

# CONSUMER INFORMATION INNOVATION FOR SOUTH AFRICAN TOUR OPERATORS

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## ABSTRACT

The purpose of this paper is to investigate the consumer-related information tour operators in South Africa have access to. Data was obtained by means of a self-administered computer-aided questionnaire forwarded to 1 000 tour operators; it was viewed by 360 tour operators and a response rate of 42,45% was achieved. The results indicate that 68,4% are satisfied with their information systems while a concerning low 34,9% 'Agree' that their information systems do provide them with consumer-related information. Tour operators will not be in a position to satisfy the dynamic needs and wants of today's tourists, unless there is information system innovation.

**Keywords:** tour operators, consumers, information systems, innovation, South Africa

## 1. INTRODUCTION

A continuous escalation in tourism statistics is recorded for South Africa and this leads to business opportunities for tour operators. Tour operators can be a formidable and influential force (Cavlek, 2002) and can profit from this trend if they are knowledgeable about the dynamic nature of their consumers, because knowledge will "enhance their awareness of customer needs" (Huang & Hsu, 2009). The key to success, according to Buhalis and Law (2008), "lies in the quick identification of consumer needs and in reaching potential clients with comprehensive, personalised and up-to-date products and services that satisfy those needs".

The dynamic nature of the local and global tourism, business and marketing environments directly influences tour operations and consumers, who are subjected to constant change. Added to this is the challenge of applying "internal knowledge chain activities to gain external knowledge that will enhance... competitiveness" (Tseng, 2009). Information systems should enable management to access information and knowledge and if tour operators' information systems do not provide such access then their information systems should be innovated. Tseng (2009) categorically stated that "knowledge is a key element for survival" in the present-day market.

Regardless of the magnitude of consumer-related information, it is unknown whether tour operators in South Africa do have access to this type of information and/or whether their information systems should be innovated so that it could be used as a tool for management decision making.

Tour operators and their information systems is a vast topic and cannot be covered comprehensively by a single study or paper. This paper sets out to obtain insight on the following:

- To obtain a better understanding of tour operators in South Africa in terms of four demographic descriptors: the type of tour operations they operate; the number of years they have been in existence; the size of their tour operations; and lastly, whether they do have an information system.
- To investigate the access tour operators have to consumer-related information.
- To investigate the consumer-related information needs of tour operators and their propensity towards information system innovation.

This paper consists of four sections and starts with a background review. Following this is an explanation of the research methodology and a presentation of the findings. This is followed by a discussion of the results and lastly the concluding remarks.

## **2. BACKGROUND REVIEW**

Tour operations need to be “flexible, adaptive and (to) continually reinvent themselves”, because, “if they don't they won't survive” (Skyrme, 2000:3). A tour operation's market (external) environment consists of variables (competitors, consumers, intermediaries, publics, and suppliers) (Wilson & Gilligan, 2005:129; Cant et al., 2006: Chapter 2; Kotler, Bowen & Makens, 2006:Chapter 4) that affect a tour operation's ability to create value and customer satisfaction (Kotler & Armstrong, 2004:107; Kotler, Bowen & Makens, 2006:114). Tourism is an anthology of the following sectors: accommodation, transportation, attractions, travel organisers (including tour operators) and destination organisations (Bennett, 2000:42; Middleton & Clark, 2001:11; Middleton, Fyall & Morgan, 2009:11). A tourist's perceptions and experiences are based on the collective integrated collaboration of these variables. That is why information about these variables is of utmost importance.

Consumers are the reason for a tour operator's existence and they will keep a tour operator in business, provided their wants and needs are satisfied. An intensive analysis of the marketing environment forms an integral part of the situation analysis, the market analysis and the feasibility analysis processes where detailed information needs to be obtained concerning past, current, and potential consumers (Morrison, 2010:135-163).

A number of years ago it was said that information technology (IT) will enable enterprises, and this includes tour operators, “to engage its customers in interactive communication” and that enterprises will be “more successful if they concentrate on obtaining and maintaining a share of each customer rather than a share of the entire market” (Wells, Fuerst & Choobineh, 1999). In addition to this, Khoo, Chen and Yan (2002) advocated that a closer link between product re-innovation and consumer involvement should be established and they developed a prototype customer-oriented information system (COIS) for product concept development. Consumer contact and relationship building is not enough, according to Bove (2003:308-317), who explains that consumers should be seen as co-producers through participation. A later development is in-depth tourism, which is “a new travelling pattern which combines thematic experience and personal knowledge” (Chen et al., 2009).

Marketing is all about consumers and consumers should be the primary focus of any tour operation - finding them, satisfying them and keeping them (Morgan 1996:13; George 2001:4, 2008:4). Tour operators should regularly assess and reassess what their consumers really want together with their consumers' levels of satisfaction, and then consequently develop new tourism offerings. This is why tour operators should take consumer behaviour and all its influencing factors (cultural, social, personal and psychological) into consideration. Added to this is involving and disseminating consumer-related information to non-marketing managers and departments so that they also can incorporate it into their knowledge base to be able to understand and respond to the complex nature of the consumer (Korhonen-Sande, 2010). An information system will be an indispensable management tool in this regard.

It was professed at the turn of the century that the next approach in marketing would be Relationship Marketing (Czinkota et al., 2000:8), a change from conquest marketing to consumer retention. Paulin (2003) explains that value can be created by “linking the customer and the organization through the building and managing of relationship networks.” Customer relationship management (CRM) can be used to ensure competitive differentiation and Lin and Lee (2004) proposed object-oriented analysis methods for the development of a customer relationship management information system (CRMIS) and a customer knowledge management information system (CKMIS) (Lin, 2007). Coussement and Van den Poel (2008) developed a model according to which tour operators can target their customer retention campaigns by means of a decision support system for churn prediction (predicting which customers are most likely to leave and then target them with incentives).

Furthermore, priorities should be assigned to the allocation of resources to be able to gain more competitive advantage through stronger relationships with fewer consumers.

Gök (2009) suggested a new and more consumer-oriented approach to account portfolio analysis where consumers are grouped and meaningful strategies are then developed for every group. Tour operators make many, or in some instances all, of their offerings available to the market via intermediaries and Bull (2010) indicated that surprisingly little research has been done on how organisations (tour operators in this case) make use of CRM systems to manage consumers with business intermediary (such as travel agencies) relationships. A tour operator should be able to identify those intermediaries who do not make a positive contribution towards building a relationship with consumers and then rather disintermediate such intermediaries.

Computer technology changed, and is still changing, the way marketers/tour operators consider their consumers and this technology is leading the transition from mass marketing to database marketing. Wood (2001) indicated that small- and medium-sized tourism enterprises “make use of informal marketing information systems which mainly concentrate on internal and immediate operating environment data.” Further research revealed that “50% of SMEs (Small and Medium Size Enterprises) have some sort of web page but very few actually take full advantage of the Internet” (Buhalis, 2003). Migiro and Ocholla (2005) found that SMEs in the Durban area, South Africa, are more concerned with adopting IT to improve internal efficiency and that tour operators specifically use IT for taking orders online.

Computerisation and automation will enable a tour operator to gather and use information to form closer relationships with individual consumers. The acquisition and processing of information will enable a tour operator to customise appeals and offerings for consumers - the epitome of the marketing concept. Customisation, according to Khoo, Chen and Yan (2002), is “transforming customer information into specific product design.” This is where interactive marketing, combined with an effective customer information system, enters the playing field and the emphasis is now on remembering what the consumer said so that tour operators can “personalize communications and customize product offerings” (Zahay & Peltier, 2007). The ideal is that the customer database is linked with and feeds into an information system.

It cannot be over accentuated how imperative it is that tour operators are knowledgeable about their current and potential consumers and this calls for information cornucopia. Not only is it accumulating information but also processing it into knowledge to support and guide decision makers. Buhalis (1998) advocated some time ago that information is “the lifeblood of tourism” and that technology should be utilised by adopting a strategic approach. Added to this is the continuous revolutionary change taking place in the domain of information and communications technology (ICT), and its impact on all aspects of a tourist's value chain. The art of modern-day marketing is encapsulated in creating genuine consumer value.

Tour operators are caught up in a relentless process of procuring information, whether informally or formally. However, managers still tend to muddle through information instead of “taking a longer-term planned approach (strategically) to develop and improve customer information utilization” (Rollins, Bellenger & Johnston, 2011). The process of awareness of what is happening in the market can only be supported by a systematic and scientific formal procedure an information system. Such a system will facilitate the procurement of regular and planned information, analyse it and disseminate it to designated decision makers.

### **3. RESEARCH METHODOLOGY**

This study was empirical nomothetic descriptive research conducted in South Africa and is based on the positivism philosophy. The purpose was to investigate if tour operators do have access to consumer-related information. A quantitative survey was conducted and the research population was all tour operations in South Africa. The predetermined parameters were that (1) sample units must be a South African tour operation and (2) they must have some form of computerised information system in use during the course of this survey. An information system for this purpose could be any form of computerised data collection, being it in an informal manner or a formally acknowledged information system. A population frame was assembled through acquiring names and contact information from various published and electronic sources. There is no certainty that the list was inclusive of all tour operations in South Africa, neither could it be confirmed that all those listed were operational at the time of the survey and a non-probability convenience sampling method was followed.

The online web-based research tool used was QuestionPro.com and the research instrument was a web-based, self-administered, structured electronic questionnaire. QuestionPro.com's licence agreement restricted the sample size to 1 000 successfully delivered e-mail invitations. There were instances where an invitation could not be delivered electronically because of incorrect or terminated e-mail addresses and these were replaced with other names from the sample frame until 1 000 were successfully delivered. Non-responders received only 2 scheduled reminder e-mails.

Sample units received a personal e-mail explaining the purpose of the study and inviting them to participate (data collection) by clicking on a hyperlink imbedded in the e-mail which activated the questionnaire. Once the questionnaire was activated, the ethical issues were firstly addressed and respondents had to indicate their informed consent (this was the only compulsory validation) before gaining access to the actual questionnaire. The questionnaire consisted of interacting branches where the question sequence was determined by a respondent's responses. The actual questionnaire commenced with obtaining information regarding the descriptors used to better understand tour operators in South Africa.

This section terminated with a question where tour operators had to indicate whether they do have an information system and those who indicated that they do not have one was branched to the 'Thank You' page, seeing that they would not have been able to respond to the questions in the remainder sections of the questionnaire. Various closed- and open-ended questions, rating scales, and Likert scale questions with responses ranging from strongly agree to strongly disagree and extremely important to extremely unimportant were used to obtain the required information. The web-based research tool automatically captured responses to closed-ended questions into a database and responses to open-ended questions were nominally enumerated.

Sponsored prizes were used to increase the response rate and these were obtained from Rovos Rail, Wilderness Safaris, Bill Harrop's Original Balloon Safaris, 1time Airline, Imperial Car Rental and Springbok Atlas. Questions were of such a nature that the prizes could not influence the outcome of the results.

The following section is a presentation of the findings that emanated from the responses received.

#### **4. RESEARCH RESULTS**

The sample size was 1 000 successfully delivered e-mail invitations, the questionnaire was viewed by 360 respondents and a completion rate of 42,45% was recorded. It should be noted that the number of responses per question varies because the only validation question was voluntary consent and not all respondents responded to all questions.

Descriptive statistics was obtained for every variable in order to understand the data and to be able to achieve the stated objectives. A cross analysis was performed on linked and test variables to determine whether they compare. A uni-variate descriptive analysis was performed on all the original variables to obtain frequencies, percentages, cumulative frequencies and cumulative percentages. The following inferential statistics were used: Cross-tabulations and Chi-Square based measures of association (if in some cases there were expected values of less than 5 in a cell the Exact p-values were then calculated); MANOVA and ANOVA (to assess the relationship between two or more dependent variables and classification variables); and practical statistically significant tests and the Tukey's Studentized Range (HSD) test (to determine which means differ from each other).

##### **4.1 Participant description**

All the responses of tour operators who started the questionnaire were recorded for obtaining the participant description.

Tour operators were asked whether they have a computerised information system in use and the results indicate that 59,6% of the tour operators who responded do have such a system. Furthermore, the majority of them operate from small tour operations (61,4% of them with up to five staff members); focus on the international incoming market (69,9%); and have equally been in business for up to five years (31,05%) and between six to ten years (31,05%).

Further statistical analysis was performed and the results are indicated in Table 1.

**Table 1: Cross comparison Do have an information system**

Descriptor	Chi Square	P-Value	Exact Test
Type of tour operation	2.7058	0.4392	0.4368
Years in existence	5.4092	0.1442	0.1457
Size of tour operation	2.8409	0.2416	0.2411

The statistics obtained do not indicate any statistically significant differences between the different types of tour operations, the number of years tour operations have been in existence, or the size of the tour operation and their likeliness of having or not having an information system. It is recommended that the reasons why tour operators do or do not have an information system should be further explored with follow-up studies.

Tour operators who indicated that they do not have an information system were branched out and the data presented below is based on the responses obtained from those who indicated that they do have an information system.

#### 4.2 Access to consumer-related information

Tour operators were requested to indicate the internal information sources they utilise as a component of their information systems by responding either 'Yes' or 'No' to a list of sources and the results are indicated in Table 2.

**Table 2: Internal information sources**

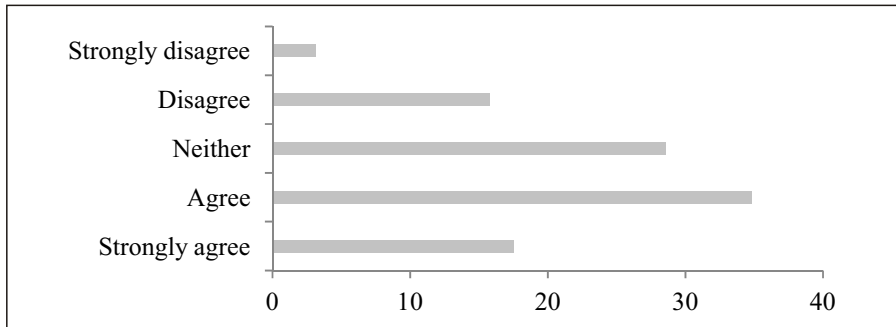
Source	Statistics			
	n	Yes	No	Don't know
Internal records and databases	99	94.29	4.76	0.95
Reservations and sales records	94	91.26	6.80	1.94
<b>Information provided by customers</b>	<b>99</b>	<b>94.29</b>	<b>4.76</b>	<b>0.95</b>
Marketing research	89	87.25	12.75	0.00
Other sources not listed	30	33.33	44.44	22.22

Table 2 indicates that tour operators make use of internal records and databases and information provided by customers as internal information sources. Further statistical analysis indicates that there are no statistically significant differences between the size of a tour operation and the type of tour operation as determinants of the internal information sources used by tour operators.

Tour operators did indicate that market environment-related information about customers, suppliers and competitors is extremely important (80,0%). Further statistical tests did not reveal any statistically significant differences between the size of the tour operation, the type of tour operation and the number of years tour operations have been in existence as determinants of the importance tour operators place on information concerning the market environment (ANOVA and Hotelling-Lawley Trace test p-values all are >0,05).

Tour operators indicated that their information systems do provide them with consumer-related information, based on the responses received on a specific statement and the attributes ranged from 'Strongly agree' to 'Strongly disagree'. The results obtained are illustrated in Figure 1.

**Figure 1: Information provided about consumers**



Based on the results obtained, tour operators indicated that they do have access to customer-related information: 'Strongly agree' (17,5%) and 'Agree' (34,9%). However, it is alarming that 47,6% collectively are neutral and tend towards the opposite. This could spell danger for tourism because consumer-related information is of the utmost importance, especially since today's tourists prefer to be co-producers of their experiences.

Further statistics did not reveal any statistically significant differences between the size of tour operations, type of tour operations or the number of years in existence as determinants of the consumer-related information tour operators have access to because all p-values are >0,05.



These results are confirmed by the p-values of the Kruskal-Wallis Test results, as well as by the Hotelling-Lawley Trace test (size -  $p=0,2434$ ; type -  $p=0,8308$ ; years -  $p=0,7712$ ).

### 4.3 Information needs and innovation propensity

Tour operators were requested to express their perceived information needs in an open-ended question. Tour operators indicated that the sequence of information needed is as follows: firstly, market environment-related information (40%). What was mostly mentioned in this regard is information about consumers (trends, statistics, contact information, markets of origin, consumer preferences, spending patterns and consumer profiles). This is followed by competitor-related information and lastly, supplier-related information.

Tour operators were requested to indicate if they would support information system innovation. The model proposed was a system that operates on a national basis from a central location. This innovated information system is only an example and the idea originated from the TourMIS system and the Illinois Tourism Network (ITN). The results obtained indicate that 80% of the tour operators who responded to this question would support an innovated information system. Tour operators were then requested to provide the reasons why and/or why not they would support such a system and the results obtained are indicated in Table 3.

**Table 3: Reasons for/against an Innovated Information System (in %)**

<b>Reasons for adoption</b>	<b>%</b>
Saving time and money	29
Easy access with quality information	39
Added business	32
Competitor information	
<b>Reasons against adoption</b>	<b>%</b>
Would not add value to business	71
Security and confidentiality	29

Tour operators would support an innovated information system operating on a national basis from a central location because such a system would be easily accessible (39%) and it is likely to contain quality, updated and cost-effective information. Such a system is also viewed by tour operators as beneficial, as it could lead to new/more business opportunities and markets (32%), as well as a cooperative tourism industry throughout South Africa and also because it could enable global connectivity. The least mentioned reason why tour operators would support such a system is based on time and money (29%).

The reasons received from tour operators who indicated that they would not support an innovated information system is that tour operators are of the opinion that such a system will not add value to their current business (71%), and this is followed by their concern about security and the confidentiality of their records and information (29%).

## 5. DISCUSSION

South African tour operators can be a formidable force in the tourism industry and they will be able to propagate their business success if they are knowledgeable with regard to their consumers. This can be facilitated by means of an information system that serves as a tool for management decision making. Based on the results presented, it is questionable whether the current information systems of tour operators either provide them with sufficient consumer-related information, or whether these systems are able to process this information into an exploitable format. Information system innovation is crucial because the current state of affairs could result in South African tour operators being excluded from exploring potential viable opportunities in the tourism market, not only in the domestic market but also on a global scale. It is imperative that tour operators consider the proper organisation of information flow as an investment (a business asset that is strategically managed), and to incorporate this into their business planning and innovation, seeing that the introduction of new offerings is influenced by conducting environmental scanning.

Out of all the tour operators who participated in this study, 40,6% of them indicated that they do not have some form or type of information system, and this whilst they are part of the current business and global environment, known as the information era. Most of the tour operators in South Africa operate from small businesses (with up to 5 staff members) and this could be a reason why there are still so many tour operators who do not have some form or type of information system because they do not have the assets to invest in technology (capital) or know-how (human resources). But, can they afford not to invest? It would be an interesting study to investigate how many of these tour operators are still in business in five years' time. Added to this is the fact that almost 70% of the tour operators are involved with international tourists who, in all probability, are acquainted with and use technology themselves.

No statistically significant differences were detected between the different tour operation descriptors and whether or not they do or do not have an information system and the inference can thus be made that information system innovation will be beneficial to all tour operators, irrespective of type, size or number of years in existence.

The subsequent discussion is based on only the responses received from tour operators who indicated that they do have some form or type of information system.

It is concerning that 47,6% of these tour operators indicated that their information systems do not provide them with consumer-related information and this is in concurrence with the large percentage who indicated that they use mainly spread sheets as type of software in their tour operations. This type of software can provide tour operators with a record of their consumers but it is not suitable for transforming records into information and knowledge. This indicates that there is an earnest need for IT training in the tour operating environment, and this would in all probability also apply to the entire tourism industry in South Africa.

No statistically significant differences were detected between the different tour operation descriptors and whether or not their information systems provide them with consumer-related information they could use for management decision-making purposes. The inference can thus be made that information system innovation will be beneficial to all tour operators, irrespective of type, size, of number of years in existence.

It is not surprising that the information needs tour operators expressed concentrate around the market environment within which they operate because the information they can obtain from their information systems is inadequate. The focus of this paper is on the consumer-related information and does not include an analysis of the other variables of the market environment. It was coincidence that tour operators listed market environment-related information as their most critical need for information. The type of information listed as critical pivots around the consumer-related information an information systems should be able to provide. This confirms that information system innovation is of utmost importance because consumer reservation and transaction records are not interchangeable with information and knowledge needed for management decision making.

The information needs of tour operators are in concurrence with their propensity towards information system innovation. A specific model of information system innovation was proposed to the tour operators because IT innovation in itself is a vast topic and could include almost anything. TourMIS and ITN are both public-private partnership systems which are interconnected and integrated information systems where all role-players (members) contribute towards these systems by capturing their data online. The data is then collectively processed and members can obtain requested information. The inference is made that such an information system would be adopted by role-players in the South African tourism industry because it would enable them to obtain information that is in an exploitable format. This is in strong contrast to only the records tour operators currently have on their personal computers. Tour operators' biggest concern, that such a system would not add value to their current businesses, could be turned into a major benefit once the value of such a system is fully understood and experienced.

## 6. CONCLUSION

Tourism and information technology are dynamic in nature and tour operators ought to have the necessary information systems in place that will continuously enable them to assess the alignment of their business practice with developments and trends. One of the challenges of modern-day tourism businesses is to have technology that is compatible to that used by its target market. This is especially relevant if tour operators want to (or rather should) establish a two-way flow of information for relationship building and for establishing loyalty amongst their consumers. This does not even consider the establishment of databases for direct marketing purposes. Expediting further information system research and innovation will be beneficial to the tourism industry and could also contribute towards establishing South Africa as a preferred destination in the global tourism market.

The inferences made in this paper are in all probability also relevant to travel agencies, as well as all the other sectors of tourism. Research in this regard should be viewed as imperative because information system innovation is of utmost importance. However, multi-disciplinary involvement, from system engineers and IT specialists for example, would be needed to enable tour operators to fully understand the consumer in their target markets.

Ritchie and Ritchie (2002) proposed guidelines for the establishment of a comprehensive state/provincial destination marketing information system (DMIS) for the tourism industry in Alberta, Canada. A similar information system would be beneficial for tourism in South Africa.

South African tour operators, on their own, will in all probability not be able to afford the investment needed to acquire, develop, and maintain sophisticated information systems and a cohesive venture is needed because information system innovation is imperative. South African tour operators are susceptible to innovative ideas and it is recommended that this issue should be further explored. Multi-level cooperation and partnerships between all minor and major stakeholders (public and private) in the tourism industry need to take place so that tourism as a collective economic sector is able to render memorable tourism experiences.

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