



Contents lists available at ScienceDirect

International Business Review

journal homepage: www.elsevier.com/locate/ibusrev



Telecom market liberalization and service performance outcomes of an incumbent monopoly

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ARTICLE INFO

Article history:

Received 2 September 2015
Received in revised form 25 June 2016
Accepted 29 June 2016
Available online xxx

Keywords:

Market liberalization
Competitive intensity
Industry structure
Service quality
Customer satisfaction
Telecommunications market
Saudi Arabia
Incumbent monopoly

ABSTRACT

Using data from a high-income, emerging market economy in the Middle East, this study examines changes in service performance outcomes of an incumbent monopoly during different periods in the phased liberalization of the country's telecommunications market. The study draws on Structure-Conduct-Performance (SCP) theory and Social Exchange Theory (SET) to develop hypotheses about expected changes in four customer-based service performance outcomes—service quality perceptions, customer satisfaction, customer loyalty, and customer attitudes. These are tested using data collected in a longitudinal tracking study spanning different periods in the liberalization process. Results show that all four performance outcomes improved significantly during an early post-liberalization period when there was only one additional competitor in the market, but declined slightly during a later period when a second competitor entered the market. However, structural relationships among the outcomes themselves remained invariant across liberalization periods. Policy-making and theoretical implications of the results are outlined and discussed. Although the data come from a single industry in an emerging market economy, a particularly key implication is that while incumbent monopolies may initially harbor a preference for the comfort and 'freedom' that comes with being the only player in the market, under certain circumstances liberalization can actually benefit them through the impetus that it provides for their own service quality improvements.

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1. Introduction

During the 1980s many industrialized countries embarked on programs of market liberalization and industry deregulation, particularly for so-called network industries like telecommunications (telecom) and electricity (Noam, 1987). These industries that for decades were characterized by significant state participation and/or intervention, were opened to competition with objectives of stimulating economic growth. While recent scandals in the banking sector have led to calls for more regulatory intercessions in some developed countries (e.g. the U.S.), the trend in many developing and emerging market economies is that of increasing deregulation and liberalization of service industries like telecommunications, banking, insurance, and electricity that were once dominated by regulated government monopolies (Sarkar, Cavusgil, & Aulakh, 1999; Luqmani and Quraeshi, 2011). In some

developing countries, this usually entails opening up the sector to participation by foreign investors, and can be a means to attract foreign capital and technical knowhow.

In the literature, proponents of market liberalization argue for its potential to drive positive outcomes at both the macro (industry) and micro (firm) level. At the macro level, arguments center around economic efficiency gains resulting from increased competition, and available empirical evidence from telecom liberalizations in some national contexts suggest positive macro-level effects in the form of quality improvements (e.g. Yan, 1999), increased innovation (Majumdar, 1994; Markard & Truffer, 2006), increased profitability (Cabanda and Ariff, 2002; Jeng & Lai, 2008; Park, Li, & Tse, 2006), and industry growth (e.g. Singh, 2000). In the case of foreign entrants into a developing country, there is also the anticipation that new entrants will bring in modern marketing and management practices, thereby providing better services for domestic consumers.

At the micro level, researchers (e.g. Majumdar, 1994; Markard & Truffer, 2006) have noted the potential for liberalization to positively impact incumbent firms. For instance Majumdar (1994) finds that market liberalization spurred both entrepreneurially-oriented and productivity-oriented behavior changes

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within incumbent firms in the U.S. telecommunications industry. In developing countries where liberalization also allows foreign market participants, incumbent domestic service providers have the potential to benefit through service quality improvements as they adopt the more cost-effective and market-oriented management practices introduced by the new entrants.

This study focuses on liberalization's impact at the micro level. It examines changes in customer-based service performance outcomes of the incumbent monopoly during different phases in liberalization of the Saudi Arabian telecommunications market, one of the largest in the Middle East. Specific performance outcomes examined for the incumbent – Saudi Telecommunications Company (STC) – are customer's perceptions of the company's service quality, their satisfaction with its services, their loyalty toward it, and their overall attitudes toward the company. It also examines changes in relationships among these constructs across different phases of the liberalization process.

The intended contribution of the study is two-fold. The first is to provide guidance to policy-making bodies in countries contemplating liberalization of their own telecom or other networked service industries such as electricity, water, gas, airlines, etc. This is important because incumbent monopolies normally do not like the increased competition that is a consequence of liberalization. Market life can simply be easier and less demanding on the incumbent in the absence of competition. Yet in so-called network industries such as telecommunications and electricity, policy-making bodies often expect the incumbent to share an established infrastructure with new entrants. In some countries, the incumbent may even be expected to play a leading role in the liberalization process by working with regulatory authorities and policy-making bodies to develop guidelines for the new competition. The task of engaging the incumbent would be easier if policy-makers can make the case that the incumbent can also benefit from the liberalization.

The second intended contribution of the study is theoretical. The goal is to contribute to the wider debate on the socio-economic benefits of market liberalization and competition by focusing on performance outcomes that have not previously been addressed in the literature. Customer-based service quality and related customer perceptual outcomes are important tools by which any service organization can attract and maintain a pool of profitable customers and nurture a competitive advantage. Therefore, from a theoretical perspective it is useful to know if changes in market structure that result from liberalization can foster changes not only in macro-level economic efficiency but also in these customer-based perceptual outcomes for incumbents in such liberalized service industries.

The next two sections present an overview of structure-conduct-performance theory and social exchange theory, two underlying theoretical foundations for the study. Section 4, synthesizes these with relevant literature pertaining to the study constructs to develop hypotheses for the empirical study. Section 5 presents the study design, construct measurement and data collection, and Section 6 discusses the analysis and presents the results. Theoretical and managerial implications of the results are discussed in Section 7, and a final section outlines the study's limitations and offers suggestions for future research.

2. Structure-conduct-performance theory

The present study is based on a premise that customers' perceptions of an incumbent monopoly's services are likely to be different in a liberalized environment than in a monopoly environment. The structure-conduct-performance (SCP) theory of industrial economics (Bain, 1951; Bain, 1956; Mason, 1949) is the theoretical basis for this premise. SCP theory posits that the

underlying structure of an industry (defined by variables such as the number of sellers, degree of product differentiation, cost structure, etc.) determines the behavior of firms in that industry (in terms of pricing, research and development efforts, advertising, investments, etc.), which in turn impacts the performance (e.g. efficiency, price-to-marginal cost ratio, product variety, innovation, profitability, etc.) of these firms (Clarke, 1988; Lipczynski & Wilson, 2004; Tirole, 1993).

SCP theory is suitable for understanding the impact of liberalization on an incumbent monopoly's customer-based service performance outcomes because by increasing the number of competitors in an industry, liberalization changes the first construct in the SCP causal chain—that industry's structure. According to SCP, such a change in structure will lead to a change in the incumbent's behavior, as it simply cannot continue to do business as usual in the face of increased competition. New entrants typically enter a market with different strategic postures than the incumbent – e.g. they tend to be more aggressive, more innovative, and more market oriented – putting pressure on the incumbent to adapt by changing its own conduct. Finally, according to SCP this change in conduct has the potential to affect the incumbent's business outcomes as behavioral changes have associated cost and revenue outcomes. In the context of the present study, the implication is that liberalization will lead to a change in the incumbent's business conduct, which in turn will lead to changes in its customer-based service performance outcomes. The next section presents a review of Social Exchange Theory (SET), the theoretical basis for hypotheses about the specific direction of changes in the customer-based performance outcomes examined in the study—service quality, customer satisfaction, customer loyalty, and customers' attitudes.

3. Social exchange theory

Social exchange theory (SET) is a collection of different theoretical perspectives from economics, psychology, and sociology that seeks to explain the social behavior of humans in economic exchange. SET explains how actors in exchange relationships determine issues such as resources to exchange, exchange rules and norms, and exchange outcomes, among others (for a recent review, see Cropanzano and Mitchell, 2005). The present study focuses on SET's postulations about the impact of expected outcomes on actors' behavior in dyadic relationships. Anderson and Narus (1984) suggest two useful constructs employed by actors when evaluating exchange outcomes from dyadic relationships—the comparison level (CL) and the comparison level for alternatives (CL_{alt}). CL is defined as a standard representing the quality of outcomes that an exchange actor (e.g. a customer) has come to expect from a given dyadic relationship (e.g. a relationship with a telecom provider) based on present and past experience with similar relationships and knowledge of other customers' similar relationships. The outcomes experienced from a relationship, compared against this standard, determine the attractiveness of the relationship and the degree of satisfaction the customer receives from the relationship. CL becomes a standard against which the actor judges attractiveness of, and consequently satisfaction with, the relationship. It is also a standard against which the actor compares outcomes from any current or future available alternatives to determine their attractiveness.

CL_{alt} on the other hand is viewed as “a standard that represents the average quality of outcomes that are available from the best alternative exchange relationship” (Anderson & Narus, 1984; p. 63). In this sense Anderson and Narus view CL_{alt} as representing “the lowest level of outcomes” from the current relationship that the actor will accept and still remain in the relationship. CL and CL_{alt} are powerful constructs for understanding customers' satisfaction

with, and loyalty toward the incumbent in both monopoly and liberalized market environments. We examine their specific effects in discussion of the hypothesized impact of liberalization on satisfaction and loyalty.

4. Hypotheses

4.1. Liberalization and customers' perception of incumbent's service quality

Service quality has been defined as “the consumer's judgment about the overall excellence or superiority of a service” (Zeithaml, 1988). One frequently cited argument in favor of liberalization is that the competitive market environment that it produces puts pressure on the incumbent to improve product and service quality. Some empirical evidence in the industrial organization literature suggests that increased competition does indeed lead to better quality service. Studies by Domberger and Sherr (1989) for legal services, Dranove and White (1994) for hospital markets, Hoxby (2000) for public schools, Mazzeo (2003) for the airline industry, and Matsa (2011) for supermarkets all find that increased competition led to service quality improvements in the respective industries. In the U.S. airline industry for example, Mazzeo (2003) finds that both the prevalence and duration of flight delays (lower quality service) were significantly greater on routes where only one airline provided direct service, whilst additional competition was correlated with better carrier on-time performance. In a very recent study, Greenfield (2014) finds that the effect of competition on airline delays is three times stronger than previously suggested by studies such as Mazzeo's. Accordingly we suggest the following hypothesis.

H1. Customers' perceptions of an incumbent monopoly's service quality will be higher post-liberalization than pre-liberalization.

4.2. Liberalization and customers' satisfaction with incumbent

Customer satisfaction is the level of pleasure and contentment resulting from a customer's experience with a product/service, organization, etc. (Jones, Mothersbaugh, & Beatty, 2000; Hellier et al., 2003). The literature distinguishes between satisfaction with component attributes of an object and overall satisfaction with the object (Spreng, MacKenzie, & Olshavsky 1996; Mittal, Ross, & Baldasare, 1998). For our study we focus on *overall satisfaction* with the incumbent, and conceptualize it as an overall positive or negative evaluation of experiences with the firm. We suggest two mechanisms by which liberalization can impact customers' overall satisfaction with an incumbent monopoly.

First, liberalization provides alternatives against which the incumbent's service can be compared. As discussed earlier, SET suggests that consumers evaluate outcomes of an exchange relationship by making comparisons with other available alternatives—the concept of comparison level for alternatives (CL_{alt}). Thus, in a liberalized market a customer's evaluation of the exchange relationship with the incumbent will be driven by his/her knowledge of, and comparison with, outcomes that others are getting from relationships with their service providers (Anderson and Narus, 1984; Anderson, Zerrillo, & Wang, 2006). If this evaluation leads to a perception that others are getting better (worse) deals from relationships with their suppliers, then favorability of outcomes given CL_{alt} for the customer's own relationship will be lower (higher), leading to dissatisfaction (satisfaction). Anderson and Narus (1984, 1990) show empirically that CL_{alt} positively influence an exchange partner's satisfaction with a relationship, while Ping (2003) finds a negative relationship

between attractiveness of other alternatives and satisfaction with a particular alternative.

Second, the service quality literature suggests that in general customers' quality perceptions positively influences their satisfaction judgments. Accordingly, as a consequence of H1, liberalization should lead to changes in customers' overall satisfaction with an incumbent monopoly. Therefore, the hypothesized higher post-liberalization quality perceptions should be associated with higher post-liberalization satisfaction with the incumbent. The hypothesis then is that:

H2. Customers' satisfaction with an incumbent monopoly will be higher post-liberalization than pre-liberalization.

4.3. Liberalization and customers' loyalty toward incumbent

Customer loyalty is “a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior” (Oliver, 1997). This view of loyalty emphasizes both the attitudinal component (Fournier and Yao, 1997) and behavioral components (e.g. Ehrenberg, 1988) of loyalty. Consistent with this view, for the present study loyalty toward the incumbent is conceptualized simply as customers' deeply held commitment to the incumbent, and manifested in their willingness to continue subscribing to its telecom services despite available opportunities to switch. As so conceptualized, loyalty will be higher post-liberalization for two reasons.

First, in general a customer is more likely to stay with any service provider if they perceive the provider's service to be of higher quality, and/or they are satisfied with the relationship with that provider. Since the two previous hypotheses posit higher post-liberalization service quality perceptions and satisfaction by the incumbent's customers, a logical expectation is that these same customers will express a higher level of loyalty toward the incumbent post-liberalization. Second, non-loyal customers would have self-selected themselves out of the relationship with the incumbent during the post-liberalization period, leaving a pool of really loyal customers who would have similarly self-selected themselves to stay with the incumbent despite the new opportunities to switch. Furthermore, self-perception theory (Bem, 1972) suggests that these loyal customers will rationalize to themselves that their non-switching behavior must be because they actually do like the incumbent's service, thereby becoming even more loyal to the incumbent. Based on this discussion the following hypothesis is suggested:

H3. Customers who choose to stay with an incumbent monopoly in a liberalized market will express higher levels of loyalty post-liberalization than pre-liberalization.

It should be noted that there is always the possibility that some customers who were dissatisfied with the incumbent may not have switched providers for several reasons, including customer inertia, interpersonal relationships with employees of the incumbent, switching costs, and perceived lack of attractiveness of the available alternatives.

4.4. Liberalization and customers' attitude toward incumbent

Consistent with the attitude formation literature (e.g. Agarwal and Malhotra, 2005; Ajzen & Fishbein, 1980; Allen, Machleita, Kleineb, & Notani, 2005; Bodur, Brinberg, & Coupey, 2000; Fishbein & Ajzen, 1975; Malhotra, 2005; Peter & Olson, 1993; Wilkie & Pessimier, 1973) attitude toward the incumbent is conceptualized

as customers' summary evaluative judgments – in terms of good/bad, favorable/unfavorable, or pleasant/unpleasant – about the incumbent. It is expected that these judgments will change as a result of liberalization. Research into consumers' attitude formation have long drawn on the Fishbein–Rosenberg expectancy-value paradigm (Fishbein and Ajzen, 1975; Wilkie & Pessimier, 1973) which argues that attitude formation is driven by rational cognitive processes based on information and knowledge. Thus, if consumers believe that there have been significant quality improvements in the incumbent's service post-liberalization, their attitudes toward the incumbent are likely to similarly improve. Moreover, some recent work is beginning to show that emotional (affective) processes also contribute a direct main effect to attitude formation (Allen et al., 2005; Bodur et al., 2000), leading to development of models that attempt to unify the cognitive and affective aspects of attitude formation (see e.g. Agarwal & Malhotra, 2005). Accordingly, the positive affective processes that lead to the expected increases in post-liberalization satisfaction will also contribute toward improvements in attitude toward the incumbent. Therefore,

H4. Customers' attitudes toward the incumbent would be more positive post-liberalization than pre-liberalization.

4.5. Liberalization and relationships among quality, satisfaction, attitude, and loyalty

A second major objective of the present study is to examine if structural relationships among the study constructs are the same or different between the pre- and post-liberalization periods. The rationale for this examination is in indications in the literature that the dimensions of service quality may not be equally important determinants of satisfaction in all market environments (e.g. Leisen and Vance, 2001). Thus, changes in market structure could potentially alter the nature of relationships among customers' service quality perceptions, overall satisfaction, loyalty, and attitudes toward an incumbent monopoly. Accordingly, this study examines whether the conceptual model in Fig. 1 applies equally in pre- and post-liberalization market environments as an explanatory model of the determinants of customer loyalty toward an incumbent monopoly.

In the model overall satisfaction is positively related to each of the service quality dimensions. In turn, overall satisfaction and attitude toward the incumbent jointly determine loyalty. Service quality is conceptualized in terms of the SERVQUAL framework (Parasuraman, Zeithaml, & Berry, 1985; Parasuraman, Zeithaml, & Berry, 1988; Parasuraman, Zeithaml, & Berry, 1991 and related works), which identifies five key dimensions of service quality—reliability, responsiveness, assurance, empathy, and tangibles. *Reliability* refers to the ability of service personnel to perform the promised service dependably and accurately; *responsiveness* concerns the willingness of service personnel to help customer and provide prompt response; *assurance* addresses service employees' knowledge and courtesy and their ability to inspire trust and confidence; *empathy* is concerned with service personnel's ability to give caring, individualized attention to customers; and *tangibles* has to do with the appearance of physical facilities, equipment, personnel, and written materials used in service provision.

The expected positive relationship between overall satisfaction and the service quality dimensions is grounded in the numerous theoretical (e.g. Anderson & Sullivan, 1993; Cronin & Taylor, 1992, 1994) and empirical studies (e.g. Khatibi, Ismail, & Thyagarajan, 2002; Leisen and Vance, 2001; Oh, 1999) suggesting that service quality is an important antecedent to customer satisfaction. The expected positive relationship between overall satisfaction and loyalty is based on theory and empirical evidence linking customer satisfaction to repurchase intent (e.g., Anderson and Sullivan, 1993; Cronin & Taylor, 1992; LaBarbera & Mazursky, 1983; Reichheld and Sasser, 1990), actual repurchase behavior (e.g., LaBarbera and Mazursky, 1983; Newman & Werbel 1973; Sambandam & Lord, 1995), and brand loyalty in both consumer markets (e.g. Biong, 1993; Fornell, 1992) and business-to-business markets (Abdul-Muhmin, 2002, 2005; Anderson & Weitz, 1989; Bejou, Ennew, & Palmer, 1998; Ganesan, 1994; Sharma & Patterson, 2000). Finally, the relationship between attitude toward the incumbent and loyalty is based on postulations of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and the theory of planned behavior (TPB) (Ajzen, 1985, 1991) as well as empirical studies in psychology, consumer behavior, and marketing confirming this relationship (e.g. Monsuwe, Dellaert, & Ruyter, 2004; Shim et al., 2001).

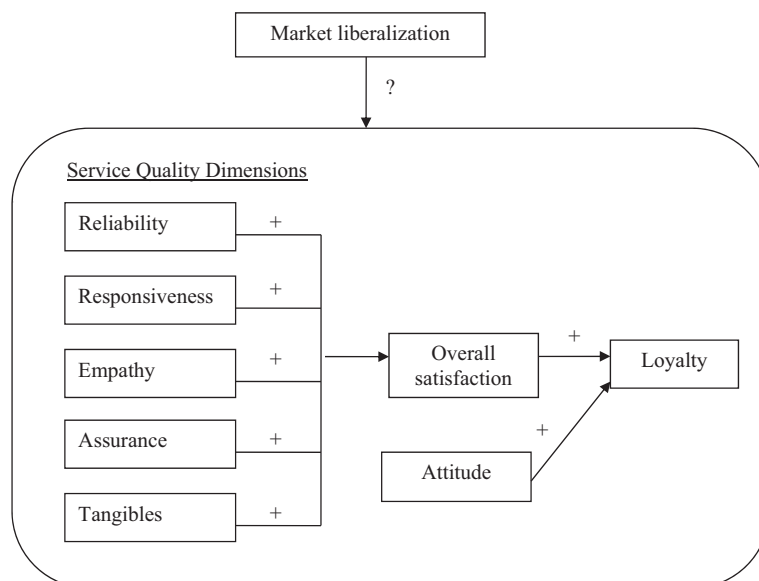


Fig. 1. Conceptual Model and Hypothesized Relationships.

Although the above structural relationships are strongly grounded in theory and empirical evidence, there is no similar guidance in the literature as to the specific nature of differences in these relationships for an incumbent between a monopoly and liberalized market environment. Accordingly, the following hypotheses are empirically tested post hoc.

H5. The relationship between each of the service quality dimensions of (a) reliability, (b) responsiveness, (c) empathy, (d) assurance, and (e) tangibles and overall satisfaction with the incumbent monopoly will be different in pre- and post-liberalized market environments.

H6. The relationship between overall satisfaction with and loyalty toward an incumbent monopoly will be different in pre- and post-liberalized market environments.

H7. The relationship between attitudes and loyalty toward an incumbent will be different in pre- and post-liberalized market environments.

5. Method

This section presents a brief overview of the context for the empirical study (including a timeline of the liberalization process) and describes the data collection and analysis methods for the empirical study.

5.1. Study context

The telecommunications industry of Saudi Arabia is the context of the empirical study to test the foregoing hypotheses. Historically, as in many countries, telecommunications services in Saudi Arabia were provided exclusively by the government through the Ministry of Post, Telephone and Telegraph (PTT). In the late 1990s, a carefully phased privatization and liberalization process was initiated, starting in mid-1998 with the corporatization of telecom

service provision. At this time the telecom agency within the PTT was transferred into a state-owned commercial company, the Saudi Telecom Company (STC). In 2001, the government established the Communications & Information Technology Commission (CITC) to develop guidelines and a regulatory framework and to oversee telecom operations in anticipation of future liberalization of the market. This was followed in late 2002/early 2003 with a partial privatization of STC in which the government divested 30% of its stake through an oversubscribed Initial Public Offering. Also in 2002, data service provision was partially liberalized with the award of several VSAT (Very Small Aperture Terminal) licenses to private investors to compete with STC.

Further strides in telecom market liberalization occurred in 2004 when Etihad Etisalat of the United Arab Emirates was issued a second license to provide mobile telecom services in the country. Also in this year, the telecom market was further liberalized through the award of two data service licenses to other organizations to compete with Saudi Data, the data services division of STC. Liberalization proceeded further in 2007 when a third license to provide mobile service was issued to Zain Telecom of Kuwait. In a sense then, the Saudi liberalization experience exemplifies van de Merwe’s conceptualization of liberalization as a process of getting to a freer market situation (Van de Merwe, 1987). Fig. 2 provides a timeline of this process, along with markers for the data collection phases in the empirical study.

While liberalization of the Saudi telecom market may appear limited in comparison with telecom market liberalizations in other countries, it nevertheless created increased competition and offered choices to customers. There is also ample anecdotal evidence that STC significantly changed its behavior in the face of this competition. The company became more market oriented in a manner akin to the process of destructive regeneration that multinational corporations go through in their internationalization efforts (Cavusgil and Cavusgil, 2012). It implemented many market-oriented initiatives, including massive tariff reductions, expanded service offerings, increased promotional activities, increased consumer directed advertising, and generally more

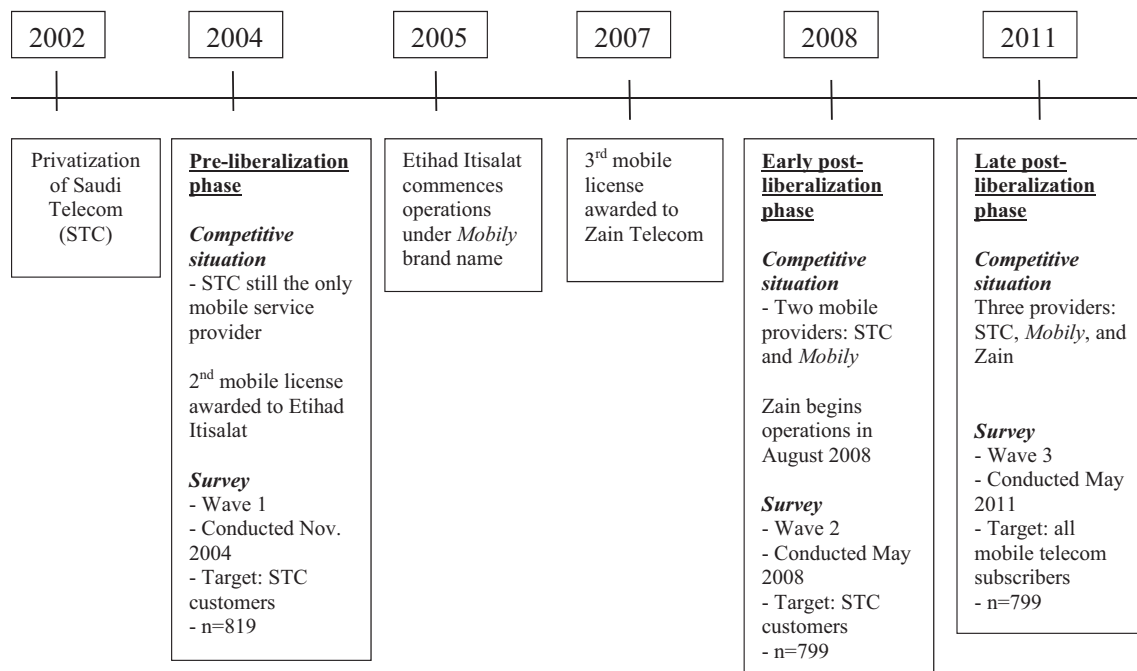


Fig. 2. Timeline of Telecom Market Liberalization in Saudi Arabia.

market-focused strategic planning. This study examines whether these changes – both in industry structure and STC’s response – had any impact on customers’ perceptions of the company.

5.2. Study design and data collection

Data for the empirical study come from a longitudinal tracking study comprising three survey waves, one before liberalization of the market and two afterwards (see Fig. 2). Data in all waves were collected using structured self-administered questionnaires administered in both Arabic and English, the latter to cater for the large number of non-Arabic speaking expatriates in Saudi Arabia. The pre-liberalization survey (Wave 1) was conducted during the last quarter of 2004. At that time STC was the only telecom provider in the market because, although a mobile service license had been issued to Etihad Etisalat of the United Arab Emirates (Etihad) that company had not yet commenced operations. The Wave 1 survey was conducted by one of the authors at the instance of STC to examine how consumers perceived the company’s services and customer care offices. This was to help prepare and develop appropriate customer retention strategies in anticipation of the imminent competition.

The second and third surveys (Waves 2 and 3 respectively) were conducted after the market entry by competitors (i.e. during the post-liberalization period), without STC’s involvement. Both surveys were designed as follow-ups to the Wave 1 survey. The

Wave 2 survey (hereafter referred to as the “early post-liberalization” survey) was administered during the last quarter of 2008. At that time Etihad (the second mobile provider) had been in the market for three years operating under the *Mobily* brand name. A third mobile license had also been issued to Zain Telecom of Kuwait but it had not yet commenced operations. The objective of this survey was to determine if customers’ perceptions of STC had changed after three years of competition. Similar to the Wave 1 survey, its target population was only customers of STC. The Wave 3 survey (hereafter referred to as the “late post-liberalization” survey) was administered in the spring of 2011. At that time, Zain (the third mobile service provider) had been operating for just over two years, having commenced operations in 2009. The objective again was to ascertain if customers’ perceptions of STC had changed given the expanded competitive landscape. The target population for this survey was customers of all three mobile providers.

For the Waves 1 and 2 surveys, research assistants distributed paper questionnaires to customers in STC’s customer care offices as they waited in line to be served. Respondents mostly filled out the questionnaires on the spot and returned them to the assistants. For the Wave 3 survey, research assistants similarly distributed paper questionnaires to customers in offices of all three telecom providers as they waited to be served. Some questionnaires were also distributed through mall intercepts in the major cities of the country as well as in coffee shops and internet cafes. This

Table 1
Results of Confirmatory Factor Analysis (n = 2342).

	Loading ¹	t ²	Item Reliability	CR ³	AVE ³
Reliability				0.86	0.67
1. Keeping their promises	0.80	–	0.87		
2. Showing sincere interest in customers’ problems	0.85	46.74	0.93		
3. Performing service right the first time	0.81	44.00	0.88		
Responsiveness				0.85	0.53
1. Telling customers exactly when service will be performed	0.69	–	0.73		
2. Giving prompt service to customers	0.78	35.39	0.85		
3. Willingness to help customers	0.82	36.85	0.89		
4. Never being too busy to respond to customer requests	0.68	31.24	0.72		
5. Giving all customers equal treatment regardless of whether they know someone in the company	0.64	29.35	0.65		
Empathy				0.90	0.70
1. Giving personal attention to customers	0.79	–	0.86		
2. Understanding customers’ needs	0.89	50.02	0.96		
3. Trying to understand customers’ needs	0.88	49.88	0.95		
4. Patience in dealing with customers	0.79	42.62	0.86		
Assurance				0.90	0.58
1. Knowledge to answer customers’ questions	0.72	–	0.76		
2. Politeness	0.69	33.74	0.72		
3. Feel confident in the ability of the employees	0.83	39.67	0.90		
4. Feel that your transactions are safe	0.81	38.42	0.88		
5. Trust employees to perform the service right	0.85	40.47	0.92		
Tangibles				0.86	0.56
1. Quality of equipment used in serving customers	0.70	–	0.74		
2. Interior décor of the offices	0.75	33.56	0.82		
3. Cleanliness of the offices	0.78	34.55	0.85		
4. Availability of published information about services	0.76	33.95	0.82		
5. Quality of published information	0.75	33.30	0.81		
Attitude				0.87	0.63
1. Overall, the policies and programs of XYZ company benefit its customers.	0.76	–	0.82		
2. Overall, XYZ is a good company to be a customer of.	0.90	45.95	0.96		
3. I am really proud of the achievements of XYZ	0.86	44.06	0.93		
4. XYZ company customer care offices provide better service than most other Saudi companies	0.64	31.81	0.65		

Notes: (1) Parameters of completely standardized solution. (2) All t-values are significant at p < 0.01. (3) Composite reliability (CR) = $(\sum \lambda_{yi}^2) / ((\sum \lambda_{yi}^2) + \sum \text{var}(\epsilon_i))$ where $\text{var}(\epsilon_i) = 1 - \lambda_{yi}^2$; Average variance extracted (AVE) = $\sum \lambda_{yi}^2 / (\sum \lambda_{yi}^2 + \sum \text{var}(\epsilon_i))$ where $\text{var}(\epsilon_i) = 1 - \lambda_{yi}^2$ (Fornell & Larcker, 1981). CRs and AVEs are computed using parameters of the completely standardized solution. (4) Model Fit Statistics: Chi-Square (284 df) = 4054.37; RMSEA = 0.074; GFI = 0.89; AGFI = 0.86; NFI = 0.98; NNFI = 0.98; CFI = 0.98; IFI = 0.98; RFI = 0.98; RMR = 0.13

convenience sampling approach was used because at the time of the studies it was practically impossible to obtain appropriate sampling frames from which to draw probability samples. This general difficulty in obtaining probability samples in Saudi Arabia has also been documented in other studies (e.g. Abdul-Muhmin, 2010). Moreover, from the authors' experience with survey data collection in Saudi Arabia convenience sampling methods such as the one used in this study typically provide higher response rates, lower item nonresponse, and when properly designed, fairly representative samples. Sample sizes obtained for the three survey waves were: Wave 1=819, Wave 2=799, and Wave 3=811. The Wave 3 sample size is distributed among the three mobile providers as follows: STC=501 (61.8%), Mobily=280 (34.5%), and Zain=30 (1.2%). As an aside, these distributions approximate the three providers' market shares during 2011—the Wave 3 data collection year.

5.3. Measures

To ensure comparability of results, constructs were measured using exactly the same measurement items and scales in all waves. Indeed, the exact same questionnaire was used in the Waves 1 and 2 surveys, as both focused only on evaluations of STC by its customers. The Wave 3 questionnaire was slightly modified to accommodate a decision to survey customers of all three mobile providers rather than only STC. An initial filter question asked customers to first identify their service provider and to respond to remaining questionnaire items with respect to that provider. Otherwise, all other questionnaire items were exactly the same as in the two previous surveys.

Service quality was measured using the scale items from the original SERVQUAL framework by Parasuraman et al. (1985) with minor adaptations to suit the study context. Attitude toward the incumbent was measured using a four-item Likert scale developed for this study. Specific scale items used to measure SERVQUAL dimensions and attitudes are in Table 1. Responses to all items were elicited on a 7-point bipolar scale (1=Strongly disagree; 7=Strongly agree). Overall satisfaction was measured using a single item. Respondents indicated their level of overall satisfaction on a 7-point bipolar scale (1=Very dissatisfied to 7=Very satisfied). Loyalty was similarly measured using a single item. Respondents indicated their likelihood of continuing to subscribe to STC's services or, in wave 3, to services of their respective current provider on a 7-point bi-polar scale (1=Very unlikely; 7=Very likely).

The adequacy of multi-item measures were assessed through confirmatory factor analysis using LISREL 8.80 for Windows (Joreskog & Sorbom, 2004) and maximum likelihood estimation. The measurement model was fit to a covariance matrix of the combined data from all three survey waves – a total sample size of 2119. Standardized factor loadings, t-values, and item reliabilities of the measures are shown in Table 1, which also contains composite reliability (CR) and average variance extracted (AVE) for each scale. The standardized factor loadings are all above the recommended level of 0.5 (Anderson & Gerbing 1988), and individual item reliabilities are above 0.7 for all but two items. Thus, for the vast majority of measurement items, more than 50% of the item's variance is shared with its respective construct. Composite reliabilities for all constructs are above the recommended 0.7 (Hulland, 1999), indicating acceptable internal consistency reliability of the measures; and average variance extracted for each construct is above 0.5, indicating acceptable convergent validities (Barclay and Smith, 1997). Finally, the overall model statistics show acceptable fit of the measurement model to the data [$\chi^2_{(284d.f.)} = 4054.37$ ($p < 0.001$); Comparative Fit Index (CFI)= 0.98; Root Mean Square Error of Approximation (RMSEA)= 0.07; Goodness-of-Fit Index (GFI)= 0.89; Adjusted Goodness-of-Fit Index (AGFI)= 0.86].

6. Analyses and results

To test hypotheses H1 to H4 mean scores were calculated for all constructs after computing summated scores for the multi-item constructs. Summated scores were used rather than responses to individual scale items to reduce the amount of information and make the results clearer and more meaningful. Oneway ANOVA procedures were then used to test for differences in the means across the three data collection waves. The results are in Table 2.

6.1. Service quality

Hypothesis H1 posited that customers' perceptions of the incumbent's service quality will be higher post-liberalization than pre-liberalization. The results in Table 2 show that in the early post-liberalization period (i.e. Wave 2 survey) customers' service quality evaluations increased significantly for three of the service quality dimensions—reliability (from 4.0 to 4.2), empathy (from 4.0 to 4.4), and tangibles (from 4.6 to 4.8). Responsiveness and assurance also recorded increases, but these were not statistically significant. During the late post-liberalization period (i.e. Wave 3 survey) however, quality evaluations took a dip for all service

Table 2
Tests for Differences in Mean Scores for Quality, Satisfaction, Attitude, and Loyalty across Survey Waves.

	Wave 1—2004 (n=812)	Wave 2—2008 (n=793)	Wave 3—2011 (n=496)	F	p
1. STC Quality dimensions					
a) Reliability	4.0 ^a	4.2 ^b	3.8 ^c	15.82	0.000
b) Responsiveness	3.8 ^a	3.9 ^a	3.5 ^b	10.01	0.000
c) Empathy	4.0 ^a	4.4 ^b	3.8 ^c	22.39	0.000
d) Assurance	4.4 ^a	4.6 ^a	4.2 ^b	11.45	0.000
e) Tangibles	4.6 ^a	4.8 ^b	4.8 ^b	8.72	0.000
2. Overall satisfaction with STC	4.0 ^a	4.4 ^b	4.4 ^b	15.11	0.000
3. Loyalty toward STC	3.5 ^a	4.1 ^b	4.8 ^c	71.41	0.000
4. Attitude toward STC	3.7 ^a	4.1 ^b	3.7 ^a	19.48	0.000

Notes: (1) Evaluations are on a 7-point scale, with higher scores indicating more positive evaluations or satisfaction. (2) Tests for statistical significance of differences in means were conducted using the Bonferroni procedure. For each construct, means with different superscripts are statistically different; those with the same superscripts are not. For example, for the responsiveness quality dimension, the differences in means for 2004 and 2008 is not statistically significant, but the difference for 2004 and 2011 is statistically significant, as it that between 2008 and 2001.

quality dimensions except tangibles. Indeed, in all instances the decreases were to levels lower than those of the pre-liberalization period. Thus, the hypothesis is supported in the early but not the late post-liberalization phase.

6.2. Satisfaction, loyalty, and attitude

H2 posited that overall satisfaction with the incumbent will be higher post-liberalization. Table 2 shows that overall satisfaction did indeed increase from 4.0 to 4.4 between the pre-liberalization and early post-liberalization periods. However, the satisfaction score stayed the same at 4.4 between the early and late post-liberalization periods. Thus only partial support is found for H2. Hypothesis H3 similarly posited an increase in loyalty toward the incumbent after liberalization. The results in Table 2 show that this indeed happened. The loyalty score went from 3.5 in the pre-liberalization period to 4.1 early post-liberalization, and 4.8 in the late post-liberalization period. Differences among all three means are statistically significant, providing full support for H3. Finally, H4 hypothesized a positive change in attitudes toward the incumbent as a consequence of liberalization. Again, Table 2 shows that this did indeed happen in the early post-liberalization period when the attitude score jumped to 4.1 from the pre-liberalization level of 3.7. However, the attitude score in the late post-liberalization period fell right back to the pre-liberalization level of 3.7, providing only partial support for H4.

6.3. Relationships among study constructs

Hypotheses H5, H6, and H7 addressed structural relationships among service quality, satisfaction, attitudes, and loyalty in the pre- and post-liberalization market environments. H5 posited that the specific service quality dimensions that impact satisfaction might be different in the different market environments. H6 suggested a similar difference in the relationship between satisfaction and loyalty, while H7 hypothesized the same difference for the relationship between attitudes and loyalty. Two sets of

multiple regression equations were ran to test these hypotheses. They produced the results in Table 3.

The general thrust of H5 is supported by the results. Although the regression coefficients between satisfaction and each of the service quality dimensions are positive for all market environments, there are some notable differences across the different market environments. In the pre-liberalization market all quality dimensions except empathy impact satisfaction; in the early post-liberalization market all dimensions except reliability impact satisfaction; in the later post-liberalization market both reliability and responsiveness fail to significantly impact satisfaction. In all three market environments, satisfaction and attitudes are both significant determinants of loyalty toward the incumbent. Thus H6 and H7 are not supported by the data.

7. Discussion

In summary, this study’s results show positive changes in the incumbent’s customer-based service performance outcomes during the early post-liberalization period, as scores on the key constructs edged upwards during this period. In the late post-liberalization period all scores declined with the exception of loyalty and the tangibles component of service quality. Relationships among the constructs remained essentially the same in both pre- and post-liberalization market environments. The findings on customer perceptions in the early post-liberalization period are interesting because anecdotal evidence and results of an exploratory study conducted prior to the Wave 1 survey indicated widespread perceptions of poor quality service, dissatisfaction with STC, and generally negative attitudes toward the company. Thus, it is remarkable that these perceptions and attitudes changed so positively during the early post-liberalization period. Two explanations may account for this. One is that the efforts at service improvement and image-building that STC implemented in anticipation of increased competition actually had the desired effect on customers’ perceptions. At the time of impending liberalization, there was a flurry of activities and management

Table 3
Regression Analysis of Relationships among Study Constructs [Standardized Coefficients (T-values)].

Explanatory Variables	Dependent Variables					
	Satisfaction			Loyalty		
	Pre-lib	Early post-lib	Later post-lib	Pre-lib	Early post-lib	Later post-lib
Intercept	-0.154 (-0.87)	0.28 (1.67)	0.22 (1.05)	0.34 (2.21)*	1.12 (6.08)**	1.84 (9.71)**
Reliability	0.13 (3.24)**	0.03 (0.83)	0.11 (1.91)			
Responsiveness	0.17 (3.62)**	0.16 (3.90)**	0.09 (1.36)			
Empathy	0.00 (0.01)	0.18 (4.08)**	0.15 (2.17)*			
Assurance	0.22 (4.54)**	0.29 (6.23)**	0.32 (5.42)**			
Tangibles	0.29 (8.82)**	0.14 (3.99)**	0.17 (4.53)**			
Satisfaction				0.38 (9.76)**	0.21 (4.74)**	0.38 (7.98)**
Attitude				0.29 (7.40)**	0.35 (7.81)**	0.29 (6.07)**
Model Summary						
Overall F	123.64**	143.78**	119.70**	246.45**	147.09**	136.14**
(d.f.)	(5, 784)	(5, 763)	(5, 479)	(2, 795)	(2, 778)	(2, 482)
R ² (Adj R ²)	0.441 (0.437)	0.485 (0.482)	0.555 (0.551)	0.383 (0.381)	0.274 (0.273)	0.361 (0.358)

* p < 0.05.
** p < 0.001.

initiatives to improve the company's image, and it appears that these may have contributed to these more favorable ratings in the immediate post-liberalization period. A second possible explanation is that existing customers' perceptions changed as a result of the opportunity to compare STC's offerings with those of the new competitive entrants, which could have led to a dampening of the prior negative perceptions of STC as they discovered that STC's services were actually better than the new competitive offerings.

During the late post-liberalization phase, customer evaluations of STC's service declined on four of the five quality dimensions – reliability, responsiveness, empathy and assurance – to levels lower than what they were during the pre-liberalization period. The tangibles component remained at the same early post-liberalization level. Overall satisfaction and attitudes toward the company also stayed at the same early post-liberalization levels, whilst loyalty increased significantly. Thus, while STC continued to be strong in the tangible physical elements of service delivery, a reflection of the many years of significant government investment in building the company's telecom infrastructure, less progress was made in intangible elements of service such as customer interactions and customer responsiveness. This may indicate that a government monopoly that has been privatized may be constrained by a legacy of indifference to customer demands, particularly when old-style personnel are not trained to change their ways of providing customer service. While STC did provide training for retained employees immediately after liberalization to provide better customer service, the importance of doing so may have worn off or not sustained. As previous government employees accustomed to a bureaucratic mindset and orientation, STC personnel may have simply reverted to their old ways, leading to less sensitivity in dealing with customers. This is unlike new private sector entrants who, as they strive to gain new customers, may more rigorously train employees to provide better service.

Another possible explanation for the subsequent decline in customers' quality perceptions during the late post-liberalization phase may be the longer time elapsed since liberalization. This could have made customers better informed about the industry's characteristics, increased their experiences with the service, and triggered higher expectations for service quality. Also, the longer time that elapsed could have simply caused customers to take STC's current offerings at that time for granted, erasing the initial euphoria in the early post-liberalization phase.

Furthermore, the consumer decision making literature has long suggested that adding additional alternatives to a choice set influences not only choice probabilities of existing alternatives, but also emotions/feelings about choices. For instance, [Schwartz et al. \(2002\)](#) and [Reutskaja and Hogarth \(2009\)](#) find an inverted U-shaped relationship between number of available alternatives in a choice and respondents' decision satisfaction or overall feelings about their choices. Initially as alternatives are added to a previously narrow set of choices, people tend to be more satisfied with their choices, but eventually choice satisfaction declines as more alternatives are added to the set. It is quite plausible that similar emotional processes underlie the decline in quality perceptions, satisfaction, and attitudes with the addition of a third mobile service provider in the late post-liberalization period.

Related to this is a possibility that the decline in evaluations of STC during the later post-liberalization period could be due to the particular strategic posture that the third provider (Zain) entered the market with. Specifically, at the time it entered the market Zain used its extensive international network to position itself as the borderless provider with low to zero roaming rates to most countries. Saudi Arabia has a significant expatriate population that visit their home countries during annual vacation and a native population that similarly travels a lot to international destinations on vacation. Consequently, international coverage and low

roaming rates suddenly became top-of-mind in consumers' evaluations of mobile telecom services. Thus, after spending much of the post-liberalization period trying to counter *Mobily's* positioning on service quality, STC suddenly found itself having to confront Zain's low roaming rate positioning. This could have created a confused positioning for STC, and the sudden salience of roaming rates could have caused the lower ratings and satisfaction judgments of STC.

A caveat that should be noted is that the overall results reflect evaluations by both new and existing customers of the incumbent. Differences between these types of customer could also contribute to the variation in assessments. Evaluations may also have declined as initially happy customers (who were delighted by STC's improved services) subsequently took these for granted and therefore lowered their evaluations.

One surprising but interesting finding is the significant increase in reported loyalty toward STC despite the decline in perceived service quality and the lack of growth in satisfaction during the later post-liberalization phase. In fact, the loyalty score recorded the biggest gain for STC, both from the base pre-liberalization period and from the early post-liberalization period. Several reasons could account for this. One is customer inertia and associated unwillingness to switch telecom services. Some customers may simply be used to, and comfortable with the existing system, and so see no reason to switch. Others may have been concerned about losing a long-held telephone number, and the effort to inform all their contacts with a new number. It may also be that the tangibles component of service quality – which STC apparently excels at as the ratings for this has not declined post-liberalization – is more important to customers than other service quality components.

8. Implications

The findings of this study have public policy, business policy and research implications. From a public policy perspective, the results can be interpreted as indicating that liberalization can lead to general improvements in customer service at the industry level, including that provided by the incumbent, especially if the liberalization program succeeds in attracting strong competition for the incumbent. Increased positive customer evaluations of the incumbent in the early post-liberalization period support this conclusion. It appears that these new entrants set a higher bar for service offerings, which helped drive STC's performance upward. The immediate implication for policy makers in other markets contemplating liberalization is that the focus needs to be on bringing in competition that is strong enough to serve as pacesetters for the incumbent.

From an incumbent's perspective, the findings indicate that success in a strongly liberalized market hinges on the incumbent's ability to undertake long term and fundamental service improvements requiring new, more focused employees or those that have been given substantial customer sensitivity training to better accommodate and be responsive to customers. Employees need to be re-oriented away from the traditional mindsets of government employees. Also, there needs to be a more sustainable approach to improving service quality, as well as careful attention to positioning vis-à-vis the new entrants.

From a theoretical perspective, the study results make an important contribution to the wider debate on the socio-economic benefits of market liberalization and competition. The results show that customer-based service quality and related customer perceptual outcomes for an incumbent can be positively impacted by liberalization. Therefore, from a theoretical perspective we can surmise that changes in market structure that result from liberalization can foster changes not only in macro-level economic

efficiency but also in micro-level customer-based perceptual outcomes for incumbent firms. An additional theoretical contribution of the study is that the results provide three separate replications of the relationships among service quality, satisfaction, attitudes, and loyalty. In all three cases, the findings support the hypotheses that quality is positively related to satisfaction, and satisfaction and attitudes jointly determine loyalty toward the service provider. Therefore, the findings contribute to the theory relating to these constructs.

A supplementary theoretical contribution of the study is that the results provide insights for theorizing about possible stages that customers of incumbent monopoly service providers go through during the pre- and post-liberalization periods. This is useful to know because in many developing and emerging markets, after liberalization governments retain the former state run monopolies (albeit in a modified form) to continue to provide services. We propose the following four stages in the evolution of customers' perceptions and expectations:

- 1) Disillusion (Low Expectation) Stage—During this pre-liberalization stage, the customer has a negative orientation towards the incumbent, largely because of its monopoly status, but also due to genuinely poor service that many monopolies may be inclined to provide.
- 2) Initial Delight (Higher or Better-Than-Expected) Stage—This occurs during the early post-liberalization phase after the entry of new competitors. The customer has an opportunity to compare the incumbent with the new entrant(s), and is positively surprised to find the incumbent was not that bad after all. The customer may feel better when he or she realizes that, compared to the newer providers, the incumbent actually has better service quality than was initially perceived when it was a monopoly.
- 3) Demanding (Higher Expectations) Stage—As liberalization deepens with the entry of additional competitors, the customer has even more alternatives with which to compare the incumbent. If additional competitors enter with further different competitive positionings, this expands the customer's world-view of the industry, and gradually makes them more demanding with respect to service expectations and delivery.
- 4) Maturing (or Settling) Stage—The customer becomes better informed, more savvy, and even more demanding of quality service.

Future studies should examine how the incumbent's own strategy should evolve across these phases to better reflect and capture customer perceptions and expectations.

9. Limitations and suggestions for future research

Despite its contributions, there are two limitations in the present work that should be noted. First, the results show changes in customers' quality perceptions and attitudes toward an incumbent during pre- and post-liberalization periods, and suggest a direct impact of liberalization on these perceptions and attitudes. However, it is possible that factors other than liberalization may have impacted these perceptions and attitudes, especially since the data were collected longitudinally spanning three time periods (2004, 2008, and 2011). In particular, three other broad external factors – political, economic, and cultural – could have also influenced customer service perceptions and attitudes toward the incumbent. The possible impact of these factors is common in longitudinal studies, and is generally recognized as difficult to assess, since they cannot be controlled or eliminated.

In the present study, examination of STC annual reports and interviews with key informants in the company did not indicate that the company at any time was concerned about substantive changes in environmental factors such as economic, political, and technological that would have impacted customers' perceptions of their products/services. These macro conditions seemed to have remained fairly stable. The economy grew at a steady rate, and the country's score on the Heritage Foundation's index of economic freedom remained stable at 62 during this period (Heritage Foundation, 2015). The price of oil, a commodity which drives 80% of the Saudi economy and government revenues remained at high levels, and government budgetary spending, budget surplus, and export surplus also remained stable (Gulfbase, 2016). With no reduced government spending or economic decline, it is highly unlikely that STC would have felt any pressure to change its business practices and behavior. Politically, the country remained fairly stable during the period despite documented upheavals in other Middle Eastern countries during what became known as the Arab Spring. Technologically, the advent of smartphone technology may have had some influence on the demand for options and services provided by STC, but this most likely influenced the availability of state of the art technology rather than customers' service expectations. In conclusion, other than the fact that competition intensified as a result of liberalization of the telecom sector during that period, there are no indications that any key macro events or policies could have specifically driven consumers to radically change their perceptions and attitudes toward STC. Nevertheless, we suggest that future longitudinal studies of this kind consider ways to explicitly isolate or account for the effect of macro environmental factors on hypothesized relationships.

A second limitation of the present study is that it focuses on only one monopoly service provider in a specific sector of a specific country. Therefore, it is important to exercise caution in extrapolating the results and conclusions to liberalization efforts in other sectors of other countries, as monopolies in different sectors may exhibit certain firm-specific characteristics that prevent them from responding to liberalization in the same way that STC did. Additional follow-up studies to extend the pool of monopolies to other sectors or national contexts can provide further insights into the effect of market liberalization on customers' quality perceptions and attitudes toward incumbent monopolies.

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