dimensions that form two scales: *a core e-SQ scale* including efficiency (ability, easiness to get to and navigate a website), fulfilment (having products in stock and delivering them on time), reliability (technical functioning of a website)

and privacy (assurance regarding data sharing and security); and *a recovery e-SQ scale* including responsiveness (provide appropriate data when problems occur, online guarantees and mechanisms for handling returns), compensation and contact (speak to service agent). Voss's (2000) exploratory research suggested the existence of a pyramid of website service quality. The lower level (what is expected) includes website responsiveness and effectiveness, and order fulfilment. The middle level (what differentiates – customer-centred service) consists of trust, customisation, information and status, while at the top level (what excites – value added) includes proactive service and value-added service. Using a sample of college students, Yoo and Donthu (2001) developed a scale – SITEQUAL – to measure the perceived quality of an Internet shopping site. This resulted in a nine-item scale with four dimensions: ease of use, aesthetic design, processing speed, and security.

Loiacono et al. (2002) developed the WEBQUAL model, which was also tested and consequently validated for content, convergent, discriminant and nomological validity. In reviewing a wide literature on website service quality, Kim and Stoel (2004) concluded that the WEBQUAL adequately synthesises all the different dimensions of website service quality, while their study provided further evidence of the reliability and dimensionality of the WEBQUAL model. Consequently, this study also used the WEBQUAL model for measuring website service quality. The WEBQUAL consists of 12 dimensions: 1) information fits to task: the extent to which website information is accurate, updated and appropriate; 2) interactivity: consumers' ability to interact with website and to receive tailored / personalised information/service; 3) trust: online security and information privacy; 4) responsiveness: website downloading and interaction time; 5) design: aesthetics and navigation; 6) intuitiveness: ease of website use / interaction; 7) visual appeal; 8) innovativeness: website uniqueness and creativity; 9) website's flow – emotional appeal to online users; 10) integrated communications: website integration with other communication/marketing media; 11) business processes: website integration with other processes; 12) viable substitute: website viability relative to other media.

4 RESEARCH METHODOLOGY

The study aimed to examine the impact of eCRM practices on customers' perceptions of website service quality. To achieve that, the literature was reviewed for identifying appropriate measures of the research constructs. Although the literature review has found a plethora of models measuring website service quality, only one model has been tested and validated for its reliability and validity, i.e. the WEBQUAL model (Loiacono et al., 2002). For measuring eCRM practices, a customer-centric model was proposed based on Feinberg and Kadam's (2002) eCRM features and e-service consumer stages.

A questionnaire measuring guests' perceptions of the eCRM practices of the hotels' website as well as guests' perceptions on the degree that the eCRM has impacted on the hotel website service quality. Previous research has also shown that demographic data such as age, gender and cultural background can crucially affect online customers' perceptions and expectations of website service quality (Sigala and Sakellaridis, 2004), and so the questionnaire was designed to gather such data as well. Nationality was used as a proxy metric for measuring respondents' cultural background, and based on previous studies on website service quality (Sigala and Sakellaridis, 2004) responses regarding nationality were classified into six major nationality categories namely: North Europeans, South Europeans, Americans, Africa, Middle East and Asia Pacific. For collecting data, 23 students' studying tourism at the researchers' university were used for identifying hotel guests using eCRM practices and asking them to fill in the questionnaire. Students have been collecting data during the period June – August 2005 at three major international hotel properties located in Thessaloniki and Athens. These hotels were used because: their parent hotel chain organisation operates a sophisticated eCRM and CRM programme; the summer months consist the busiest operating of the hotels, meaning that it was possible to find a sufficient number of guests to fill-in the questionnaire; the hotel properties have agreed to allow and accommodate the students for conducting the research provided that their properties' names would remain anonymous and that research findings would also be communicated to them for future use. Students were explained the purpose of the study and trained in screening

potential guests (only guests using the eCRM features were asked to fill in the questionnaire) and helping guests to answer the questionnaire. Overall, 335 questionnaires were filled-in and data were analysed using multiple regression analysis for examining whether each website service quality dimension is affected by eCRM practices.

5 ANALYSIS AND DISCUSSION OF THE FINDINGS

The profile of the 335 guests using eCRM features and responding to the research questionnaire is provided in Table 1. A good balance of gender (57% male) and a varied mix of greater geographical nationalities, and so cultural backgrounds, are found in the respondents. The age range is 28 – 67 years (average age 56), covering a wide range of guests coming from different life-cycle stages.

Guests from N. Europe		Guests from S. Europe		Guests from America		Guests from Africa		Guests from Asia Pacific		Guests from Middle East	
UK	46	Greek	14	USA	34	S. Afrika	4	China	21	UAE	18
Germany	51	Italian	5	Canada	22	Egypt	1	Indian	9	Oman	7
Sweden	14	Spanish	6					Taiwan	12	Lebanon	6
Finland	8	Croatian	2					Malaysian	10		
Holland	11										
France	26										
Norway	8										
Total	**164**		**27**		**56**		**5**		**52**		**31**

Table 1.   Nationality profile of respondents

5.1   Measuring and categorising eCRM features

Guests were asked to rate (by using a seven point Likert scale) their perceptions regarding their use of a wide list of eCRM website features categorised based on the e-service stages (Table 2). A principal component factor analysis with varimax rotation was then applied for clustering the extensive list into a smaller number of eCRM features. Results of the factor analysis (Table 2) clustered the eCRM features into a six-factor model explaining 71.9 % of the total variance. *Factor one (F1) namely website contact interactivity* includes features that tend to increase website navigation, use and information search, while *factor 2 (F2) namely shopping convenience, care and service* is a composition of features aiming to enhance customer service/care/quality and online transactions. F1 and F2 were found to include the most vital eCRM features explaining 0.209 and 0.204 of the variance respectively. Factor three (F3) reflected features aiming to exploit information provided by the customer for enabling *collaborative website interface design and content, information and product customisation/personalisation,* while *factor four (F4), namely cultivation,* included features initiated and used by hotel websites for creating and maintaining direct hierarchical relationships with guests. F3 and F4 represented the second most critical groups of eCRM features. eCRM features aiming to create and maintain a *community of customers, (F5), or a website character, (F6),* were found to have little importance (0.047 and 0.042 variance explained respectively). This is not surprising since previous research has shown that on the Internet users tend to seek more shopping efficiency rather than playfulness/enjoyment (Sigala, 2004). Moreover, all factors included eCRM website features from all stages of the consumer decision-making process. This shows that effective eCRM should help customers and provide quality services through out the whole online buying and decision process.

	F1	F2	F3	F4	F5	F6
Problem recognition						
Consistent interface styles	0.841					
Hierarchical product organization	0.723					
Carefully-designed hyperlinks	0.764					
Personalized advertising (banners, pop up windows)			0.707			
Personalized e-mail alerts			0.801			
Showing the number of members online					0.841	
Providing chat rooms					0.780	
Stimulating sensory cues (music, layout, colors etc)						0.803
On sale area		0.712				
Search for information						
Allowing for fast product/services search	0.853					
Providing product information		0.731				
Personalization of website interface			0.852			
Multiple ways/keywords of searching website information	0.724					
Personalized purchase recommendations			0.749			
Website maps	0.735					
Virtual tours	0.709					
Information for first time users	0.624					
About the company						0.604
Evaluation of alternatives						
Easy comparison of prices and other features	0.809					
Provision of customers' communications and comments					0.808	
Access to virtual communities and forums					0.806	
Offering services/products exclusively to website members				0.728		
Service guarantees and webstore policies		0.815				
Offering adequate customer support services		0.663				
Multimedia effects for "experiencing the product"						0.602
Product highlights		0.687				
Choice / product selection support						
Shopping carts		0.738				
Suggesting substitute products				0.671		
Cross sell / upsell / add on sale				0.623		
Offering purchase conditions		0.764				
Using online salespersons		0.782				
Product customization / personalization possibilities			0.710			
Automated e-mails to acknowledge orders/queries/prices and registration requests		0.829				
Transactions						
Easy to sign up as a member/customer				0.610		
Online booking / purchase options		0.728				
Quick sale ability for registered members				0.703		
Checking and altering possibilities of the shopping cart		0.712				
Multiple payment options		0.805				
Multiple delivery options		0.621				
Security policy		0.751				
Privacy policy		0.656				
Providing simulations of purchases		0.619				
Customer support & post sale services						
Changes and cancellation options		0.646				
Membership information, services & benefits				0.621		
Mailing list				0.619		
Track order status		0.785				
Online invoices		0.715				
Confirmation of payments and purchases receipts		0.713				
e-mails with delivery information		0.749				
FAQ		0.712				

	F1	F2	F3	F4	F5	F6
e-mail customer support		0.719				
0-800		0.741				
Customer service area & information (fax, address etc)		0.737				
Problem solving		0.723				
Complaining ability		0.618				
Alerts of products' changes or new offers					0.724	
Organizing virtual communities / bulletin boards						0.680
Voice over IP		0.737				
Call back option		0.769				
% of variance explained	**0.209**	**0.204**	**0.112**	**0.105**	**0.047**	**0.042**
% of cumulative variance explained	**0.209**	**0.413**	**0.525**	**0.630**	**0.677**	**0.719**
Cronbach α	**0.711**	**0.743**	**0.741**	**0.801**	**0.724**	**0.697**

Table 2.   Factor analysis of eCRM website features

5.2   WEBQUAL reliability and reliability

The following analysis provides findings regarding the content validity, reliability and construct validity of the WEBQUAL model. Content validity refers to the extent to which an instrument covers the range of meanings included in the concept. Content validity is not computed numerically but is subjectively judged by researchers. It represents the adequacy with which a specific domain of contents is sampled and it is determined based on two criteria (Nunnally, 1978): 1) whether an instrument contains a representative collection of items; and 2) whether a satisfactory method to test the instrument is used. To meet the first criterion, content validity was established by reviewing an extensive literature and by using previously validated constructs. To satisfy the second criterion, the questionnaire was pilot tested with 9 guests. The multi-items constructs of the WEBQUAL model were tested for their clarity and appropriateness. Reliability is the degree to which measures are free from errors and yield consistent results. The Cronbach's standardised α was estimated to assess reliability. The recommended minimum acceptability value for α is 0.70, although some studies use α as low as 0.60 (Nunnally, 1978). As the reliabilities varied from 0.62 to 0.93, the reliability test is passed (Table 3), with the concerns that four dimensions have a reliability score between the critical area 0.60 – 0.70. Construct validity refers to an observed relationship between measures purported to assess different but conceptually related constructs and is indicated if items expected to load together in a factor analysis, actually do so. Confirmatory factor analysis was used for testing the unidimensionality of the items. Results confirmed unidimensionality (loadings and factors are provided in Table 3) and based on Loiacono et al. (2002) findings regarding WEBQUAL's reliability and validity, it is concluded that the WEBQUAL's format is correct.

Construct 7 point Likert scale; eCRM has impacted on website service quality dimensions: (7) totally agree to totally disagree (1)	M.	α	% var. expl.	Factor loading
Information fit to task	6.43	0.68	59.2	
Website info. is pretty much what I need to carry out my tasks				0.66
Website adequately meets my information needs				0.83
The website information is effective				0.71
Interactivity	6.12	0.75	64.9	
Website allows me to interact with it to receive tailored info.				0.79
Website has interactive features to help me achieve my task				0.72
I am able to interact with webs. to get info tailored to my needs				0.84
Trust	6.97	0.84	79.4	
I feel safe in my website transactions				0.88
I trust the website to keep my personal info. safe				0.92
I trust the website administrators do not misuse my personal info.				0.83
Responsiveness	6.74	0.88	78.3	
It is little waiting time between my actions & website's reply				0.87

The website loads quickly			0.82
The website does not takes long to load			0.93
Design appeal	6.43 0.61 44.95		
The website pages are easy to read			0.80
The website text is easy to read			0.76
The website labels are easy to understand [a]			0.29
Intuitiveness	6.17 0.62 56.2		
Learning to use the website is easy for me			0.64
It is easy for me to become skilful at using the website			0.78
I find the website easy to use			0.84
Visual appeal	4.69 0.89 85.1		
The website is visually pleasing			0.88
Website displays visually pleasing design			0.93
The website is visually appealing			0.94
Innovativeness	4.55 0.86 76.4		
The website is innovative			0.87
The website design is innovative			0.93
The website is creative			0.89
Flow-emotional appeal	4.11 0.74 73.1		
I feel happy when using the website			0.76
I feel cheerful when using the website			0.84
I feel sociable when using the website			0.67
Integrated communications	5.94 0.93 86.9		
Website projects an image consistent with company's image			0.96
The website fits with my image of the company			0.94
The website's image matches that of the company			0.97
Business process	5.83 0.65 54.8		
The website allows transactions online			0.68
All my business with the firm are completed online			0.84
Most all business processes are completed online			0.75
Viable substitute	6.47 0.73 63.4		
It is easier to use the website to complete my business with the firm than it is to call, fax, or post a mail			0.73
The website is easier to use than calling a firm representative			0.68
Website is an alternative to calling customer service/sale. a			0.34

a = items that were dropped as a result of reliability analysis.

Table 3.   WEBQUAL dimensions: reliability and validity results

Trust, responsiveness and viable substitute have the highest expectations scores (6.97, 6.74 and 6.47 respectively), while flow-emotional appeal has the lowest (4.11). This is not surprising given the high concerns for online privacy and security nowadays. Data also show that the guests take a more utilitarian than hedonic approach when using the hotels' websites, requiring service to be on time and preferring websites that are easy than fun to use.

5.3   Impact of eCRM on website service quality

Multiple regression analyses (Table 4) was used for examining whether each WEBQUAL dimension is affected by each of the 6 eCRM factors. The estimation model controlled for guests' age, gender and nationality as follows: WEBQUAl dimension = constant + b_a Age + b_b Gender + b_c Nationality + b_1 F1 + b_2 F2 + b_3 F3 + b_4 F4 + b_5 F5 + b_6 F6

	F1	F2	F3	F4	F5	F6	Adjust. R^2
Interactivity	0.071*	-0.654	0.314*	0.081	0.132	0.135	0.22
Trust	0.062	0.173*	0.091	0.262*	0.048	0.131	0.15
Responsiveness	0.075*	0.031	0.087	-0.021	0.034	0.087	0.18

Design appeal							
Visual appeal							
Flow- emotional appeal							
Information to fit to task	0.031	0.271*	0.274*	0.124	0.098	0.056	0.23
Intuitiveness							
Innovativeness							
Integrated communication	0.023	0.065	0.244*	0.072	0.034	0.047	0.13
Business process	-0.012	0.261*	0.115	0.064	0.002	0.092	0.29
Viable substitute	-0.024	0.265*	0.023	0.072	0.023	0.102	0.26

*$p<0.001$. Data only for regression equations significant at 0.05. Intercept/coefficients of control variables are not given due to limited space and interest.

Table 4.   Multiple regression analysis results

Seven out of the twelve regression models are significant at 0.05; design, visual and flow-emotional appeal of the website as well as intuitiveness and innovativeness are the website service quality dimensions that were not affected by the application of eCRM practices. On the contrary, interactivity, trust, responsiveness, information to fit to task, integrated communication, business process and viable substitute are the website service quality dimensions that according to guests' perceptions have been affected by eCRM practices. Specifically, regarding the website service quality dimensions affected by the eCRM factors the following are found. eCRM features enhancing the website interactivity (F1) play a vital role in website service quality dimensions, since it significantly positively affects the interactivity (β= 0.071, p<0.001) and trust (β= 0.075, p<0.001). F2 features of eCRM enabling shopping convenience, care and service are also significant since it was found that they significantly impact positively on trust (β= 0.173, p<0.001), information fit to task (β= 0.271, p<0.001), business process (β= 0.261, p<0.001) and viable substitution (β= 0.265, p<0.001). eCRM factors enabling website and information personalization (F3) were also found to significantly impact on interactivity (β= 0.314, p<0.001), information fit to task (β= 0.274, p<0.001) and integrated communication (β= 0.244, p<0.001). F4 eCRM features aiming at creating relations with guests were found to impact significantly on the trust dimension (β= 0.262, p<0.001). On the other hand, eCRM features categorized in the F5 and F6 factors were not found to significantly affect any website service quality dimension. This may not be surprising when considering that the majority of guests reported that higher website service quality perceptions on the utilitarian rather than the emotional dimensions of WEBQUAL. Control variables had a limited impact on WEBQUAL dimensions: flow-emotional appeal was positively related to age and more expected by women.

5.4   Implications of the findings

Only four out of the six eCRM factors were found to significantly impact website quality dimensions. Specifically, eCRM features aiming at creating a website community and character were not reported to enhance guests' website service quality perceptions. This might not be surprising when considering that the majority of guests using and subscribing to eCRM programmes do this for diminishing the time spent online for placing online bookings and-or using other online services. Utilitarian values and benefits, e.g. speed, convenience, are the most crucial aspects forcing a guest to join eCRM programme. However, such motivation does not create emotional attachment of the guest with the hotel. Research in guest loyalty has given evidence that only emotional attachment and commitment of guests with the hotel brand can enhance guest life time value and loyalty. In this vein, it is advised that hotels should be doing more in enhancing and developing the emotional benefits of their eCRM practices. To achieve this, hotels should allocate extra resources for making the websites unique, creative, community builders and entertaining. To achieve that they could use games, contests, bright colours and frequent changes that they tend to enhance interactivity and emotional appeal to guests. The latter is crucially important since guests also reported that the current eCRM hotels' practices did not enhance the emotional, visual appeal of the website service quality as well as the innovativeness

and intuitiveness of the website. However, such website service dimensions are important for locking in guests at hotels' websites and making it difficult for them to divert to a competitors' hotel website.

Specifically, in enhancing the website emotional stickiness the following can be suggested. Character is the overall image that the website can project to online consumers by the coded stimuli such as text, style, logos, slogans etc and findings indicated that it can help reduce uncertainty of online users. Building trust and reliability online is very difficult since, in e-commerce, processes, products and agents (either or all three) can be digital. Character helps websites build a positive reputation and differentiate themselves from other websites in consumers' mind. In this vein, brand name and reputation can have a great impact on online consumer behaviour and on building long-term relationships with profitable customers, specifically for those with high uncertainty. As a result, hotel websites should invest in several features and practices for establishing and maintaining their brand. Viral marketing and virtual communities can be used for building online brands as online consumers trust more word-of-mouth than website pushed information. Community is fostered by the provision of facilities (e.g. chat rooms, bulletin boards) that enable communication amongst users and it is good at creating a feeling of belonging and caring of others. Hotels may also consider the development of a dedicated webpage for special interest groups, e.g. the corporate website of Wyndham has a women business travellers' virtual community and forum which has significantly impacted on the loyalty and volume numbers of their women guests. The fact that eCRM practices were found to significantly positively affect business process, viable substitute and integrated communication, confirms the fact that eCRM programmes can divert guests to use hotels' website instead of occupying hotel staff (e.g. call centre, reception) having in turn positive long term impacts on hotel productivity.

6   CONCLUSIONS: IMPLICATIONS FOR FUTURE RESEARCH

This study aimed at investigating the impact of eCRM practices on website service quality within the hotel sector. eCRM practices have been widely recognised as crucial competitive tools in the .com economy whereby travellers are becoming less loyal and price sensitive. Primary data were gathered from international guests staying at three hotel properties located in Greece. Findings provided evidence that eCRM practices are critically important in enhancing the utilitarian dimensions of website service quality (e.g. trust, business process, information fit to task, viable substitute, website interactivity), while guests did not report any significant impact of eCRM on the emotional aspects of website service quality (e.g. visual and emotional appeal, innovativeness). Although, these findings provide evidence of the long term impact of eCRM on hotel productivity, it becomes evident that current eCRM hotel practices do very little in creating and building emotional commitment with their guests. The study is limited by the small sample including guests visiting three hotel properties in Greece. Future studies should further investigate whether similar findings can be replicated in larger scale populations with multiple profiles and cultural backgrounds. Nationality might be a good proxy of culture but it is not an efficient one. Future studies should also compare the website service quality perceptions of eCRM and non-eCRM programmes.

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