2003

The impact of leisure-sport facility design on customer satisfaction

Alvin Y. Lee
Edith Cowan University

The impact of leisure-sport facility design on customer satisfaction

By
Alvin Lee Yiam Chuah
DipBus DipBus(Mkt) *PIBT* BBus(Mkt/SptMgt) *ECowan*

Masters thesis
Prepared for

School of Marketing, Tourism & Leisure
Faculty of Business & Public Management
Edith Cowan University
Perth, Western Australia

2003

Table of contents

Table of figures

Table of tables

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

The impact of leisure-sport facility design on customer satisfaction

By

Alvin Lee Yiam Chuah

A dissertation presented to the School of Marketing, Tourism & Leisure, Faculty of Business and Public Management of Edith Cowan University, Perth, Western Australia in partial fulfillment of the requirements for the degree of Master of Business

2003

Abstract of Dissertation presented to the School of Marketing, Tourism & Leisure, Faculty of Business and Public Management of Edith Cowan University in partial fulfillment of the requirements for the degree of Master of Business

The impact of leisure-sport facility design on customer satisfaction

By

Alvin Lee Yiam Chuah

2003

Marketing, retailing, organizational behavior and consumer behavior textbooks often mention the effects of servicescape atmospherics, physical design and décor elements on facility users. Service managers also recognize it as being an important aspect of their businesses. Yet, in marketing, there is surprisingly little research that is based on theoretical models which predict customer reactions to the different elements in the servicescape. Even less has been done to explore the effects of servicescape elements on customer satisfaction and behavioral intentions.

This thesis focuses on selected aspects of Bitner's (1992) servicescape framework and explores the effects of layout, accessibility, aesthetics, electronic equipment, seating comfort, and cleanliness on customer perceptions of service quality. Perceived service quality is hypothesized to lead to customer satisfaction, and approach-avoidance behaviors such as desire to remain longer in the servicescape, and intentions to repatronize the facility.

In team based sports, fans will often frequent a venue due to their loyalty to the team; even if they do not like the facility. Therefore, having a choice of different venues is important, and is the main distinguishing feature of this thesis when compared to previous studies in this area (e.g. Baker & Cameron, 1996; Bitner, 1992; Moore, Pickett, & Grove, 1999; Wakefield & Blodgett, 1996), which used samples from leisure-sports venues which hosted team-based sport. The use of these fan-based samples may have resulted in respondent bias towards facility elements; as they do not visit the facility because of the "superiority" of the venue, but because their favorite team is playing there.

The availability of more than one facility offering similar spectating experiences is important as it enables customers/spectators to choose between competing facilities based on the environmental variables under study. Wortman (1975) suggested that perceived choice (the perception that there is choice) can lead to positive psychological and behavioral outcomes. Therefore, having a choice of venues may give spectators more control, and result in happier spectators. Due to this need to ensure that leisure-sport facility users had a choice of venue, the data for this study was collected at horse, dog, and motor sport racing facilities. These venues were chosen because of their more "mobile" spectator base when compared to team-based sports like Australian Rules football or cricket.

The Structural Equation Model of this study is based on the disconfirmation of expectations paradigm that was initially proposed by Oliver (1980) and later adapted for use in consumer quality perception and satisfaction theory by researchers such as Parasuraman, Zeithaml, & Berry (1985), Cronin & Taylor (1992), Saurina & Coenders (2002), and Price, Arnould, & Tierney (1995). Disconfirmation of expectations theory posits that customers experience quality and satisfaction when the service provider meets or exceeds their expectations in a service scenario. Likewise, they experience disappointment when the service provider fails to meet their levels of expected service.

The results suggested that Layout Accessibility, Facility Aesthetics, and Cleanliness each had significant influence on customer's service quality perceptions. Service quality was found to have a significant effect on Satisfaction, and customer satisfaction levels had a significant effect on the customer's desire to remain in the service facility, and on their repatronage intentions. The proposed model was supported, and this in turn lent further empirical evidence in support of Bitner's (1992) Servicescape Model. An interesting finding was that the loading patterns for the structural equation model were slightly different from a similar study undertaken by Wakefield & Blodgett (1996) on facilities which offered team-based sport. The importance of seating comfort and electronic scoreboards were found to be different, with these elements being of less importance to customer service quality perception than in team-based sport spectating situations.

Although not part of the hypothesis, service quality was found to be an antecedent for customer satisfaction. This provides support in favor of Parasuraman et al. (1985), who has a longstanding debate with Cronin & Taylor (1992) about the directionality of the relationship between the two constructs; where Parasuraman, Zeithaml, & Berry (1994a) suggested that perceived service quality came before customer satisfaction, and Cronin & Taylor (1992) disagreed by positing that customer satisfaction preceded customer perceptions of service quality. The findings of this thesis suggested that perception of quality is an antecedent to satisfaction, which favors the stance of Parasuraman, Zeithaml, & Berry (1994b).

The results of this study suggest that the servicescape plays a significant role in determining customer satisfaction. Increased satisfaction, in turn, leads to a higher probability of the customer wishing to remain for longer periods in the service facility and/or return in future. For leisure-sport facility managers, this is important information as increased repatronage and length of stay has direct financial implications for their businesses (customers tend to spend more when they stay longer, and future intentions to revisit could mean more business).

There are also implications for leisure-sport facility designers. The findings of this study suggests that spectators in non-team-based leisure-sport facilities place less importance on seating comfort and electronic displays, and more importance on spatial layout elements within the servicescape. Therefore, the designers or renovators of horse, dog, and motor sport racing facilities should perhaps place more emphasis on the flow, furnishings, and layout in these types of venues.

A wise person once told me that "if you always do what you have always done, you'll always get where you have always gone."

Acknowledgements

Arnold Palmer once said, "Good players win golf tournaments, but great players win golf championships." Golf, like life, is a lonely journey. But in golf, you almost always have a friend in the form of a caddie. My life has been blessed with many great caddies, broad shouldered individuals who were not afraid to tell me when I was wrong, to impart instruction and suggestions when it mattered and perhaps, most importantly to allow me the freedom to play my own game.

Kate Mizerski, my supervisor who let me walk my own road and opened many doors for me during the course of my studies. Ron Groves and Charlie Huang, who helped shape me as a scholar and taught me to look for the *meaning of things*. Sherryl Tanian, who was always there for advice and an encouraging word (thanks for the proof-reading), and fellow students from the postgraduate laboratories I frequented, for sharing in the trials and tribulations of this project.

Sophia, who supported and believed in me, putting up with strange working hours and missed family gatherings.

My parents, who gave me the incredible gift of learning, and who taught me to persist, despite the obstacles.

Declaration

I certify that this thesis does not, to my knowledge and belief;

1. incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;
2. contain any material previously published or written by another person except where due reference is made in the text; or
3. contain any defamatory material.

Signature

Date......15/7/2003......

Chapter 1

Introduction

The smell of exhaust fumes, the sound of squealing tires, hooves thundering on soft turf, greyhounds chasing a hare, the roar of a crowd cheering on their favorite in a race...Some people would say that attending a sporting event is the perfect way to spend a few leisurely hours. There are many types of leisure pursuits in Australia, with sport and exercise related activities being the fourth most popular way that Australians spent their leisure time (Australian Bureau of Statistics, 1993). The most popular was watching TV, followed by socializing and relaxing.

Traditionally, watching sport has been, and still is, a popular Australian leisure activity with steadily rising spectator numbers (Ogilvy, 1986). Sorge (2000) noted that the increase in spectator numbers could be due to lifestyles which offer more flexible and greater amounts of leisure time, more disposable income, longer and healthier life spans, and a growing number of fitness conscious people. This in turn has placed a high priority on the development of recreational facilities (Krumholz, 1999).

Changing work habits have influenced the way people participate in leisure pursuits. Gramm (1987) indicated that Australians enjoyed increasingly flexible working hours in the 1980s, which translated into greater flexibility in choosing leisure pursuits. Bittman (1991) suggested that in the period leading up to the 1990s, the family and work commitments of Australians gradually increased, resulting in a less time for leisure. However, in the 1990s, more people started (or were forced) into part time employment, thereby reversing the trend of the 1980s.

Research into Australian working hours suggests that the number of individuals working the "traditional thirty-six hour working week" has declined (Chambers, 1986; Hewitt, 1993; Morehead, 1999). These changing work patterns have resulted in average annual working hours remaining relatively constant but becoming increasingly unevenly spread (Quiggin, 2000). This has resulted in a situation where certain segments of the working population are becoming increasingly time poor. It is these people who are constantly searching for more time efficient and self-fulfilling leisure activities.

Research indicates that leisure-sports facilities contribute positively to the quality of life for residents of the host community (Johnson & Whitehead, 2000; Rappaport & Wilkerson, 2001; Shaw & Anderson, 1995). However, Singer & Tolliver (2001) stress that many venues are not designed with the paying public in mind, and thus fail to realize their full earning potential. Quirk & Fort (1992) posited that publicly owned and funded leisure-sport facilities invariably failed to perform financially, and in some cases even failed to cover the costs of operation. This has resulted in the need for public funds to be used for underwriting operations, which places an extra burden on taxpayers (Recreation, 1995).

Noll & Zimbalist (1997) on the other hand, argued that there are direct and indirect economic returns that result from leisure-sport facilities. Direct returns stem from the direct facility usage and could be in the form of monetary profits, civic pride, fan loyalty and community spirit generated by facility customers. The indirect contribution of leisure-sport facilities to the community can be in the form of extra business generated by the facility, which could include sport-tourism (when people from out of town visit the venue), accommodation, food and beverage, and transport services in the businesses surrounding the leisure-sport facility. Johnson & Whitehead (2000) indicated that demand for these ancillary services resulting from leisure-sport facility usage would ultimately benefit the host community through the multiplier effect in the local economy.

Depending on how benefits are measured, it can be argued that leisure-sport facilities benefit the host community both culturally and economically. The drawback is that most leisure-sport facilities fail to generate enough cash-flow to be commercially viable, and fail to generate measurable growth in local economies (Rosentraub, 1996). This means that local governments often run them on shoestring budgets and they are often not well-maintained (Johnson & Whitehead, 2000). This lack of funding has resulted in ageing facilities that are falling behind in areas that affect user satisfaction. When user satisfaction levels fall, there would be less business for the facility (Moore et al., 1999). This leads to further degradation of services, which would lead to the need for more public funding, or closure of the facility (Johnson & Whitehead, 2000). Therefore, without proper customer satisfaction management through attention to facility elements, event planning/provision, and management practices, leisure-sport facilities would be stuck in a downward spiral towards financial ruin.

Place and channel issues are important in leisure-sport facility marketing. Research into atmospherics and the built environment (Bitner, 1992), crowding (Hui & Bateson, 1991), layout (Bell, Fisher, & Loomis, 1978), ambient conditions (Baker, 1987; Baker, Berry, & Parasuraman, 1988; Becker, 1981; Russel & Snodgrass, 1987), lighting (Snodgrass, Russel, & Ward, 1988), music (Oakes, 2000) and electronic displays (Moore et al., 1999) suggests that place and channel issues do affect customer satisfaction in leisure service settings.

While there is ample literature on what spectators and fans desire in team-based leisure-sport facilities (e.g. Babin, Darden, & Griffin, 1994; Johnson & Whitehead, 2000; Koger, 2001; Rosentraub, 1996; Taylor, Sharland, Cronin, & Bullard, 1993; Wakefield & Blodgett, 1994, 1996), an exhaustive literature search on non-team-based (NTB) leisure-sport facilities yielded little about what users' desire from the physical aspects of these facilities. There was very little published research about seating, facility aesthetics, cleanliness, accessibility and electronic displays in NTB sport. Hence this thesis has endeavored to identify the drivers of customer satisfaction within the built environment of these types of facilities, and to identify the relationships between perceived servicescape quality, customer satisfaction, desire to remain, and repatronage intentions exhibited by facility customers. This will help facility operators and managers enhance the service experience of spectators in NTB leisure-sport settings.

Statement of the problem

While there has been a great deal of research in the area of service marketing, few studies have focused on the "tangibles" of service facilities (Moore et al., 1999; Oakes, 2000; Russel, 1990; Taylor et al., 1993; Wakefield & Blodgett, 1996). Bitner (1992), and Koger (2001) suggest that as leisure-sport facilities continue to be renovated and built, few of the decisions about facility design, aesthetics, and layout are based on research into the effects of physical facilities elements on customer satisfaction. Turley & Fugate (1992) note that while there has been abundant research about the human interaction element between service personnel and customers, there has been a distinct lack of research on place and channel issues in services. This lack of research about how physical elements of the servicescape affect customer satisfaction could be the reason why few building design decisions appear to be based on what users' desire from facilities (Fortner, 1999; Nelson, 2001). Arguably, the built environment is one of the easiest aspects of a service business to improve and control. This can be achieved through the proper planning of layout, aesthetics, atmospherics, signage, furnishings, and flow of facility elements, and can help enhance the service experience for both staff and customers.

The marketing of leisure-sport services is generally plagued by a lack of insight and understanding of basic marketing principles and techniques that pertain specifically to leisure-sport venues (Taylor et al., 1993). Nearly a decade ago, Babin, Darden, & Griffin (1994) indicated that the time was ripe for facility managers to ask the question "What's in it for the customer?" This question has yet to be answered. The problem is not what customers can do for the venue; rather, what customers want from a facility and what planning and design changes a manager can make in order to better meet customer expectations about what a leisure-sport facility should be. This leads to the purpose of this study.

Purpose of study

The main aims of this study are to:

1. Identify the most important physical elements in a leisure-sport servicescape, and their relationships with customer behavior within the facility.
2. Focus on selected aspects of Bitner's (1992) servicescape framework that illustrates the effects of servicescapes on customers' behavioral intentions; these are approach/avoidance, and repatronage behaviors.
3. Examine the effects of layout accessibility, facility aesthetics, electronic equipment, seating comfort and cleanliness on perceived leisure-sport servicescape quality.
4. Examine the relationships between perceived servicescape quality, satisfaction, desire to remain, and repatronage intentions in the non-team-based leisure-sport industry.

The significance of this study

This study makes three contributions to service satisfaction literature. It first contributes by adding to the pool of knowledge about the relationship between facility quality, customer satisfaction, and the approach/avoidance behaviors of consumers in services whose primary purpose is hedonistic fulfillment. This thesis makes a second contribution by adding to the understanding of place and channel issues in the area of service facility literature. The third and perhaps most important contribution of this thesis is that it is perhaps the first to study how spectators in non-team-based leisure-sport facilities view servicescape elements of the service settings chosen for this project. The remaining paragraphs of this section will go into detail about the significance of each of these three areas.

Sport spectating remains one of the main recreational activities in Australia (ACIL Consulting, 1999). However, there has been relatively little research in terms of identifying the areas within leisure-sport service facilities which are important to customers (Taylor et al., 1993). This study strives to fulfill a gap in the knowledge about the importance of seating, access, aesthetics, electronic displays, and cleanliness to non-team-based leisure-sport spectators.

On the international front, researchers have devoted considerable research effort to service exchanges that provide utilitarian satisfaction, but little has been done in services marketing that focuses on personal enjoyment (Arnould & Price, 1993; Babin et al., 1994; Moore et al., 1999; Taylor et al., 1993; Wakefield & Blodgett, 1996). As many service transactions are entered into for the purpose of personal enjoyment, research into hedonistic service transactions are also an important part of research into service encounters.

It is arguable that sport spectating is an important type of consumptive activity, and that the drivers of consumer satisfaction in this setting should be further explored. Therefore, it is important that research is carried out on service exchanges where the primary purpose of the transaction is for hedonistic purposes, and where customers spend the better part of their daily leisure time in the service facility.

Researchers have also thoroughly explored service encounters where the customer is in the service facility for brief periods of time (e.g. Anderson, Fornell, & Lehmann, 1994; Baker & Cameron, 1996; Baker, Grewal, & Parasuraman, 1994; Barker & Pearce, 1990; Bitner, 1990, 1992; Bowen & Schneider, 1988; Cronin & Taylor, 1994; Hirshman, 1981; Maslow & Mintx, 1956; Oliver, 1993; Parasuraman, Zeithaml, & Berry, 1988). Studies of brief service encounters included banking, laundromats, and supermarket shopping. Many of these studies were also carried out on daily activities that were utilitarian in nature. This thesis however, seeks to increase understanding in the area of hedonistic activities where the customer interacts with the service facility for extended periods of time. Arnould & Price (1993), and Price, Arnould, & Tierney (1995) note that few researchers have looked at situations where customers spend extended periods of time in the servicescape. This thesis adds to this area by contributing another study where customers spend many hours in the service facility.

The main contribution this study makes is in the area of non-fan-based, non-team-based leisure-sport facilities. While many studies have been carried out in the United States of America on place and channel issues in leisure-sports facilities (Arnould & Price, 1993; Babin et al., 1994;

Moore et al., 1999; Taylor et al., 1993; Wakefield & Blodgett, 1994, 1996), few have been carried out in other parts of the world. There are even fewer studies into the effects of facility elements on customer satisfaction in non-team-based leisure-sport facilities. The U.S. studies mentioned above explored stadium design for collegiate baseball, major league football, and hockey. Studies into facilities which host fan-based sport have one inherent bias, the fans will often visit a facility just to watch their team in action; hence fans may not really care about the condition of the facility. In the United States, collegiate teams travel almost weekly during the season playing home and away games and play at many different stadiums. Many collegiate baseball and football fans in the United States will travel to different venues to support their teams. It can be argued that in these situations, spectators are likely to visit the venues their teams are playing in regardless of their liking for the facility. Therefore, facilities are not an over riding issue.

Due to this inherent bias of surveying spectators in team-based sports about satisfaction with the venue, this study chose to look elsewhere for a comparable leisure-sport spectating environment, where people patronize the venue because of venue design rather than their support for a specific team. This thesis, therefore, used the views of spectators in motor sport, dog, and horse racing venues as these sports are not "fan supporter" based and usually, where the spectator has more than one venue to choose from.

Organization of this study

This chapter has dealt with issues within services marketing that sparked the need for further research into place issues in leisure-sport activities. Specifically, how layout accessibility, aesthetics, seating, electronic displays, and cleanliness affects customer perception of service quality. It has also outlined the relationships between quality, satisfaction and approach/avoidance behaviors. The first chapter has identified general research directions, significance of the research and the purpose of the study. The remaining chapters of this thesis are as follow:

Chapter 2 provides a review of relevant literature regarding services marketing in general, and specific discussions about place and channel, as well as facility design issues in services marketing. This chapter also presents literature about the current debate in services literature about issues such as how expectations are formed, and whether quality perception is really antecedent to customer satisfaction (or the other way around). It also explores the existing service satisfaction theory.

Chapter 3 outlines the conceptual framework adopted by this study. The conceptual model provides a theoretical relationship between environmental variables, quality, customer satisfaction, desire to stay and repatronage intentions. Discussions about the five environmental variables (seating, aesthetics, electronic displays, access, and cleanliness) are provided to enhance understanding of the model, along with this study's hypotheses.

Chapter 4 discusses the research methodology used in this study. Sample, sampling frame, and sampling unit issues are discussed and justified. Issues about validity, reliability and generalizability of the survey instrument are addressed. Scale development procedures are reported, along with survey instrument design. A report of how the concepts of this study were operationalized is included. Limitations of methodology are also identified, and data analysis techniques discussed.

Chapter 5 presents the data analysis of this study and is presented in different sections, each addressing one individual hypothesis. Treatment of data normality issues is first presented. Factor analysis and reliability analysis are then discussed, and finally a structural equation model is estimated and confirmed.

Chapter 6 deliberates the findings, and implications of the results from Chapter 5. This chapter also includes the study's contributions to literature, limitations and further research possibilities.

Chapter 2

Literature review

Introduction

The main objectives of the literature review are to outline the uniqueness of leisure-sport facilities and how they differ from other service venues. SERVPERF (Cronin & Taylor, 1992) and SERVQUAL (Parasuraman et al., 1985) theories are discusses as they represent two differing viewpoints about service quality measurement. There is also another class of service satisfaction thought which is based on the disconfirmation of expectations paradigm (Oliver, 1980), but which do not subscribe to the views of either SERPERF or SERVQUAL; these are presented as well. This chapter also explores service marketing literature by defining the mechanics of the service encounter.

This chapter will identify and discuss the relationship customers have with service facilities in general, and with leisure-sport facilities in particular. The influence of facility elements on customer comfort, satisfaction, spectating experience and behavioral intentions are also debated. The interaction between user and facility is posited to be influenced by customer perception of the service environment, the length of time spent in the venue and, the quality of tangible environmental elements such as layout accessibility, facility appearance, seating comfort, electronic equipment and displays, and cleanliness.

This chapter also explores the tangible and intangible aspects of the service encounter, and issues about customer satisfaction and profitability. The discussion covers the simultaneous production and consumption of services, how customers value the service environment, and how the length of time spent in service facilities influences customer quality perception/satisfaction. Role play theory in the service encounter is also covered, as well as relationships between service quality and customer satisfaction, and between customer satisfaction and profitability.

Finally, Bitner's (1992) Servicescape Model is introduced. Detailed discussions about the tangible elements in retail outlets, as well as flow and customer density are presented to aid understanding of the mechanics of service production within a physical setting. This chapter provides the background for this study, with the theoretical framework being fully developed in Chapter 3.

Australian leisure

A 1997 survey (NCCRS, 2002) indicated that Australians spent an average of two hours each day either attending or participating in organized leisure-sport activities, compared with one hour for outdoor exercise like walking and jogging. Australians also spent a total of 7,335 million dollars a year on sports related recreational activities (NCCRS, 2002). This figure was 11.7 percent of the total national household expenditure for the same year (ACIL Consulting, 1999). This suggests that leisure and sporting recreational activities are among the main activities that Australians indulge in outside of their working and sleeping hours.

The similarities and repetitiveness in work patterns and working environments appear to encourage the expansion of increasingly diverse leisure and consumption activities (Bouchet, 1994; McCracken, 1988). Many people who spend long hours in sterile, and often dull work environments wish to spend their leisure time in a more meaningful and entertaining manner (Varley & Crowther, 1998). Many people view leisure activities as a form of escape from their daily routine. It can be argued that the majority of leisure seekers wish to spend their recreation time in comfortable surroundings. This is because people value their leisure time, and often view it as "quality" time which they spend with friends and family (McDonnell, Allen, & O'Toole, 1999). There are also some people who seek to enrich their lives by partaking in new, exciting, and interesting leisure activities. These are activities which often serve to enrich the participant's soul, and convey a sense of satisfaction and fulfillment. In many cases this means visiting leisure-sport venues such as stadiums, race tracks and sporting fields where they can experience a few hours of excitement.

As customers who visit leisure-sport outlets such as race tracks and stadiums tend to spend extended periods of time in the venue, the physical characteristics of the facility could play a major role in how users view the venue. This thesis is interested in how people feel about the time they spend in these facilities, whether they are happy, comfortable, and at ease. It also seeks to identify the elements in leisure-sport facilities that customers feel are important in enhancing their enjoyment of the leisure experience. Before proceeding further with the literature review, it is useful to define key concepts that will be discussed in this thesis.

Definition of leisure-sport

Many authors have sought to define the concept of "leisure". Among them, Roberts (1978, p. 3) defines leisure as "...a relatively freely undertaken non-work activity". This implies that leisure activities are undertaken outside of working hours. McDonnell, Allen, & O'Toole (1999, p. 113) used the term "leisure experience" in describing the act of consuming leisure and noted that people attended leisure events to fulfill certain hedonistic needs. These needs are socialization (being with other people who are enjoying themselves or doing the same things), family togetherness, excitement and thrills, as well as escapism (getting away from life's daily routine). Collins Pocket Dictionary and Thesaurus (Gilmour, 1993, p. 327) defines leisure as "spare time" and "unhurried" which suggests that leisure activities are undertaken in an unhurried manner in one's spare time.

Sport on the other hand has many definitions, which include what Lynch & Veal (1996, p. 19) describe as:

> *"...a range of activities which generally involve rules, physical exertion and/or coordination between participants...people may become active participants...recreational players or spectators..."*

Thus, sport can be seen as an activity that is a part of leisure. This is because it is undertaken freely, and if you are not a professional paid to perform in a sporting spectacle, then it is a recreational activity. A "leisure-sport facility" is the venue, building or ground that the leisure-sport spectator visits to undertake their spectating activity.

In this thesis, "leisure-sport" is a term where the act of watching a sport is undertaken purely for hedonistic purposes and the participants are not actively involved in the "playing" of the sport. Having said this, the leisure-sport spectator, is however, often is involved in the manufacture of "atmosphere" within the leisure-sport facility by cheering, "carrying-on" and supporting their favorites.

Definition of the service encounter

Shostack (1985) classifies a service encounter as a period of time during which a consumer interacts directly with a service. This definition encompasses all aspects of the service which the customer interacts with during the service episode. These aspects include service personnel, and other tangible elements in the surroundings of the facility setting. For example, in a leisure-sport event, the service encounter would begin from the moment the spectator embarks on their journey to the sporting ground, their entry into the venue, the time they spend in the venue and their exit from it once the event is over. This would include the seats they have been allocated, the cleanliness of the facility, the conduct of staff, food and beverage service, scoreboards or electronic displays, furnishings, and their movement to and from different areas within the facility.

As this thesis is concerned primarily with the relationships between customer satisfaction, desire to remain, and repatronage intentions with leisure-sport service facilities, the different aspects of such facilities will be examined in detail in the following sections. The literature review will strive to bring together different facility factors that play a role in determining the outcome of the service encounter.

Why leisure-sport facilities are unprofitable

As leisure-sport is a growing industry, competition among service providers is on the increase (Koger, 2001). In the face of stiffening competition, many leisure-sport providers are trying to maintain and/or capture more market share by upgrading their facilities through renovating, rebuilding, or adding extra capacity and amenities. An example of this is the Stade de France which seats 80,000 under a retractable glass roof that covers six acres. This stadium boasts stores, restaurants, luxury boxes, conference rooms, offices and receiving halls (Constantini, Macary, Regembal, & Zublena, 1999). The extra amenities and comfort offered by renovated and newly built facilities are often a drawing card for customers. It is easy to see which venue a customer would choose when comparing a run-down facility with wooden seats, peeling paint and dirty restrooms to a modern facility with bright cheery colors, comfortable, clean, air conditioned washrooms, and padded seats offering a good view of the field.

The design, renovation, and building of leisure-sport facilities is often undertaken arbitrarily (Krumholz, 1999), without proper research into what makes the facility attractive to customers. For example, England's National Stadium which was renovated at the cost of £770 million and seats 90,000 was declared "not fit for its purpose" by the British Department of Culture, Media and Sport because many of the seats did not have adequate line-of-sight for spectators (Anonymous, 1999). Nelson (2001, p. 256) noted that many major stadia in big cities are costing the public "multiple hundreds of millions of dollars in facilities and concessions" because local government will build a leisure-sport facility if it is decided that they want one, without consideration for the facility's ability to generate a positive economic return.

McDonnell et al. (1999, p. 113) noted that there is "little empirical research on needs and motivations" of customers utilizing facilities published in Australia. This arbitrary building and renovation of leisure-sport facilities could be because there is a lack of research into how the different elements within leisure-sport facilities drive customer satisfaction. Although there is plenty of literature on facility elements in retailing, banking, hospitals, and even laundromats, there is little information on leisure-sport spectator venues. Additionally, much of the research carried out in the leisure-sport field was undertaken in venues which hosted team-based sport. A comprehensive literature search yielded nothing in the area of non-team-based spectator sport facilities. In view of this lack of published research, this thesis strives to fill a gap in the knowledge about what non-team-based leisure-sport facility users find attractive in the venues they frequent.

How leisure-sport facilities differentiate themselves

In today's competitive recreation market, service facility providers are becoming increasingly similar in the trappings they offer. It seems to be a case of, "if the rival facility has offering A, then we must emulate them and offer the same thing". This creates a situation similar to a "fast-food" environment, where different facilities are offering similar facility comforts to increasingly jaded customers. In order to survive, many leisure-sport providers are beginning to differentiate themselves by offering unique facility amenities or settings. For example, the Erricson Stadium (baseball) in Charlotte, North Carolina, USA which cost US $187 million and was designed to look like a downtown civic building rather than a baseball stadium. It has arches and domes that mask the entry and exit ramps, and features manicured and landscaped gardens. Inside, seating is in the form of condo-style booths. 430 concession stands are located around the ballpark where "Fan-cash", which are special stadium only debit cards can be used. Located among the stands are 213 unisex restrooms. Another example of differentiation of facilities is the Bank One Ballpark which is home to the Arizona Diamondbacks. It boasts a retractable roof and is 1.3 million square feet in size. This facility also has picnic areas, baseball batting cages, cup holders in spectator seating, pitching tunnels, children's playground, swimming pool, Jacuzzi and a waterfall, where fans can relax and have a swim while catching the game (Berry, 1998).

These upmarket amenities are aimed squarely at increasing customer satisfaction, in the hope of attracting more spectators to make the facilities financially profitable. There are however, more "basic" aspects in leisure-sport facilities that may affect customer satisfaction. These include access, seating, cleanliness, electronic displays and facility aesthetics. Access includes facility entry and exits, and ease of movement to and from different functional areas within the facility. Seating concerns ease of access to/from seats, seat comfort and width. Cleanliness within the facility incorporates general cleanliness, as well as cleanliness of food and beverage areas, garbage containers, and washrooms. Electronic displays often "liven-up" event proceedings in the facility and adds to the atmosphere and excitement that spectators feel. Facility aesthetics concerns the way the facility is decorated, the interior and exterior finishes and furnishings. This thesis looks at the effect that these five servicescape dimensions have on customer satisfaction and how these make the facility more attractive to customers. The look and feel of a facility is akin to the corporate image of a company. Many companies try to convey a certain type of image through the use of physical signs, symbols, and artifacts (Bitner, 1990). It can be argued that leisure-sport facility users depend on the tangible evidence that is found in the physical setting to help them determine the corporate standing of the facility and the service provider.

Corporate image and facilities

In an attempt to attract new customers and prevent defection of existing ones, increasing numbers of service providers throughout the world are differentiating their products through the building of strong corporate images (Andreassen & Lindestad, 1998). This also applies to the leisure-sport industry. Leisure-sport service providers often operate in markets where there is a limited pool of spectators within a given "catchment" area.

There are many factors that affect perceived corporate image. These include the type of advertising that the company uses, the type of media that it uses to advertise, the look of the corporate uniform, stationary, corporate culture, and the physical building that houses the business. For example, a downtown bank with large, impressive, and affluent looking branches gives the impression that it is financially successful and stable. Whereas, a bank whose branches have dirty, worn out carpet, sagging seating, and chipped customer service counters would find it hard to impress in it's customers that it is a financially secure institution. The "look" of the physical setting is important in conveying the kind of corporate image that the service provider wishes to project. Physical evidence within the facility can also signal the type of customer that the business wishes to attract. For example, a restaurant with a dress code, soft lighting, tablecloths, and expensive cutlery will undoubtedly attract a different customer than one which uses plastic tablecloths, paper napkins, and has the menu tacked to the wall behind the service counter.

Leisure-sport venue providers would also need to project the "right" kind of image to attract their desired demographic. For instance, to draw a family crowd, a leisure-sport provider could have children's play-grounds, family themed restaurants and picnic areas which are conducive to family activities. This way, parents who visit the venue can easily bring along the family when visiting the facility. Therefore, it can be argued that by offering a superior and unique service facility, leisure-sport providers will be able to differentiate themselves from the rest of the market, attract new customers and retain existing ones to ensure the their own survival.

A number of researchers argue that corporate image has a cumulative effect on customer satisfaction, or the lack of it (Bolton & Drew, 1991b; Fornell, 1992; Johnson & Fornell, 1991; Oliver & Linda, 1981). These authors suggest that corporate image is an important factor that influences customers' evaluation of service satisfaction, which in turn, leads to customer loyalty. In markets where products/services are relatively homogeneous, retaining current customers becomes important to the future existence of most companies. One way to do this is to build a strong corporate image. In Australia, limited population growth and vast geographical distances mean that the spectator market for leisure-sport grows very slowly. Although there is some growth in the industry, much of this growth is concentrated in the "newer" leisure activities such as adventure-leisure and gym-based sectors (NCCRS, 2002). Therefore, to remain viable, one of the best survival strategies for existing leisure-sport venues/providers is through customer retention. This can be achieved through the building of a strong corporate image by upgrading facilities. This strategy would make to make the facilities on par or better than those offered by competitors and ensure that the business does not "fall behind" in terms of meeting customer expectations.

Andreassen & Lindestad (1998) argues that positive customer satisfaction, and corporate image are two factors which increase customer retention. They also suggest that perceived positive service quality has a positive impact on the relative value that customers gain from their service experience. In this case, a spectator who is delighted with the service at a leisure-sport facility will feel that they have received value for their money and are likely to remain/return to the facility, and hence spend more money with the service provider. Corporate image, although an indirect factor in the customer satisfaction equation, is a major driver of customer loyalty and affects repatronage behavior. Therefore, it can be rationalized that by making customers comfortable in a unique and superior facility, facility management can contribute to a strong corporate image; this in turn will lead to increased repatronage intentions that will help the facility retain profitable customers to ensure the financial health of the service facility.

Facilities in services

Due to the complexity of service encounters, there are likely to be both positive and negative attributes that contribute to overall customer satisfaction. For instance, if a spectator at a leisure-sport event has a good seat in a clean environment with good food and beverage service, they are more likely to feel satisfied. The opposite could be true if the same customer was stuck in a cramped seat that is near an overflowing garbage can, and has his/her line of sight obscured by a large pillar; chances are they would not likely feel very satisfied with the service encounter.

Satisfaction felt by customers is in turn affected by context specific service provider performance characteristics (Price et al., 1995). These characteristics can be both intrinsic and extrinsic to the service product, and are used by customers to judge products/services (Andreassen & Lindestad, 1998). Intrinsic attributes of the service/product cannot change as they are part of what constitutes the "core" product (i.e. the game/race at leisure-sport venues), but service providers can (to a large extent) change and modify extrinsic product attributes. These product attributes include any peripheral services or "extensions" to the core product/service. For example, the after sales service and warranty of a car, or in a leisure-sport setting, the elements within a leisure-sport facility.

Andreassen & Lindestad (1998) also suggested that extrinsic cues have a greater tendency to be used when available intrinsic cues have low predictive value, low confidence value, or both. In a leisure-sport setting, extrinsic cues include the different facility elements (e.g. seating, signage), the look of the facility, the condition it is kept in, and the appearance of service staff. As the leisure-sport industry has intrinsic cues that are naturally low in predictive and confidence values; because it is almost impossible to forecast the outcome of races and sporting competition, customers have to rely on extrinsic cues to judge the quality of the service provider. In a leisure-sport setting, customers will rely on what the service provider presents as "tangible evidence" as a means to form expectations about the service, and to measure the quality of the service. For example, a customer visiting a leisure-sport facility that has well laid out access corridors, clean food service areas, and washrooms are more likely to expect a higher level of service compared to when they are visiting one that has faded discolored seating and poorly designed entry/exit areas. Therefore, it can be argued that spectators visiting well presented facilities would be willing to pay more for entry, as well as for purchases made at concession and retail outlets in the facility.

There is a consensus among many researchers that services are characterized by intangibility, simultaneous production and consumption, variability, and perishability (Baker, 1987; Bitner, 1992; Booms & Bitner, 1981b; Cronin & Taylor, 1992; Gronroos, 1984; Johnson & Fornell, 1991; Parasuraman et al., 1985; Varley & Crowther, 1998). The service encounter involves customers in a situation where they interact with the service product as participants in the service process. Often, consumers actively participate in the service production process and their contribution adds to their enjoyment of the service. An example of this is when there is a capacity crowd at a ballgame, the cheering and other forms of support provided by spectators adds to the atmosphere, and hence their enjoyment of the game. In order to facilitate service production in a leisure-sport setting, the leisure-sport service provider must strive to provide a comfortable and functional setting which is conducive to spectators getting emotionally involved with the leisure-sport event. Extrinsic cues and peripheral services such as cheerleading demonstrations during intermissions, instant replays on mega electronic multimedia screens, and ease of access to the washrooms/food and beverage service areas, could all contribute to assuring that the spectator gets "in the mood" to enjoy themselves. A spectator who has an enjoyable time would undoubtedly wish to stay in the facility for a longer time, spend more money, and perhaps even come back for another visit.

In order to ensure that the customer has every possibility of experiencing positive service satisfaction, the leisure-sport service provider has to provide a quality physical setting for service consumption. This setting must be delivered at the right price, time and with suitable promotion (Sanders, 1988). Physical evidence of the service must also be provided to the consumer in order to tangibilize the service (Parasuraman et al., 1985).

How consumers interact with facilities

"The way the physical setting is created in organizations has barely been tapped as a tangible organizational resource" (Becker, 1981, p. 130). Research suggests that consumers use ambient and social elements (Baker et al., 1988; Bitner, 1990; Mehrabian & Russel, 1974), and merchandise/service quality (Baker et al., 1994) to make quality inferences about the service episode. Rook (1985) maintains that the artifacts surrounding consumers often communicate specific symbolic messages that are integral to the meaning of the total service experience. For example, the color of the interior and exterior walls, how the entry and exits are located and the appearance of food service outlets all contribute to how the customer feels when they are in the service setting.

Elements in the service environment (e.g. color, lighting, music) have been found to influence customers' affective states (Bitner, 1992; Mehrabian & Russel, 1974; Oakes, 2000). For example, Oakes (2000) noted that the type of music played in a service venue had an effect on customer expectations of service quality. Customers expected higher quality merchandise/service if classical music was played, and had lower expectations for establishments that played Top 40 hits. The type of music played was also found to affect the length of stay, amount purchased, shopping speed, and repatronage intentions of customers. In a leisure-sport setting, Moore et al. (1999)

found that mega-video displays in sport stadiums enhanced spectator enjoyment, and contributed positively to the creation of "atmosphere" during the leisure-sport event. This is clear evidence that servicescape elements do have an influence on customer expectations and behavior in service settings.

Servicescape elements can have either a positive or negative influence customers (Russel & Pratt, 1980). For example, soothing music when shopping in a departmental store is a positive influence, while harsh noise from a nearby construction site is a negative one. Russel & Snodgrass (1987) posited that positive influences would lead to customers having a positive view of the service setting (and vice-versa). Positive views of the service setting will in turn enhance customer satisfaction, while negative feelings about the facility will detract from consumer enjoyment. For instance, if a customer was happy with the seating, access, cleanliness and looks of a leisure-sport facility, it is more likely that they would also view the service encounter in a positive light. Therefore it is crucial to carefully weigh the design and layout of servicescapes to ensure that they are able to provide a comfortable and stimulating spectating experience. This is because knowledge of the factors that influence customer satisfaction in service encounters is critical to the attraction, retention and enhancement of customer relationships (Bitner, 1992; Varley & Crowther, 1998).

The uniqueness of sport

Much has been written about sport. Many authors have described it as unique in its own way, and separate from other activities because of the "illogical passion" (Smith & Stewart, 1999) and fanaticism that athletes and sports fans experience (e.g. Arnould & Price, 1993; Bernama, 2001; McDonnell et al., 1999; Singer & Tolliver, 2001).

Varley & Crowther (1998, pp. 315) suggested that "consumption and interaction in leisure activities support premises of hysterical materialism which is a sort of materialism experienced through temporary emotional excess". An example of this would be when crowds are cheering on their favorite team. When the team is winning, crowds tend to be happier and are prepared to spend more at the venue. Sports fans often consume a sporting event, or support their favorite team/sport irregardless of whether that team is winning or losing (Varley & Crowther, 1998). This illogical passion stems from their involvement with the sporting activity. Often, this consumption will lead to consumption activities in other areas of their lives such as golfers buying golf clothing, equipment, and joining country clubs.

Participants in leisure-sport activities often form groups based on the sharing of a ritual experience that transcends the mundane nature of daily life. The sharing of this hedonistic experience brings people together and elicits feelings that are "intense, positive, and intrinsically enjoyable" (Arnould & Price, 1993, p. 25). This sharing is in part brought about by the adoption of specific activity-linked sub-cultural needs that serve to signify shared values and involvement among participants (Turner, 1969). At the same time, leisure-sport activities are frequently highly social in nature, and often include activities such as browsing in specialist retail outlets at the leisure venue. Therefore it is important that designers of leisure outlets provide a chance for the consumer to enhance their experience while utilizing the leisure facility. Value adding of the service experience could be achieved through ancillary services at a leisure-sport venue such as the provision of clean food service areas and washrooms, a well planned layout, and comfortable seating.

Spectators using sports facilities visit the venues for various reasons. These include ease of access, proximity of the facility, the history and background of the facility and/or a unique spectating experience (McDonnell et al., 1999). It is arguable that this is especially true in non-team based sports such as animal racing, and motor sport. Often the spectator is there to watch the races and not there to cheer for a particular team. This could be more so if the spectator can choose from several venues running similar events. In Australia, motor sport, horse and dog racing often have several venues within close proximity of one another that the spectator can choose from.

Once in the facility, the spectator will be more concerned with their own comfort and the services available at the venue (Bitner, 1992). The customer may possess prior expectations about available service level and features. These expectations could be based on various elements. Research into semiotics suggest that customers form expectations through communication channels such as advertising (Klopfer, 1987), corporate image (Andreassen & Lindestad, 1998), music (Oakes, 2000), and word-of-mouth (Westbrook, 1987). Smith & Burns (1996) found that store image and atmospherics had an effect on customers' expectations about merchandise quality and service levels in retail stores. Therefore, in leisure-sport settings, customers could depend on cues such as the type/comfort of seats, availability of electronic displays, and the general look/feel of the facility as a means of forming expectations about the service levels they are about receive.

It can be argued that leisure-sport service facilities are different from other types of service facilities. This is because the leisure-sport facility is a place where the core product is a "pure service" and the spectator is in the facility for extended periods of time. The spectator is there for purely hedonistic purposes, and he/she expects to be entertained. The leisure-sport experience is a pure service because unlike shopping or banking, there is no visible benefit from engaging in the activity other than the spectator "feeling good". The spectator is often in the service facility for the duration of the event, which in sports such as horse racing and motor sport, may be anything from six to ten hours. This is different from other types of service encounters such as visiting a hairdresser or laundromat, which would take no more than two hours. The spectator expects to be entertained, unlike visits to spas or beauty salons, which may take many hours, but is often not very exciting or entertaining (more of a relaxing type of service). Therefore, the leisure-sport service provider must cater for a special type of market with unique needs. Spectators expect to be entertained in comfort. At the same time, they expect that the venue will have an acceptable level of cleanliness. They also want to get to different areas of the facility (e.g. washrooms) easily, and be able to purchase ancillary services (e.g. food) quickly.

Uniqueness of a service encounter

Service marketing researchers have always considered service encounters to be different when compared to traditional product marketing (Anderson et al., 1994; Baker et al., 1988; Booms & Bitner, 1981a; Cronin & Taylor, 1992; Parasuraman et al., 1985; Wakefield & Blodgett, 1994). Services are intangible and usually cannot be tried prior to purchase. In service situations where the customer has no prior experience with the service provider, they look for tangible evidence of service quality through the facilities and furnishings (Langeard, Bateson, Lovelock, & Eigler, 1981; Shostack, 1977).

Physical evidence such as environmental design, decor, signage and business cards/stationery send messages that help establish the organization's image and influence customer expectations (Booms & Bitner, 1981a; Shostack, 1977). Service personnel also provide clues about what customers should expect. Visual inspection of service personnel dress codes (Solomon, Suprenant, Czepiel, & Gutman, 1985), nonverbal cues such as signage and furnishings (Bitner, 1992), as well as the demeanor of service personnel and other patrons aid customers in categorizing the firm and forming pre-experience expectations for the service encounter (Solomon et al., 1985). In a leisure-sport service venue, cues such as type of seating, layout, wall color, type of furnishings, cleanliness, signage and scoreboards, as well as ease of access to different functional areas serve as indicators that help form pre-experience expectations for customers.

Customer expectations

Spreng, MacKenzie, & Olashavsky (1996) argue that desire plays an important part in the prepurchase-choice process; a customer must have a desire for a certain product or service and the yearning must be strong enough for the consumer to form certain expectations. The consumer must also feel strong enough to act to fulfill those expectations. They further propose that consumer desires and expectation levels will be influenced by information customers receive while in information-searching-mode. This information, in the form of promotional messages, opinions, and word of mouth will subsequently determine consumer desire and expectation levels. Expectation levels, in turn, will determine whether the performance of the product/service exceeds or fails to meet customer expectations. When the service performance meets or exceeds customer expectations, the customer will perceive the service to be of quality. Parasuraman et al. (1985) posited that positive confirmation of expectations and quality will result in customer satisfaction.

Measurement of service quality

Researchers in service marketing have long debated the most appropriate method of measuring service quality. The outcome has been two main schools of thought, SERVQUAL (Parasuraman et al., 1985), and SERVPERF (Cronin & Taylor, 1992). There are also researchers who do not subscribe to either of these models and have proposed disconfirmation of expectation models of their own (Babakus & Boller, 1992; Cadotte, Woodruff, & Jenkins, 1987; Eroglu & Machleit, 1990; Hill, 1986; Hoch & Ha, 1986; Saurina & Coenders, 2002; Spreng et al., 1996; Walker, 1995). In this section, these theories will be presented and discussed. Justification will be presented about the adoption of the disconfirmation of expectations framework for this thesis.

SERVQUAL – Gap theory

Parasuraman et al. (1985) note that many organizations provide service as part of their core product. Service offerings can be pure service situations such as having a haircut, or are combined with some form of tangible/physical product (for example having a cup of coffee at a café).

Parasuraman et al. (1991b; 1985; 1988) proposed that higher customer satisfaction was the result of increased service quality. They defined service quality as the gap between customers' expectations and perceptions, and developed the SERVQUAL scale of 22 items. The original Gap theory suggested that customers' perception of service quality in a service scenario was the product of customer expectations of the service as generally provided by that class of service providers contrasted with the service they receive at a particular service encounter (Parasuraman et al., 1985, 1988). The Gap theory suggests that service quality is a feeling experienced by the customer; however, this feeling is related but not equal to satisfaction. Satisfaction results from a comparison of service expectations with service provider performance, and is positive if performance exceeds expectations. If customer expectations are not met by the service provider, then dissatisfaction occurs.

Parasuraman et al. (1988) posits that the concepts of quality and satisfaction are distinct, but related. Customer perception of quality is defined as an attitude that customers possess and is the result of comparing service performance with prior expectations. Satisfaction on the other hand is defined as the emotional reaction that results after experiencing the service episode, and is specific to individual service transactions (Oliver & Linda, 1981). This means that customer satisfaction is dependent on the elements present in individual service episodes as well as individual customer expectations. For example, when visiting a leisure-sport facility, customers who have a lower level of expectations for physical facility characteristics will be easier to please when compared to customers that have high expectations.

Parasuraman et al. (1985) initially proposed that there were 11 gaps that occurred at different stages of the service episode. These 11 gaps were access, competence, responsiveness, reliability, courtesy, communication, credibility, security, understanding, and tangible evidence. Disconfirmation of customer expectations could happen before-consumption, during-consumption, or post-consumption of the service transaction. During the entire course of the service transaction, disconfirmation of expectations could happen in any of the gaps mentioned above, and the total product of these gaps would result in how customers perceive the quality of the service episode.

The 11 service gaps in the original SERVQUAL model (Parasuraman et al., 1985) were subsequently revised and reduced to five items (Parasuraman, Berry, & Zeithaml, 1991a). As they stand today, these gaps are responsiveness, reliability, assurance, empathy, and tangible evidence. The reason for this more parsimonious model was because Parasuraman et al. (1991a) suggested that these gaps commonly occurred in different types of service scenarios were therefore more generalizable to different service industries.

Data for the SERVQUAL model is normally collected through self-administered questionnaires (Bitner, 1990; Cronin & Taylor, 1994; Oliver, 1993; Parasuraman et al., 1991a; 1991b; 1985). The wording of the scales may be changed from time to time to suit individual service industries which include leisure-sport (Taylor et al., 1993; Wakefield & Blodgett, 1996), banking (Baker et al., 1988; Hui & Bateson, 1991), sport-tourism (Thwaites, 1999), and retailing (Baker & Cameron, 1996; Baker et al., 1994).

Although the SERVQUAL model has been used extensively in measuring service satisfaction, it has been criticized by a number of authors (Carman, 1990; Cronin & Taylor, 1992), and to this day there has been no consensus among researchers about a number of areas in the SERVQUAL model (Saurina & Coenders, 2002). The main areas of disagreement among researchers are whether the five suggested elements in SERVQUAL (responsiveness, reliability, assurance, empathy, and tangible evidence) are consistent across different service industries as different elements were found to be significant for different industries (Andreassen & Lindestad, 1998; Babakus & Boller, 1992; Carman, 1990; Cronin & Taylor, 1992, 1994; Saurina & Coenders, 2002). Carman (1990) was doubtful of the wisdom of collecting data about service expectations and perceptions in a single interview session, arguing that customer expectations about service quality may change as the service encounter progresses, therefore expectations at points before, during and after the service transaction may differ.

Cronin & Taylor (1994) questioned the suitability of the SERVQUAL scale in measuring perceptions. Saurina & Coenders (2002, p. 219) wrote that, "It is questionable whether the mid point of the scale precisely represents the absence of a gap" in customer feelings towards the measured construct. Does the mid point actually mean that the respondent is indifferent towards the item being measured or does it mean that they are neutral towards the construct? They proposed the inclusion of a "don't know" category for the measurement scale. Cronin & Taylor (1992; 1994) also questioned the use of the SERVQUAL scale when the scale implies that service expectations and service performance perceptions can be compared, and can be compared independent of other constructs being measured. They posited that in certain situations, customers did not have any expectations for certain elements in the service episode, and might provide "untruthful" answers.

Different researchers have experimented with different versions of the SERVQUAL questionnaire, with varying degrees of success. Parasuraman et al. (1991b; 1988) used a 22 item survey for banking, credit card, maintenance, and telephone companies. Baker et al. (1988) utilized a 32 item version for measuring the effect of bank branch facility design on customer satisfaction. Saurina & Coenders (2002) used a 19 item survey to test the quality of banking services. Carman (1990) modified the SERVQUAL questionnaire and tested a 26 item survey for a hospital, a 16 item one for a dental clinic, a 32 item questionnaire for a work placement agency, and a 21 item questionnaire for a tyre retailer. While many of these studies have found that SERVQUAL does provide a measure for service quality and satisfaction with service, the results appear to be inconsistent. For example, varying degrees of fit were reported for factor analysis models from different cultures (Saurina & Coenders, 2002). Saurina & Coenders (2002) translated Parasuraman et al.'s (1991a) SERVQUAL questionnaire for banking and tested it in Spain on local bank customers, the results indicated that the SERVQUAL instrument did not translate into five distinct interpretable dimensions as suggested by Parasuraman et al. (1991a). A highly adapted version of the questionnaire was subsequently produced (which departed from the SERVQUAL model), and found to be better suited to that particular cultural setting.

As can be seen from the discussion above, the SERVQUAL model, while being a popular means of measuring customer satisfaction, is fraught with inconsistencies. This has lead to the development of a competing school of thought about the measurement of service quality and customer satisfaction called SERVPERF (Cronin & Taylor, 1992).

SERVPERF

Different researchers (Baker et al., 1988; Bitner, 1990; Oakes, 2000; Sanders, 1988; Tom, Barnett, Lew, & Selmants, 1987; Wakefield & Blodgett, 1994; Zeithaml, 1981) agree with parts of the SERVQUAL model. They concur that service quality and satisfaction are different constructs, and that perceived service quality is an attitude that is built up over the long term. They are also in agreement that satisfaction is a subjective measure that fluctuates with individual service encounters (Baker et al., 1988; Oakes, 2000; Spreng et al., 1996; Tom et al., 1987; Wakefield & Blodgett, 1994; Zeithaml, 1981).

However, there are several differences between SERVQUAL and SERVPERF. These differences are in the areas of quality measurement, and whether expectations are required in the comparison process. SERVPERF proponents are also in disagreement with SERVQUAL supporters about whether perception of quality precedes satisfaction. SERVPERF supporters also propose that service quality should be measured as an attitude. In the following paragraphs, conceptual differences between the SERVPERF and SERVQUAL models will be presented.

The SERVPERF and SERVQUAL models differ in their way of measuring service quality (Bolton & Drew, 1991b; Churchill & Suprenant, 1982; Cronin & Taylor, 1992; Woodruff, Cadotte, & Jenkins, 1983). While both SERVPERF and SERVQUAL instruments were designed to measure consumer perceptions about service quality at a point in time (snapshot method), SERVPERF supporters believe that a customer's satisfaction with the service does not necessarily depend on expectations formed from similar service providers in general (Parasuraman et al., 1994b). They posit that customer expectations depend on individual service encounters with individual service providers (Woodruff et al., 1983). Thus, while SERVQUAL implies that service satisfaction is a result of the present service encounter minus long term experience and expectations, SERVPERF suggests that service satisfaction is dependent on what "consumers should expect from a given service provider given their experience with that specific service organization" (Cronin & Taylor, 1992, p 56).

Supporters of SERVPERF also posit that customer satisfaction precedes quality perception (Anderson et al., 1994; Cronin & Taylor, 1992; Reidenbach & Sandifer-Smallwood, 1990) . Proponents of the SERVQUAL model on the other hand think that quality perception is antecedent to customer satisfaction (Bitner, 1990; Bolton & Drew, 1991b; Carman, 1990; Devlin, Gwynne, & Ennew, 2002; Parasuraman et al., 1985). Empirical evidence that satisfaction precedes quality perceptions was provided by Bolton & Drew (1991a) who found a significant causal relationship between satisfaction and quality perception. Bolton & Drew (1991a) suggest that a customer's perception of service quality is the result of his/her prior experience with the service provider plus their level of satisfaction/dissatisfaction with service performance in the present service encounter. This means that a customer will judge the level of service quality by comparing previous experiences with service provider with the service that they are presently receiving. While Bolton & Drew (1991a) acknowledge that this is a disconfirmation of expectations relationship, they suggest that perceived service quality is strongly affected by the performance of the service provider in the current service transaction, and that the effect of disconfirmation is relatively weak when compared to the previous performance of the service provider.

Cronin & Taylor (1992) hypothesizes that service quality perception should be measured as an attitude. This is because if a customer has no prior experience with the service provider, then expectations about the level of service will influence the level of perceived service quality in the initial service encounter. However, once the service is experienced, the customer will modify their expectation levels based on that experience. Cronin & Taylor (1992) goes on to suggest that this type of service expectations modification behavior will occur with each subsequent service experience, with each service experience then contributing to redefining the purchase intentions of the customer. An example of this would be when a customer first visits a leisure-sport facility; he/she has certain expectations about how the service episode will play out. Once this initial service experience is over, the customer will have modified their service expectations. For an illustration of this process, let's say that if the seats in the facility were not very comfortable and there were no electronic scoreboards, then the customer would not expect very comfortable seats and electronic scoreboards on subsequent visits. However, if during subsequent visits, the old seats are replaced with newer more comfortable seats, and there is the addition of an electronic mega-screen, then the customer would adjust their expectations to include these elements in future visits. This is in direct contrast with Parasuraman et al.'s (1985) suggestion that customers will base their expectations of a service encounter on experience with a general class of service providers.

Disagreement between SERVPERF and SERVQUAL supporters has prompted other researchers to explore other ways of measuring service quality and satisfaction (Cadotte et al., 1987; Price et al., 1995; Saurina & Coenders, 2002; Spreng et al., 1996; Walker, 1995). While these researchers have taken different approaches to measuring service quality and customer satisfaction, they have adopted the disconfirmation of expectations paradigm (as do SERVQUAL and SERVPERF). The following section presents a discussion of the disconfirmation of expectations literature from these researchers.

Disconfirmation of expectations

Many researchers have cautioned against merely accepting the SERVQUAL and SERVPERF models in their present form as completely suitable for service evaluations; as service satisfaction processes may be different from that of goods (Hill, 1986; Hoch & Ha, 1986; Oliver & Winer, 1987; Woodruff et al., 1983). McDonnell, Allen, and O'Toole (1999, pp. 124) suggests that: "Service quality occurs when the consumers' expectations of the service match their perceptions of the service received". If expectations exceed the level of service received, then disconfirmation of expectations is experienced and the customer judges the service encounter as of a lower quality than expected. Alternatively, if positive disconfirmation is experienced through levels of service performance that exceed customer expectations, then the customer will conclude that the service encounter to be of a higher than expected quality.

Disconfirmation of expectations models (Cadotte et al., 1987; Price et al., 1995; Saurina & Coenders, 2002; Spreng et al., 1996) are a class of models which do not fully support either SERVQUAL of SERVPERF, or are models which have been modified to such an extent that they have deviated from the design of SERVQUAL or SERVPERF. As SERVQUAL, SERVPERF, and disconfirmation of expectations are based on work by Oliver (1980), these customer satisfaction models share large areas of similarity. It is useful to revisit some of Oliver's (1980) original work in order to better understand the intricacies of disconfirmation of expectations.

Oliver (1980) hypothesized that consumers develop feelings of satisfaction/dissatisfaction through a confirmation/disconfirmation process. At a point in time (*t*), the customer makes a choice about a brand that is based on a hierarchical process that involves 1) expectations, 2) brand attribute beliefs, 3) attitudes towards the brand, and 4) intentions (Oliver, 1980). At some future point in time (*t*+1), the opportunity arises for the consumer to purchase or use the brand. At this point in time, the preconceptions and beliefs made at time *t* are called upon to help the customer evaluate the experience. The customer does this by comparing the actual performance of the brand (service) with the perceptions at time *t*, with three possible outcomes. If brand performance is less than what is expected, then the customer is dissatisfied. If the brand performs as expected, then the customer has a neutral feeling, and if the brand performs at levels that exceed the expectations of the customer, then satisfaction occurs. This is similar to the SERVQUAL (Parasuraman et al., 1985) and SERVPERF (Cronin & Taylor, 1992) models.

Oliver & Linda (1981) argue that consumers sometimes fail to make comparisons between expectations and performance due to their inability to rate certain constructs (e.g. pleasure, discomfort). Therefore, some of the constructs of the model may not be rated directly, but rather will depend on the performance of other constructs under consideration. For example, when a customer is asked to rate the exterior of a facility, the customer may not like the wall color, but likes the building architecture and landscaping, and therefore indicates that they are satisfied with the facility's exterior. This is conceptually different from SERVQUAL where each element of the model is measured as an individual item, and the measurement function implies that the customer is able to "subtract performance perceptions with expectations" (Saurina & Coenders, 2002, p. 218). As the SERVPERF model uses the scale items as indices (Cronin & Taylor, 1994), the concept of using a summary disconfirmation judgment for a construct is not applicable to the model. This is because indices are by nature exact and direct measurements of a construct which indicate either the presence or absence of an attribute.

Oliver (1980) further suggests that satisfaction is additive function of the initial (*t*) expectations and subsequent experiences with service episodes. This is similar to the stance that Cronin & Taylor (1994) takes with SERVPERF and Parasuraman et al. (1994b) later take with SERVQUAL.

Differences in operationalization of expectations

Disconfirmation of expectations literature differs from SERVPERF and SERVQUAL in the area of operationalizing expectations (Cadotte et al., 1987; Saurina & Coenders, 2002; Spreng et al., 1996). SERVQUAL (Parasuraman et al., 1988, p. 17) suggests that expectations are "the desires and wants of consumers ... what they feel a service provider should offer, rather than would offer". This implies that customer's form expectations based on a general class of service providers and does not mention anything about expectations changing over time. Parasuraman et al. (1994a, p. 201) further clarified this by stating that service expectations exist at two different levels, "Desired service: The level of service representing a blend of what customers believe can be and should be provided. Adequate service: The minimum level of service customers are willing to accept." These two levels of service are separated by a zone of indifference, which is a range of service performance that customers consider satisfactory. There is no mention that expectations can be/are modified by consumers who experience the same service multiple times.

SERVPERF on the other hand argues that expectations are dynamic and should change with each subsequent service transaction due to additional information that is picked up by the customer (Cronin & Taylor, 1994). This is in line with Oliver's

(1980) model. Cronin & Taylor (1992; 1994) makes no mention about the different degrees of expectation.

In disconfirmation of expectations literature, Gilmore & Carson (1992) argues for additional levels of expectations which are ideal, expected, deserved, and minimum tolerable levels of expectation. Ideal levels of expectation are when everything in the service scenario goes perfectly. Expected levels are what the customer thinks service performance levels are going to be. Deserved levels are below the expected service performance levels and are what the customer thinks they deserve from the service provider. Minimum tolerable levels of service expectation is what the customer deems as "just sufficient" to prevent them from terminating the transaction.

Cadotte et al. (1987) makes the distinction that customers are likely to base their expectations on standards that reflect what they (the customers) believe a service provider/product should provide in order to meet their needs/desires. Cadotte et al. (1987) suggests that desires play a central role in the formation of expectations. However, these expectations are "constrained by the performance consumers believe is *possible* as indicated by the performance of known brands" (Cadotte et al., 1987, p. 306). This suggests that while customers may have some "ideal" service scenario, they are more realistic and will base their expectations on what they think the product/service provider can actually do for them. Cadotte et al. (1987) is in agreement with Parasuraman et al. (1985) in the way which they operationalize how customers arrive at the expectations. They posit that expectations are the result of experience with a similar group of products/service providers, and not from a single product or service.

Service provider performance

Price et al. (1995) posited that affective content, duration, and spatial proximity between customers/staff plays a role in the outcome of service encounters. They called it the EAI model. This model differs from both SERVQUAL and SERVPERF as these three dimensions are not part of Parasuraman et al.'s (1985) or Cronin & Taylor's (1992) work. The dimensions of EAI are particularly applicable to the research objectives of this thesis as leisure-sport spectators experience all three dimensions during their time in the service facility. Price et al. (1995) suggests that affective content is an important part of the service transaction because of the emotional investment that customers put into high involvement service transactions (e.g. plastic surgery, financial investment and redecorating). Consumers who undertake a service transaction for hedonistic purposes also invest large amounts of emotions. This can be seen in leisure-sport type situations which are multisensory

(Arnould & Price, 1993), and contain emotive, ritualistic meanings and narrative content (Hirschman & Holbrook, 1982). Spectators in a leisure-sport facility often invest huge amounts of emotion in the act of cheering on their favorites, and feel sad or let down when their favorites lose.

Proxemics is described by Price et al. (1995) as the physical distance between the customer and service provider. For this thesis, this definition is extended to include other spectators in the leisure-sport facility. This is because in a sport spectating situation, customers may not necessarily come into close contact with service personnel, but will undoubtedly be in close quarters with other spectators in viewing, seating, betting, and food and beverage service areas. Studies into retail crowding (Eroglu & Machleit, 1990), and proxemics (Hall, 1974) suggest that the number of people, and the closeness of people from one another has an effect on quality perception. For instance, if a service setting is so crowded that it is hard to move from one area to another, then spectators will undoubtedly feel uncomfortable and feel that the service experience is of poor quality.

The duration of the service episode also plays a part in determining quality perception, and ultimately, service satisfaction (Price et al., 1995). Bakeman & Gottman (1986) proposed that in order to sequentially analyze service relationships, there must be an understanding of how the customer interacts with the service provider over a period of time. During an extended service transactions such as a leisure-sport service encounter, three things may happen; the service encounter may start to feel more like a friendship than a service transaction, parties in the service encounter will expend significant emotional labor, and there are significantly more opportunities for the service script to be disrupted (Price et al., 1995). In a leisure-sport spectating situation, spectators may form friendships with fellow spectators, they expand significant quantities of emotional labor as part of the "excitement" inherent in sporting contests, and there are ample opportunities for disruption of the service script due to the unpredictable outcome of sporting competitions.

Oliver & Winer (1987) posits that consumer expectations may be both active and passive. Traditionally, service expectations have been defined as predictions about what will happen during a future service transaction (Cronin & Taylor, 1992; Parasuraman et al., 1985). These expectations will be met, exceeded, or negatively disconfirmed during the service exchange. Oliver & Winer (1987) proposes that customers measure only active expectations against service performance. Passive expectations are not processed unless they are disconfirmed. Oliver (1989) further suggests that in services that are continuous (e.g. electricity supply), disconfirmation does not occur unless there is a change in the way that the service is provided, or there is a disruption in the service. Hoch & Ha (1986) argues that because of the complexity of environmental stimuli, many expectations are not processed by the customer during the service episode, and consumers do not experience disconfirmation of expectations unless something out of the ordinary happens during the service transaction.

Walker (1995) proposes that the service transaction happens in three stages; prior to consumption, during consumption, and post consumption; and that customer quality perceptions can/do change during each of these stages. He also proposes that the customer arrives at a summary conclusion of the service episode after it is over. Therefore, service satisfaction should be measured at each of these times in the service episode. This is contrary to SERVPERF and SERVQUAL which measures customer satisfaction only during or after the service experience.

Walker's (1995) model is particularly suitable for the leisure-sport industry. Walker (1995) posited that prior to consuming the core service, consumers encounter peripheral components of the service (e.g. ticket booths, facility, atmospherics). Initial impressions of the capabilities of the service provider are formed at this stage. An example is when spectators arrive at a leisure-sport facility. They might form an opinion of what the service episode is likely to be from elements in the servicescape such as cleanliness, number of people in the venue, availability of concession stands/displays, and the look and "feel" of facility grounds (Bitner, 1990). Shostack (1985, p. 251) held similar views and noted that "customers have a difficult time trying to objectively determine service quality, particularly prior to purchase and they look to the physical evidence at hand for verification. The symbolic nature of apparel and appearance plays very heavily on both their willingness to try a service and their satisfaction with it".

The second stage of the service encounter is when the core service is consumed. At this stage, expectations that were formed in the first stage of the service process are confirmed, disconfirmed, or met. This is when the customer makes a decision about the quality of the service (Walker, 1995). In a leisure-sport setting, this is when the "action" on the field occurs. At this stage, Walker (1995), suggests that the consumer is oblivious to the ancillary services (e.g. condition of the facility) as the main focus is on the core service offering. Positive, negative, or neutral disconfirmation of expectations then occurs at the end of the second stage. For example, if the game was an exciting one, and the spectator's team won, then he/she would experience positive disconfirmation and be delighted. If the spectator's team lost, then they would experience negative disconfirmation. In a draw, the spectator may feel that the game was an exciting one but feel neither happy nor sad.

In the last stage of the model, Walker (1995) noted that the focus of the customer returns to ancillary services and servicescape elements present in the facility. Focus then shifts to items like the cleanliness of the washrooms post game, and how easy it is to get back to their car. This is a comprehensive way of measuring service satisfaction as it takes into account each stage of the customer's service experience. By knowing what customers are looking for as service cues at each stage of the service process, service providers can better anticipate and modify the service episode to provide customers with the "right" cues at critical points during the transaction.

Disconfirmation of expectations theory adopted by this thesis

This thesis adopts the view that customers are able to, and do form prior expectations about a service from a general class of service providers prior to consumption of the service (Parasuraman et al., 1985). However, once in the facility, these expectations will change depending on the facility elements that are present as suggested by Walker (1995). As spectators invest large amounts of emotion in the service encounter, it is posited that there may be various disruptions that can happen during the service episode (Price et al., 1995) which could lead to positive, neutral, or negative disconfirmation with the service. During the course of the sports event, customers will be more focused on the "happenings on the field" then on the service setting. However, after consumption of the leisure-sport event, spectators will once again focus on ancillary servicescape elements, and will base their evaluation of the entire service episode as a "whole".

It is also posited that depending on service provider performance, customers will modify their expectations (after the first visit) with each subsequent visit to the service facility as hypothesized by (Cronin & Taylor, 1992). It is also held that service quality is an antecedent to customer satisfaction (Parasuraman et al., 1985). This is because customers feel that the quality of the service/servicescape meets/exceeds their expectations at each stage of the service episode before they can make a summary satisfaction judgment at the conclusion of the service encounter (Walker, 1995).

It is also the view of this thesis that there are both passive and active expectations (Oliver & Winer, 1987), and that because of the complexity of the service environment, only the active expectations will be consciously processed by the customers. Passive expectations will be processed only if something out of ordinary happens during the service encounter that causes dissonance in the passive service element (Hoch & Ha, 1986).

This view about customer quality perception/satisfaction was adopted because most people who patronize leisure-sports facilities have some prior experience and preconceptions about what level of service to expect in a particular facility (Parasuraman et al., 1985). Research into store environments (Baker et al., 1994), office and public buildings (Bitner, 1992) and amateur baseball ballparks (Wakefield & Blodgett, 1994) suggests that even if spectators had no prior first hand experience with a particular facility, they will still have some preconceptions about the "quality" of the facility based on the outward appearance of the venue. Therefore to measure satisfaction with service quality in leisure-sport settings, there must be the antecedent of prior expectations about service levels and in-situ measurement of quality as the service is consumed.

For many consumers, perception of service quality is dependent on evaluation before, during, and after the service encounter (Parasuraman et al., 1985; Price et al., 1995). In many modern service situations involving spectator sports, the interaction of the consumer and the facility is much stronger than the consumers' interaction with employees of the facility. In these cases, it is argued that because of the higher interaction between the facility and customer, the more likely it is that the consumer will view the facility as the service (Turley & Fugate, 1992). This suggests a strong case for more research on facility design and décor.

In services marketing research, facilities are most often mentioned in the context of industrializing services for greater efficiency (eg. Baker & Cameron, 1996; Bitner, 1992; Carman, 1990), or providing tangible evidence about the service being provided (eg. Baker et al., 1994; Barker & Pearce, 1990; Bitner, 1990; Bowen & Schneider, 1988; Hirshman, 1981; Hui & Bateson, 1991; Maslow & Mintx, 1956; Singer & Tolliver, 2001; Turley & Fugate, 1992). However, there is little mention of how customers respond and react to the servicescape, and how the physical elements of the service facility can enhance or hinder the organization's ability to provide a service that meets customer expectations. The next section deals with the role facilities play in services.

Facility driven services

Facility driven services are businesses where the service personnel can be replaced easily without greatly affecting the customers' perception of service quality (Turley & Fugate, 1992). In some instances, a long-term relationship between the customer and employee is desired (e.g. hairdressing). In other cases, there is no real relationship between the service personnel and the customer (e.g. laundromat), and the customer has a relationship with the place from which they obtain the service. Leisure-sport facilities fall into this category, because customers spend much of their time in spectating areas and away from facility employees. The only time that they interact with facility employees are during entry/exit, and when they visit concession/food and beverage outlets.

In the 21st Century, leisure-sport facilities are more than just a place to watch a contest; they have evolved into a new category of leisure settings with a huge variety of resources such as food and beverage, electronic instant replay scoreboards and social amenities. These facilities are designed to be increasingly customer-friendly. Some sports facilities in the United States of America even include facilities and amenities such as movie theaters and conference rooms (Weber, 2001). In Australia, newer leisure-sport venues such as Docklands and Homebush Sydney Olympic facilities incorporate both conference facilities and up-market food and beverage outlets (ABC Corp., 2003).

Simultaneous production and consumption

A common characteristic of services is the simultaneous production and consumption of the service (Parasuraman et al., 1985). This means that consumers who are experiencing the service are involved in the production process, which happens at the service facility or what Parasuraman et al. (1985) term the "service factory". Customers are often required to be present in the service factory. Thus, the service factory (in this case the sports facility) often becomes the focus of the customer's consumption experience. Whether the focus of the customer is directed towards the facility itself or towards the service providers is still open to debate. In cases where the focus is on facility intensive services, problems associated with the service experience are bound to be different from those of people driven services (Wakefield & Blodgett, 1994). It is therefore imperative to pay attention to how facilities are designed and maintained in order to maximize successful service delivery and service satisfaction.

As the physical environment is the most easily manipulated dimension of the service encounter, the setting can both aid and impede the production of quality service. It may also influence customer satisfaction and staff productivity. Service settings are especially important because customers as well as employees experience the facility together (Bitner, 1992). Customers should feel comfortable in the setting and employees should feel that there is utility value in the servicescape that helps them with their duties during the service process.

Value of the service environment

Perceived product value is the value a consumer places on a product in terms of the benefits received from it, and the sacrifices made in order to obtain it (Kerin, Jain, & Howard, 1992; Zeithaml, Berry, & Parasuraman, 1988). This concept can be operationalized by the actual price paid for the service/product, as well as other non-monetary costs like time and effort. Perceived value is also context and situation specific (Holbrook & Corfman, 1985), which means that there may possibly be diverse kinds of benefits received, and various types of returns of value. For example, on the one hand, a homemaker may perceive weekend visit to the ballgame as an escape from the family, and daily routine for a few hours. On the other, a working father may enjoy going to the ball game because he gets to spend time with his family.

Research by Hirschman (1981) into retail settings suggests that customer experiences are a combination of store shopping atmosphere and customer related service practices or policies. Hirschman (1981) also proposes that customers weigh various store characteristics to arrive at a unified impression of an outlet. Kerin et al. (1992) found that a favorable impression of a physical setting may transfer directly to a positive perception of value received from a service outlet. This suggests that the service setting may play an important role in determining customer satisfaction. As many leisure-sport spectators may view the service facility as the service, it becomes even more important that more research is carried out to determine which aspects of leisure-sport facilities are the drivers of customer satisfaction. In this thesis, the perceived servicescape value will be operationalized as the worth of the servicescape in both utilitarian and hedonistic terms to the users of the facility, and the sacrifices customers have to make in exchange for satisfaction received.

Facilities in service marketing

Length of time spent in service facilities

Research in service marketing has explored many different settings. Much of this research has concentrated on service situations such as retail banking, laundromats, tire retailers, and work placement agencies where service encounters are relatively brief (e.g. Baker et al., 1988; Baker & Cameron, 1996; Baker et al., 1994; Cronin & Taylor, 1992; Hui & Bateson, 1991; Parasuraman et al., 1991a), and where the customer spends only short periods of time in the facility (usually less than an hour). The majority of these also focused on low involvement transactions such as fast food restaurants, dry cleaning and everyday banking. In temporally short service encounters, customers are apt to base the quality of their service experience on tangible elements in the service setting (Wakefield & Blodgett, 1996). These elements could include the space available to the customer (Barker & Pearce, 1990), aesthetics (Bitner, 1992; Kaplan, 1987), crowding of people and furniture in the servicescape (Eroglu & Machleit, 1990) and quality of merchandise or service offered (Kerin et al., 1992).

Customers who patronize leisure-sport venues are likely to spend extended periods of time in the facility (Turley & Fugate, 1992). Similarly, it can be argued that in temporally longer service situations, the servicescape will likewise play a more important role in contributing to service satisfaction (Bitner, 1992). It is also possible that customer satisfaction has an impact on a multitude of other elements such as customer spending, repatronage intentions, and the desire to remain in the service situation (Wakefield & Blodgett, 1996).

Extended service encounters offer customers a better chance of creating interpersonal exchanges, as well as to exhibit displays of positive and self-esteem enhancing emotions when compared to shorter service episodes (Nisbett & Ross, 1980; Sutton & Rafeali, 1988). These encounters also provoke self-revelation, which enhances intimacy (Price et al., 1995). Extended, high-involvement service encounters such as leisure-sport service episodes could also lead to increased customer loyalty and positive word of mouth promotion if they are handled properly by facility management. The adage "satisfied customers are your best advertisement" could hold true for the leisure-sport industry.

Holahan (1982) suggests that social behaviors such as group interaction, friendship formation, participation, aggression, withdrawal and helping could be influenced by the built environment of service facilities. This suggests that the service facility could be designed to encourage intimacy between the customer and the service provider. In a leisure-sport setting, the use of an open-plan design could help in increasing contact between service personnel and customers (Fortner, 1999). An example of this is at motor sport venues, instead of having the pit/garage area fenced off, walkways could be constructed through non-critical vehicle maintenance areas to encourage spectators to visit the "pits". This would give spectators a chance to interact with drivers, owners, and mechanics, which would value add to the spectator's visit.

The design of the servicescape can also assist or hamper customers and employees in carrying out their respective roles. In order to secure strategic advantages from the servicescape, the needs of customers and the requirements of various functional units have to be incorporated into facility design decisions. It can be argued that the easier it is for service employees to produce the service, the more efficient they will be in the service encounter.

Sommer (1974) studied airport seating and found that seating arrangements at airports typically discouraged conversation between air travelers. Sundstrom & Irwin (1989), and Sundstrom & Sundstrom (1986) found that the layout of furniture, coffee machines, and partitions in offices influenced communication, friendships and group cohesion in office users. Leisure-sport facilities could/should be designed in such a way that users are encouraged to interact with one another. For instance, there could be special booths, picnic areas, playgrounds, or theme restaurants where spectators could gather during the "down-time" of events to interact with one another. This is important because research into proxemics (Barker & Pearce, 1990; Bell et al., 1978; Fortner, 1999) suggests that interaction among people in crowded venues is an important part of the service encounter, and that the social element in many service situations had a major impact on service satisfaction. In a leisure-sport setting, interaction could lead to friendships among spectators which would further enhance enjoyment of their spectating experience. In service encounters which last for extended periods, the social element would be even more important. This is because the chance to interact with fellow spectators would help customers' "complete" the service script.

Examples of extended leisure-sport service encounters are events such as Australian Football League games (100 minutes), rural Australian Football matches (2 to 2.5 hours), V8 Supercar races (up to 10 hours), test cricket (up to 4 days), and horse races (lasts up to 8 hours in the summertime). Spectators at these events spend the better part of their day in the facility and would wish for greater levels of comfort, compared to shorter service encounters such as in banks or laundromats.

Hui & Bateson (1991) suggests that the length of the service encounter has great influence on the type and level of service customers expect. For example, in lengthy service encounters, the service meeting is more likely to resemble a meeting between friends; where the service provider is expected to share in the feelings of the customer and show more than just superficial involvement with customers. A good illustration would be a visit to the day-spa where the service encounter is more likely to resemble a relationship than a transaction.

Service providers are also more likely to be required to expend significant emotional-labor in extended service encounters. This investment of emotion by the service provider then becomes an important aspect of service provider performance (Bitner, 1990). Arguably, the more emotional-labor that is expended by the service provider, the more "personalized" the service. This gives the service provider the chance to "tailor" the service to suit individual customers. This personalized service could help in increasing customer satisfaction. In leisure-sport service encounters, even though the spectator does not interact with the service providers as intimately as when visiting a spa, it is conceivable that the customer would expend considerable amounts of emotion in the act of spectating, and as a result, expects a higher level of service from the facility (treating the facility as a surrogate for human contact).

Role play theory in servicescapes

Parasuraman et al. (1985) suggested that in service encounters, customers and service employees have set roles that must be enacted in order to have a harmonious service experience. The roles are like the scripts of a play, with each player having to learn the role they are playing. When one party in the service encounter does not know their role (role incongruence), disruption of the service script occurs. During extended service encounters, there is heightened opportunity for the script to be disrupted due to factors like service personnel fatigue and role incongruence. This may cause emotional dissonance for the customer. As service encounters increase in duration, the service provider must attempt to engage the customer more in order to foster mutual understanding and to minimize the effects of script disruptions. The provider has to interpret service episodes, explain unexpected events in order to crystallize customer expectations and provide evidence that expectations are being met. Bitner (1992) posited that the servicescape plays a major role in facilitating or hindering the ability of both customers and employees in following their respective scripts. This implies that a carefully designed servicescape could help smooth the flow of the service experience for both parties.

Tangible and intangible sides of the service encounter

Customers depend on tangible cues for evaluating a service provider (Parasuraman et al., 1985). Bitner (1992) suggests that the physical environment can serve as a differentiator for the firm, serving as a symbol of a service provider's relative position in the market. For example, the local gym could project an image of catering to blue collar households, whereas the glitzy health club in the middle of the business district projects an image of catering for businessmen.

Due to the relative intangibility of services (Shostack, 1977), many services are high in experience and credence attributes (Zeithaml, 1981) and, generally afford fewer intrinsic cues on which to form beliefs about service quality. This is especially true in initial purchase situations where the customer has no prior experience with that particular service provider, and hence cannot really judge the level of possible service. It is therefore important to have a unique or superior venue to help position the organization and convey its distinctiveness from competitors. Having a better venue than competitors also creates the impression that the service offered will be of a higher quality.

Tangible elements in the service environment

Research by Baker et al. (1994) into retailing indicates that in-store elements such as color, lighting and style of music may have more immediate effects on decision making than other inputs not present in the service facility (e.g. advertising). Store environment plays a key role in providing cues to customers about merchandise and service quality, and is suggested to be one of several inputs into the customer's overall perception of the store (Darden, Erdem, & Darden, 1983; Lindquist, 1974). These inputs also include organizational reputation, business success and the type of market that the store serves. Store image is also hypothesized to contribute to a large proportion of customer store choice decision. Miller (1993) suggested that there is a link between store environment, merchandise, service quality, store image, cleanliness, product quality, product range, courteous staff, convenient location, and customer satisfaction; with merchandise and service quality identified as the critical components in determining store choice.

Mazursky & Jacoby (1986) found that the store's interior was second only to brand name in providing cues to consumers about merchandise quality. Other researchers

(Baker & Cameron, 1996; Bitner, 1992) have also found that customer perceptions of service quality can be influenced by the retail store environment. Parasuraman et al. (1988) identified elements such as up-to-date equipment, visually appealing facilities, and well dressed employees as important tangibles that are used by customers to evaluate service quality. Rys, Fredericks, & Luery (1987) indicated that environmental factors were the most important cues for customers judging restaurant quality. They studied three factors; store ambience (elements such as lighting, temperature, music, and scent), functional/aesthetic design (including layout, comfort and privacy), and social factors (the people who are within the store's environment) and found that there was a link between service quality inferences, merchandise and store image. Although there has been little research in the area of leisure-sport facilities, electronic displays, seating, layout, spatial layout, and cleanliness have been identified as elements that influence customer quality perceptions in leisure servicescapes (Moore et al., 1999; Wakefield & Blodgett, 1996).

Uniqueness of service quality and customer satisfaction

Quality is by nature an extremely subjective concept (Cronin & Taylor, 1992; Parasuraman et al., 1994b). Carman (1990) suggested that there were five dimensions to service quality - tangibles, reliability, responsiveness, assurance and empathy. The tangible dimension relates to physical elements within the servicescape such as employee appearance, signage, cleanliness, and layout.

Reliability of the service is important as there must not be too much variation in service quality, or else customers will experience dissonance. Responsiveness relates to the ability of the service provider in customizing the service and/or ability in responding to service failures. Assurance refers to the ability of the service provider to assure customers of the ability to provide satisfactory/superior levels of service, and empathy is achieved through the showing of understanding and compassion by the service provider when there is failure in the service delivery process. The question arises here as to whether quality is an adequate measure of customer satisfaction in service situations, because service quality alone may not guarantee customer satisfaction. Quality measurements are also plagued with the need for some sort of comparison by the person experiencing the service. Hence, what may be good quality to one customer may not seem so to another.

Carman (1990) argued that satisfaction with service situations are more dependent on individual customers in unique service encounters. This argument is supported by Carman's (1990) longitudinal research involving the SERVQUAL scale (Parasuraman et al., 1985) where pre and post test interviews resulted in vastly different quality measurement constructs for the same respondents. This variation was attributed to the fact that in the pre tests, respondents were only affected by their expectations of the service (their responses to the survey instrument reflected this). However in the post tests, the respondents had already experienced the service and were able to offer a more realistic picture of the service quality provided by the service provider. This supports Cronin and Taylor's (1992) SERVPERF model, which posits that consumers are able to modify their expectations based on prior experience with an individual service provider. This supports the view taken by this thesis that spectators are able to adjust their service expectations based on previous visits to individual leisure-sport facilities.

What comes first? Satisfaction or quality

Cronin & Taylor (1992) suggest that consumer satisfaction is an antecedent of service quality, and consumer satisfaction has a significant effect on purchase intentions. They argue that service quality has less effect on purchase intentions than does consumer satisfaction. On the other hand, Parasuraman et al. (1985) maintain that service quality precedes service satisfaction. This is a debate that is still current in service marketing research.

Haley (1968) hypothesized that in prepurchase situations, customers selected products based on the product benefits they desired. It can be argued that this could also be true for services. Spreng et al. (1996, p. 17) argued that customers are individuals and have unique wants that they derive from services/products and

> *...implicitly or explicitly, people judge the extent to which a product contributes to the attainment of their desired end-states (satisfaction) by examining the extent to which the product produces consequences or outcomes or provides attributes or benefits that they believe will be instrumental in leading to the attainment of their higher level desires.*

Therefore, it can be maintained that customer satisfaction is not based only on service quality, but is the sum of any number of attributes that the customer finds important. As people weigh different situational aspects when evaluating quality, it is posited that overall customer satisfaction is an end-state feeling based on the overall service experience, and not just on individual factors in a service encounter. The same can be said for spectators in a leisure-sport facility. For example, at a horse race, the setting may be perfect with high levels of cleanliness, good seating, and enjoyable entertainment. However, if it rained half-way through the event, and the spectator lost when wagering, then he/she might feel that it was a disappointing day and that the quality of the facility was unsatisfactory.

Payne, Bettman, & Johnson (1993) suggests that customers use various "choice criteria" to select and evaluate products. These criterion are not all viewed in a similar manner by consumers, nor do different consumers consider similar factors in product choice. They argue that even if customers use similar factors in their evaluative judgments, the same criteria may not hold identical meanings for different consumers, nor would different consumers want the same criteria to perform in an identical manner. For example, when visiting a service station with service attendants, not all customers would expect the service attendant to clean their windscreen; those who expect their windscreens to be cleaned will feel disconfirmation if the attendant fails to do so, whereas other customers who do not wish their windscreens washed would not expect the attendant to do so unless asked. This shows that customers in identical service situations have different expectations of the service. Therefore, service quality that leads to customer satisfaction is a conceptually abstract and "fuzzy" construct. Service quality can be described as a long term attitude on the part of the service provider, whereas customer satisfaction is a transitory judgment made on the basis of a specific service encounter (Bitner, 1992; Bolton & Drew, 1991b; Oliver, 1993). Therefore, in this thesis, service quality is posited to be an antecedent for service satisfaction.

Management and monitoring of service satisfaction levels

Growth of the service sector has been coupled with increasing irritation, frustration, and dissatisfaction with individual service encounters (Koepp, 1987). It is because of intensifying customer complaints that organizations are increasingly seeking to monitor and manage customer satisfaction levels. Many researchers (e.g. Parasuraman et al., 1985; Shostack, 1984, 1985; Solomon et al., 1985; Suprenant & Solomon, 1987) have noted the importance of management and monitoring of customer satisfaction. Other researchers (Bowen & Schneider, 1988; Gronroos, 1984; Heskett, 1987; Zeithaml et al., 1988) suggest that the management of service encounters are part of broader managerial issues that include how the firm is structured, how it operates, it's philosophy and culture. Boulding & Staelin et al. (1993) point out that there are two types of satisfaction: transaction specific and cumulative. While transaction specific satisfaction may provide indications about customer satisfaction at the individual level, cumulative satisfaction is the overall evaluation of an organization based on the total purchase and consumption experience with a good or service over time.

Andreassen & Lindestad (1998) note that there are two types of leisure-sport spectators, and that the management of these two types of customers differ considerably. The first type is the loyal spectator with links to the club/sport and regularly attends events at the venue. In animal and vehicle racing these individuals may be owners, fans, members and their friends and family. The second type of spectator visits the facility infrequently. For example, when there is an important race meeting or social event at the venue. Andreassen & Lindestad (1998) posit that regular customers who utilize the facility on a frequent basis will be the ones that are the most profitable, and efforts must be made to ensure that the proper incentives are offered to make these customers come back.

In the leisure-sport setting, different sports have vastly different cultures and philosophy. For example, there is a clear difference in the way a horse racing, motor sport, and dog racing track are run. This is due to the type of spectators they attract, their history, and their corporate philosophy and culture. Casual observation indicates that horse tracks are often run by committees and cater to a more affluent (and hence older) demographic. Dog tracks on the other hand tend to be the "working man's race track" as they are more family oriented, and participation costs (owner, breeder) are much less than horses. Motor sport fans tend to be younger, and seem to favor activities that are more individualistic. They often go to the racetrack with friends rather than family, and are infrequent customers. Therefore, management challenges for each of these different venues would be very different. The horse and dog facilities would cater for a more cumulative type of satisfaction, whereas the managers of the motor sport facility would focus more on transaction specific satisfaction.

Elements of the servicescape

Physical servicescape characteristics such as noise level, odors, temperature, colors, textures, and comfort of furnishings may influence customer perception of service quality (Bitner, 1992). Biggers & Pryor (1982), and Maslow & Mintx (1956) suggested that variations in the physical environment can affect service experience perceptions independent of the actual outcome. Mehrabian & Russel (1974) suggested that arousing environments (e.g. in a sports facility) are viewed positively by customers, unless the excitement is combined with unpleasantness (e.g. bad service).

Wholwill (1976) suggests that aesthetically pleasing environments can positively effect customer perception of service quality. Turley & Fugate (1992, p. 41) posits that environmental aesthetics or "atmospherics" are the "controllable factors associated with the internal and external environment of a service facility which elicits an emotional or physiological reaction from consumers". There have been many studies into the effects of atmospherics on customer satisfaction. These include the effects of background music on restaurant diners (Milliman, 1986), how music tempo, scale, and beat influences retail shoppers (Oakes, 2000), how electronic mega screens in leisure-sport facilities affects customer satisfaction (Moore et al., 1999), and how colors in retail outlets influence store image (Andrus, 1986). Bitner (1992) hypothesizes that facility elements such as cleanliness, access, electronic displays (signage), seating, and aesthetics affect customer perception of service quality, and hence customer satisfaction in leisure-sport facilities. It is arguable that customer perception of facility elements in a leisure-sport setting has added importance because customers have only limited contact with service staff, and therefore may view the facility as the service provider (substituting it for human contact).

Kaplan (1987) suggests that preference or liking for particular environments can be determined by three dimensions; complexity (visual richness, ornamentation, information rate), mystery, and coherence (order, clarity, unity). Complexity within a leisure-sport environment could include the furnishings, decorations, and signage present in the service facility. Kaplan (1987) posits that complexity increases emotional arousal, which leads to increased enjoyment of the service episode. This means that customers will prefer well decorated and well laid out facilities, compared to run down and shoddy ones. Coherence deals with how facility elements are laid out. Positive coherence was suggested to enhance positive evaluation, which suggests that customers who experience coherence within a service facility are more likely to perceive the service encounter to be of better quality. In leisure-sport facilities, it is conceivable that spectators would prefer neat and tidy facilities over messy ones, and well laid out and accessible functional areas such as washrooms and concession stands.

The perceived servicescape may also affect people in purely physiological ways. Noise, temperature, air quality, glare and other elements in the servicescape may affect a customer's comfort and hence the perception of service quality (Bitner, 1992). This may in turn influence the enjoyment of the service experience which leads to customer decisions of whether to remain at the venue and repatronage behavior. In a leisure-sport environment, these elements are very hard to control as many leisure-sport spectating servicescapes are open-air and at the mercy of the weather.

Although individual elements within the leisure-sport servicescape are important in determining customer quality perceptions, it is often the "whole package" that is the ultimate standard which determines customer satisfaction. Therefore it is important that the different elements meld in a symbiotic manner and achieve certain "flow". The next section will discuss flow and customer density within service facilities.

Flow and customer density

Eroglu & Machleit (1990) suggests that facility design affects the flow of people in service facilities. They found that there is a positive relationship between retail density and perception of retail crowding. Under high retail density conditions, task oriented shoppers (shoppers who knew beforehand what they wanted to purchase) tended to experience more retail crowding and less satisfaction than non-task oriented shoppers. Perceived risks with the purchase decision, and time pressure associated with the purchase were thought to intensify retail crowding perceptions only under high density conditions. Eroglu & Machleit (1990) posits that when the retail setting is perceived to be uncrowded or moderately crowded, task orientated shoppers may see it as not interfering with their particular shopping goals.

Eroglu & Machleit (1990) also indicate that crowding is a subjective experience, what may feel crowded to one individual may not feel that way to another person in the same situation. However, in certain scenarios, such as at a ball game, some degree of crowding is desirable as this contributes to the "atmosphere" of the event and increases spectator enjoyment. Eroglu & Machleit (1990) also state that situations of extreme crowding where the customer feels uncomfortable are not conducive to customer satisfaction. Hui & Bateson (1991) suggest that in every setting, there has to be an optimal number of occupants for the setting to function effectively. A stadium has to be relatively full in order to have an atmosphere; then the setting is said to be adequately manned.

Crowding in a leisure setting could also have negative effects. These include having to wait in line for food and beverage/wash-rooms during game intermissions, and difficulty in getting to and away from the venue. Extreme crowding detracts from the comfort experienced by customers in a service situation (Bateson & Hui, 1992). Noise, temperature, air quality, glare and other elements in the servicescape may affect the comfort of the customer and hence their evaluation of the service quality (Rinne & Swinyard, 1992).

Leisure-sport servicescape dimensions

Bitner's (1992) Servicescape Model explores non-verbal communication elements within service environments. It depicts the way which physical facility factors can affect cognitive, emotional, and physiological responses in both customers and employees. These facility elements include the way individuals react to service settings, the social interactions that occur in service settings, how the design of the servicescape affects human behavior, internal emotional responses to the service setting, environment, cognition, different dimensions of the servicescape, ambient conditions, layout/functionality of the servicescape, signs, symbols, and artefacts, and finally service typology and environmental dimensions. Bitner (1992) suggests that the physical setting can aid or hinder the service process, which will ultimately determine the success/failure of the service business.

The Servicescape Model (Bitner, 1992) presents a synthesized framework of the servicescape elements and functions discussed so far in this chapter. Here, the elements of the model are developed, discussed, and elements of Bitner's (1992) Servicescape Model are linked to leisure-sport servicescapes.

Atmospherics

Research into the effect of environmental factors suggests that individuals will exhibit either approach, or avoidance behaviors when it comes to place settings (Mehrabian & Russel, 1974; Russel & Snodgrass, 1987). Bitner (1992) proposes that approach/avoidance behavior can be caused by elements within the servicescape such as music (Oakes, 2000), atmosphere (Obermiller & Bitner, 1984), and crowding (Eroglu & Machleit, 1990). In a leisure-sport service facility, such elements are important as they will add to or detract from the customer enjoyment. Let's take music as an example, exciting music such as fanfares and music with fast tempo can add to the excitement and atmosphere at an exciting football game. Music such as slow love songs would seem out of place in such a situation.

The atmospherics within the servicescape can also affect an individual's behavior, and aid or impede the individual in carrying out their planned activities (Bitner, 1992). For example, a first time spectator to a large leisure-sport facility would overwhelmed if the facility were overcrowded. In cases of overcrowding, it is conceivable that a lot of the signage would be obscured, and the first time visitor would find it hard to find their way around the stadium and get to their seat. In this case the atmospherics within the service facility is hindering the spectator from achieving their objectives.

Social interactions

Holahan (1982) suggests that the physical setting can dictate the nature and extent of social interaction within a facility. Partitions, the way seats face, and the placement of communal areas such as coffee machines have an impact on the formation of friendships, small group interaction, aggression, and withdrawal from other people. Baker et al.'s (1994) research into retail environments suggests that the presence, appearance and number of staff on the sales floor of retail outlets has an impact on how consumers perceive the image of the retail outlet. In a leisure-sport setting, the placement of seating, design of service counters, information booths, and open areas such as lawns and picnic areas can either aid or hinder the service production/consumption process, which in turn can affect customer satisfaction. For example, having seating in small pockets, and the provision of open family picnic areas will help spectators interact with one another and form friendships. Interaction between service staff and spectators will also be promoted by using open-plan service areas. As an example, let's take the simple act of buying a ticket at a leisure-sport outlet. Compare buying a ticket from a booth where the ticket seller sits behind bars, with just a small "hole" to dispense the tickets and take payment, to a ticketing counter more in the style of "airline ticket area" which is well lit, and where the service staff are approachable and not "behind bars". The customer will undoubtedly find the latter situation more welcoming.

Servicescape type, environment, and cognition

The type of servicescape that a business operates could project an image about the firms relative positioning in the marketplace (Baker et al., 1994). In research into retail settings, store environment factors such as lighting, merchandise placement, general cleanliness, type of music, color, furniture, layout, and style of décor were found to influence customer perception about the relative market positioning of the store (Baker et al., 1994). It was argued that customers used these cues to decide whether the store was more "upmarket" or more of a "discount" type of establishment.

In the leisure-sport industry, these elements could also be used by customers to judge the "standard" of the facility and hence the level of service they were about to receive. As spectators in leisure-sport facilities interact more with the facility than with personnel. They are more likely to judge the quality of service and merchandise that is being offered based on the appearance and type facility, then when using non-facility intensive services.

Environment and emotion

The built environment can elicit emotional responses from its users. These emotional responses can in turn influence user behavior (Bitner, 1990; Obermiller & Bitner, 1984). Many researchers agree that facility users react to the built environment by feelings of pleasure or displeasure, and that different users have different degrees of reaction to it (Baker, 1987; Baker et al., 1988; Baker & Cameron, 1996; Baker et al., 1994; Mehrabian & Russel, 1974; Oakes, 2000; Obermiller & Bitner, 1984; Russel & Snodgrass, 1987). Bitner (1992) posits that people will wish to remain in environments that they find pleasurable, and avoid/leave those that they find unpleasant. In the leisure-sport setting, providing a pleasant environment can prompt facility users to remain for longer periods of time in the facility. One of the possible benefits of this is that customers who stay longer are more likely to spend more on concession and food and beverage items. Donovan & Rossiter (1982) suggests that there is a positive relationship between length of stay and amount spent in a service situation.

The environment may also elicit another kind of emotion through the number of people (or lack of people) that are in the setting (Hui & Bateson, 1991). As discussed in an earlier section, crowding is a relative term, and how crowded a service setting feels depends on the activities being carried out. In leisure-sport venues, there has to be a sufficient number of people at an event for it to have "atmosphere". This is akin to visiting a fair. There has to be a sufficient number of people at the fair for it to feel "festive".

Dimensions of the servicescape

The servicescape is made up of an almost infinite number of dimensions, although some dimensions are physical, such as; lighting, color, furnishings, seating, décor, temperature. Others are not easily distinguished and measured. For instance, it would be hard to measure the layout of a facility. There could also be various ways of measuring one facility dimension. Is layout to be measured by the throughput (the number of people who can get through a certain point in the facility), or by the flow of customers it creates (the subconscious direction of users to visit certain parts of the facility and not others)?

Environmental psychology literature suggests that people perceive their environments in a holistic manner (Bell et al., 1978; Holahan, 1982). Even though people can see different aspects and objects in a setting, they perceive the setting as a whole, and base their responses to the setting on the whole picture. The built environment within a leisure-sport facility contains many elements that can possibly influence customer satisfaction. Wakefield & Blodgett's (1996) research into baseball and football stadiums indicates that seating, access, electronic displays, cleanliness, and aesthetics have an impact on customer satisfaction.

The servicescape also includes signs, symbols, and artifacts. Bitner (1992, p. 12) proposes that "because service encounter environments are purposeful environments, spatial layout, and functionality of the physical surroundings are particularly important". Spatial layout refers to the way furnishings and equipment is placed in the service facility. Their placement can either hinder or aid the service transaction by determining the flow of the service process. The functionality of furnishings and equipment are also important. Having furnishings and equipment that "do the job" will promote smoother service transactions and hence contribute to service quality perceptions. In a leisure-sport facility, this could include seating, electronic displays, food service counters and machinery. Good seating would undoubtedly make spectators more comfortable, and electronic displays that show instant replays and game statistics would enhance spectator enjoyment.

Another commonly found behavior in leisure-sport facilities is queuing. The spatial layout of furnishings, as well as facility design is suggested to affect queuing behavior. Baker & Cameron (1996) proposes that queuing affects customer satisfaction. In their study of queuing in banks, they found that banks could shorten queuing times just by changing the layout of the facility, and therefore increase customer satisfaction. Queuing is also made more bearable by the introduction of music, television, or some other form of entertainment. This translates directly to the leisure-sport industry, where queuing is a fact of life for many customers. The careful planning of facility layout could minimize the dissonance spectators feel when queuing for ancillary services (especially when the facility is packed).

Ambient conditions

These are the conditions within the facility that affect the five senses (Bitner, 1992). These include sound, lighting, music, noise, temperature, and odors. However, some ambient conditions are imperceptible to humans. These include high pitched sound, low vibrations, and chemical scent compounds which may have an effect on facility users who spend extended periods of time in the facility (Russel & Snodgrass, 1987).

Ambient conditions in leisure-sport facilities include man-made and natural factors. Management is able to control man-made ambient factors such as music, and chemicals. However, as many leisure-sport stadia are of the open-air type, weather conditions often dictate temperature and lighting. Management hardly has any control over environmental noise and smells that intrude upon the facility from nearby sources.

This thesis adapts elements of Bitner's (1992) Servicescape Model for use in the leisure-sport industry. Servicescape elements that are studied are; the spatial layout, seating, electronic displays, furnishings, interior/exterior color schemes, and cleanliness. This presents a more focused study on the facility elements which spectators most often come into contact with, and therefore, should have the greatest impact on servicescape quality perception. Other elements, such as temperature, noise, odors, glare, and music were not included because these were beyond the control of the researcher. Wakefield & Blodgett (1996) conducted a similar study on football and baseball stadiums in the United States of America. They looked at how layout, accessibility, seating, electronic displays, cleanliness, and aesthetics affected customer perceptions about the quality of the servicescape, desire to remain in the servicescape, and repatronage intentions. However, as these sports were "fan-based" sports, the respondents of that study did not really have a choice about the venues they frequented. This study has adapted theory from Bitner (1992), and adopted the scales for the questionnaire from Wakefield & Blodgett 's (1996) study. Both Bitner's (1992) and Wakefield & Blodgett 's (1996) models will be further developed in the next chapter which deals with the conceptual framework and hypotheses development.

Conclusion

This chapter outlined relevant research about service marketing and customer satisfaction. Different viewpoints of service satisfaction research were presented and linked to the leisure-sport industry. Discussion of the service facility's contribution to perceived service quality was presented, as well as issues about customer loyalty and satisfaction. Relevant literature about the uniqueness of sport as a service was included to show how leisure-sport may be distinct from other service industries.

The lack of research into how different aspects of leisure sports facilities affect customer satisfaction has prompted extensive discussion about service marketing literature in general. This was done in order to lay the groundwork for the next chapter where the conceptual framework and hypotheses of this thesis are discussed.

Chapter 3

Conceptual framework and hypotheses development

Introduction

The conceptual framework ties together the different constructs of disconfirmation of expectations literature (customer quality perception, satisfaction, desire to remain, and repatronage intentions) with the servicescape literature presented in the previous chapter. Bitner (1992) proposed the Servicescape Model, which Wakefield & Blodgett's (1996) adapted to study five servicescape dimensions in casinos, football, and baseball stadiums. These five servicescape dimensions (spatial layout, aesthetics, seating, cleanliness, and electronic displays) are discussed in detail in this chapter. While the Structural Equation Model of this thesis has its roots in Bitner's (1992) Servicescape model, it borrows much of its structure, and the scale items for the questionnaire from Wakefield & Blodgett's (1996) study.

This thesis focuses on spatial layout, aesthetics, seating, cleanliness, and electronic displays that were part of Bitner's (1992) Servicescape Model. While the Servicescape Model (Bitner, 1992) examines the responses of both employees and customers, the Structural Equation Model of this thesis focuses only on customer perceptions of the servicescape, and their behavior based on these perceptions. Whereas Bitner's (1992) model explores the servicescape in general terms, the model tested in this thesis focuses on the elements within leisure-sport servicescapes that spectators most often come into contact with. It is argued that within the physical service facility, these elements make the biggest contribution to customer perception of servicescape quality. This perception in turn affects perceived servicescape satisfaction levels. Satisfaction levels with the servicescape are further posited to lead to desire to remain at, or leave the service facility, as well as repatronage intentions.

This chapter develops the servicescape model and presents relevant theoretical evidence supporting the five servicescape elements. The hypotheses of this study will also be discussed in detail.

Servicescape dimensions

Bitner (1992) proposed a model where the servicescape is viewed as a framework of elements. These elements act to influence a customer's frame of mind and subsequently, their evaluation of the service encounter. Bitner's (1992) model contains environmental factors which are grouped into three categories. These are ambient conditions, space and functionality, and physical tangible objects (signs, symbols and artifacts) which influence customers' perceptions of service levels. As discussed in the previous chapter, ambient conditions refer to background servicescape elements such as temperature, lighting, and smells. Bitner (1992, p. 12) refers to space and functionality as "spatial layout and functionality", these are how the facility is laid out, as well as the positioning of furniture and equipment within the service facility. Physical tangible objects are the items within the physical facility which serve the purpose of communicating explicit or implicit messages to users (Bitner, 1992). These serve a utilitarian function (e.g. signage), and can also help the customer assess the relative market position of the service provider (e.g. upmarket versus discount). Customer assessment of the service environment is posited to depend on a combination of these and other holistic factors which leads to customers forming opinions about the service levels that the facility is capable of providing.

During the service encounter, customers will observe and subconsciously evaluate the service production process. These observations, in turn, lead to attitude formation. The attitude could be positive (satisfaction), negative (dissatisfaction), or neutral (no opinion). Post-purchase behavior is hypothesized to depend on the attitude formed, and customers will either choose to return and use the service facility again, or avoid repatronizing the facility in future. Satisfaction with the service could also lead to customers' wishing to spend more time in the venue. Bitner's (1992) framework for understanding how the environment affects customer satisfaction in a service facility is presented graphically in Figure 1 (next page).

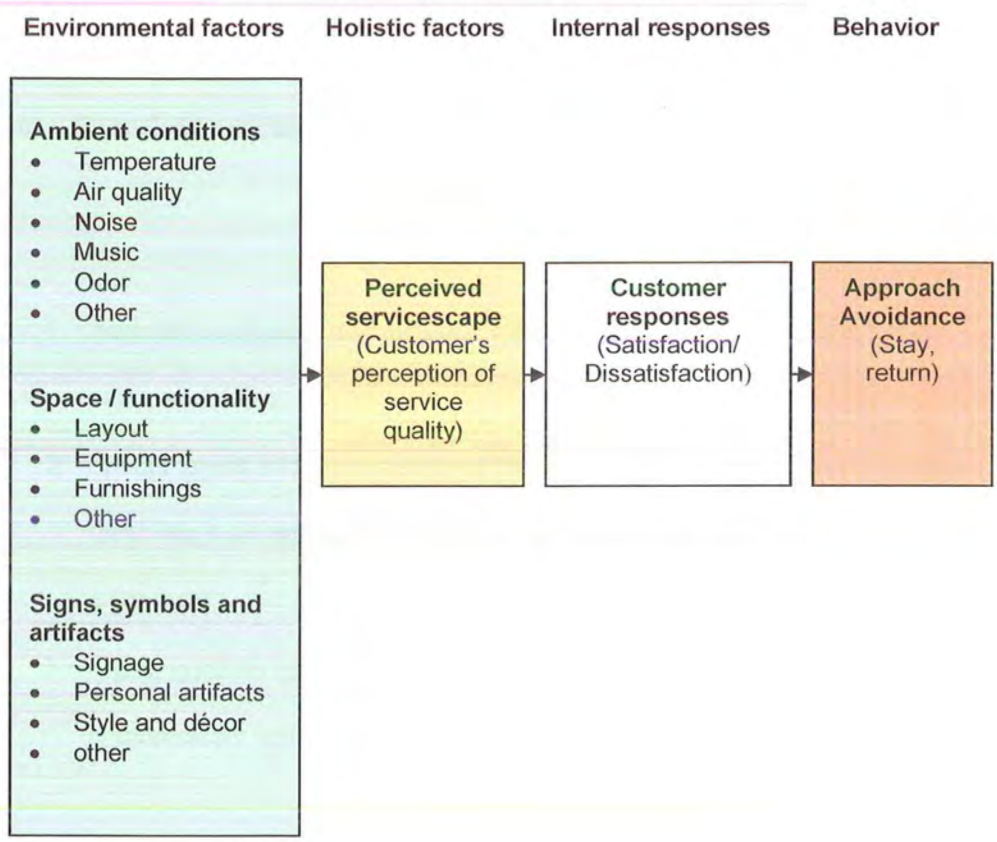


Figure 3.1

Bitner's Servicescape Model for understanding how the environment affects customer satisfaction in a service facility (Bitner, 1992).

Bitner (1992) proposed that leisure-sport servicescapes are made up of three main dimensions. Elements in these dimensions influence consumer perceptions of service facility quality. Quality perception would then affect customer satisfaction/dissatisfaction, which in turn affects customer behavior during the service encounter, as well as future behavioral intentions towards the service facility. The three dimensions were identified as:

1. Ambient conditions that included weather, temperature, air quality, noise, music and odors.
2. Spatial layout and functionality of the service facility, for instance the way furnishings are arranged and the way the furnishings facilitate customer enjoyment.
3. Signs, symbols and artifacts, for instance signage and décor used to communicate and enhance a certain image or mood.

Bitner (1992, p. 47) labels the second and third dimensions as the "built environment" where variables within that environment can be controlled easily by facility management. The primary focus of this thesis is on the built environment of leisure-sport service facilities; especially the spatial layout, space and functionality, furnishings, signage, and décor elements of these venues. These five servicescape elements are chosen because they are the ones that spectators in leisure-sport facilities spend the most time interacting with. As spectators have only limited contact with service personnel, they often come to view the facility as the service provider, treating the facility as a surrogate for service staff. Social interactions are not part of this study because it is an inherently "fuzzy" concept, and is hard to quantify without lengthy interviews. Lengthy interviews were judged as inappropriate in these service settings because they would take too much time, and take the respondent away from the primary purpose of their visit; which could cause them to feel resentment about being interviewed. However, this study acknowledges that social interactions between spectators, and to a certain extent service staff, do play a part in the overall service satisfaction picture. Service typology (market positioning) of leisure-sport facilities was not considered due to the fact that the venues being studied were more or less of the same age, type, and appearance. Being open air stadia around the Perth, Western Australia metropolitan area, they are familiar landmarks to customers; hence it may be difficult for them to describe the "market position" of these venues.

Ambient conditions are not considered in this study as ambiance is often difficult to control in an open air stadium. The weather, air quality, and impact of noise from other sources besides the stadia are elements that are beyond the control of the researcher. However, it is recognized here that ambient conditions do play a part in spectator satisfaction levels during an event.

The Structural Model

In the five servicescape constructs (Layout Accessibility, Facility Aesthetics, Seating Comfort, Electronic Displays, and Facility Cleanliness) will be discussed in detail. The hypotheses will also be developed and presented. Figure 3.2 is the graphical representation of the hypothesized Structural Equation Model.

Wakefield & Blodgett (1996) conducted a study on leisure services in college football, minor league baseball, and casinos in the USA. Their Hypothesized Model (Wakefield & Blodgett, 1996) is identical to the Structural Equation Model of this study. The questionnaire of this study also utilizes essentially the same questions (modified for different leisure-facilities) as Wakefield & Blodgett (1996), with the addition of one extra question measuring repatronage intentions. Where this study differs is in the type of leisure facilities that are being studied. Whereas Wakefield & Blodgett (1996) surveyed fan-based leisure-sport, and a gambling leisure venue, this study focuses solely on non-fan-based leisure-sport facilities. This is because the researcher posits that choice of facility plays a big part in determining customer satisfaction. As sports fans often travel to venues that their teams play in, they have little choice in terms of venue. With non-fan-based leisure-sport, spectators have a say in which venue they wanted to visit.

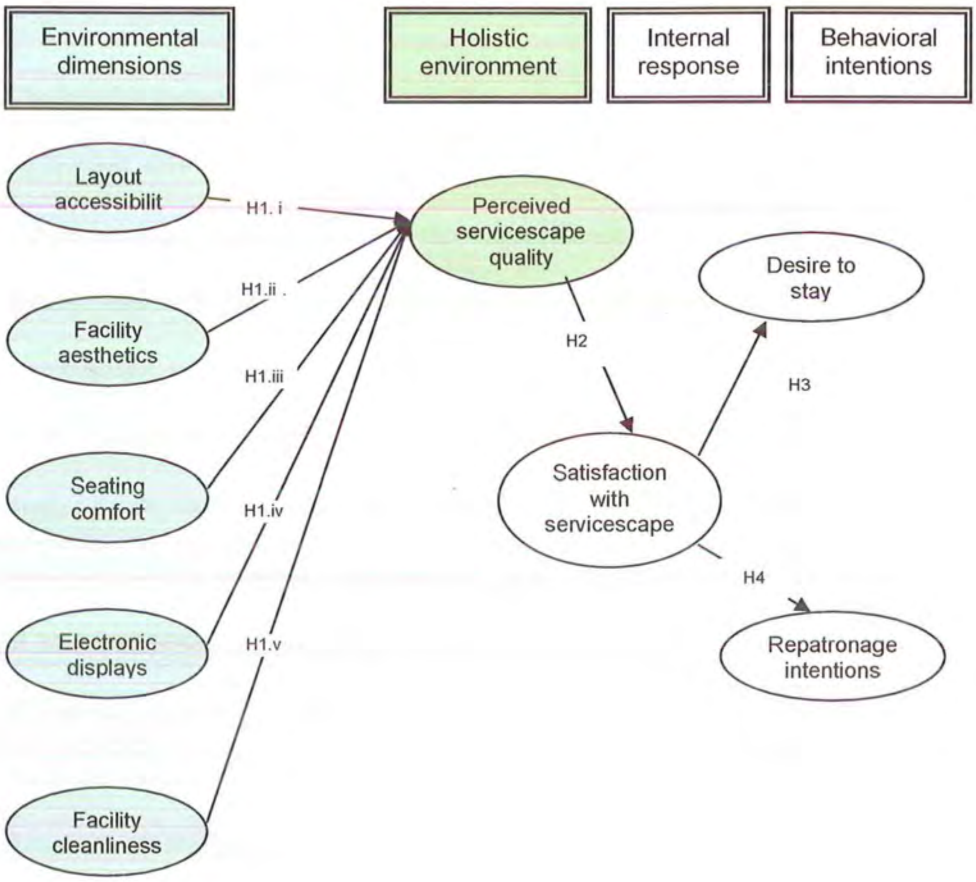


Figure 3.2
Hypothesized Structural Equation Model borrowed from Wakefield & Blodgett (1996)

Layout accessibility

The interior layout and design of a facility refers to the way that furnishings, equipment, service zones, and access paths are arranged and how these elements of the servicescape facilitate usage of the venue (Bitner, 1992). In a leisure-sport facility, these elements will aid or hinder customer access to different areas of the servicescape, including access to and from seating areas, food and beverage/retail outlets, washrooms, ticketing, transport, as well as entry and exit from the facility. In many service situations, the ease of access to/from different areas of the facility, especially during times of heavy traffic (e.g. during intermissions, at the start and end of an event) should have an impact on how customers view service quality. The design and layout of corridors and walkways should also be important to customers, especially during peak periods, as their design would help/hinder customer movement. Access to seating/spectating areas is also important. This is because of the inherent mobility of customers in non-team-based leisure-sport facilities where the events occur in a stop-and-go manner. This leads to the first hypothesis:

H1.i : Facility lay-out accessibility will have a positive effect on the perceived quality of the servicescape.

Facility appearance

Customers are likely to evaluate a facility based on the exterior of the venue (Baker et al., 1988; Kerin et al., 1992). Atmospherics contribute to customer perceptions of the servicescape, provide added hedonistic appeal and contribute to customer evaluation of the image and ability of the organization that occupies the venue (Baker & Cameron, 1996; Bitner, 1992). This has proven to be the case where there is an absence of other cues on which customers can base their perceptions (Turley & Fugate, 1992). Once inside the facility, the customer often spends hours either consciously or subconsciously observing the appearance of the venue. In addition to the architectural design of the facility, customers in leisure-sport facilities may be influenced by color schemes, wall coverings, and furnishings. Research into consumer reactions to salient cues have indicated that dull or unpainted facades and furnishings may be relatively unattractive compared to brightly colored ones (Tom et al., 1987). Other aspects of the service facility that may have an impact on customer service quality perception include signage, banners and pictures which may serve to enhance perceived servicescape quality. This leads us to the second hypothesis:

> *H1.ii : Pleasing facility aesthetics will have a positive effect on the perceived quality of the servicescape.*

Seating comfort

In many leisure-sport settings, customers spend an extended amount of time in the facility (Bitner, 1992; Oakes, 2000; Wakefield & Blodgett, 1994, 1996). Often a large part of this time is spent sitting down observing or participating in the entertainment, placing a premium on seating comfort. Seating comfort can be affected by the seat itself (padded, ergonomically designed, age of the seat) and the space between seats. Barker & Pearce (1990) suggests that customers often experienced discomfort and crowding if forced to sit too close to other customers. It is arguable that this effect will be magnified if the person next to them is perceived as unattractive. Eroglu & Machleit (1990), and Hui & Bateson (1991) posit that cramped seating in leisure settings were perceived by customers to be displeasing and of poor quality. The widths of seating rows are also important in leisure settings. The amount of space between rows of seats may affect the movement of customers around the facility during the service encounter. Seating rows that are too close together mean that customers will have to get up in order to let another customer pass and will impede movement of people who are getting up to visit restrooms and concession outlets. This will detract from the enjoyment of the entertainment being offered. Therefore the third hypothesis is:

> *H1.iii : Comfortable seating will have a positive effect on the perceived quality of the servicescape.*

Electronic equipment and displays

Electronic equipment and displays are becoming increasingly common in modern leisure facilities. Wakefield & Blodgett (1996), and Moore et al. (1999) suggests that electronic displays should enhance a customer's leisure experience by either improving the primary service offering (e.g. instant replays) or as an ancillary device (e.g. scoreboards or intermission entertainment).

High quality electronic equipment and displays will enable the spectator to experience the leisure event on a new level, for instance at a stadium where certain seats may not provide an optimal view of the entire playing field, a customer can follow a game on mega-screens. These same screens can also be used to generate excitement by providing extra commentary, scores, player information and highlight videos during the event (Wakefield & Blodgett, 1996). In many cases, television screens are also provided at betting, as well as at food and beverage areas to telecast the proceedings "on the field". This enables patrons to follow the event while utilizing food and beverage or gaming outlets. Therefore the next hypothesis is:

H1.iv : High quality electronic equipment, displays and scoreboards will have a positive effect on the perceived quality of the servicescape.

Cleanliness

Cleanliness in retail stores has been found to exert a strong influence on service quality perceptions (Gary & Sansolo, 1993; Miller, 1993). In situations where the customer spends extended periods of time in a service facility, it is conceivable that cleanliness of the facility would increase the overall pleasure of the service experience. Wakefield & Blodgett (1994) suggests that consumers associate cleanliness with servicescape quality. This applies to all aspects of the facility, from facility floors to the condition of garbage cans. Cleanliness within restrooms could also contribute to a customer's overall evaluation of servicescape. Cleanliness is cited as a particularly important aspect of the servicescape (Wakefield & Blodgett, 1994). This is understandable as customers who visit washrooms often have to spend extended periods of time within the restrooms in queues. Many people may be upset by odors and wet floors within restrooms. Wakefield & Blodgett (1994) also suggests that cleanliness in the seating, food service and food consumption areas are important to customers. It is conceivable that having garbage strewn about in these sections of the facility will detract from the overall satisfaction levels experienced by customers. Therefore, the next hypothesis is:

H1.v : Cleanliness will have a positive effect on the perceived quality of the servicescape.

Perceived quality, satisfaction and behavioral intentions

According to Bitner (1992), customers with positive experiences in a service facility are more likely to remain in the facility for longer periods of time, and exhibit repatronage intentions. Repatronage behavior, the amount of money spent and length of stay may be the deciding factors in the long term success of a leisure-sport venue.

Customers who initially visit a facility because of interest in the primary attraction may not revisit the venue if they are not satisfied with the physical surroundings. Customer length-of-stay should be a primary concern to facility managers because the longer a customer remains in a facility, the more money they are likely to spend. The link between length of stay and amount spent has been demonstrated by research into retail service settings (O'Neill, 1992). Bateson & Hui (1992) suggests that the amount of time a customer spends in a service facility has an impact on their desire to revisit the facility. The longer a customer is willing to remain in a service venue, the more likely they are to re-visit the venue. Based on Bitner's (1992) framework and on previous findings in service marketing (cf. Cronin & Taylor, 1994; Parasuraman et al., 1994b), similar quality perception, satisfaction and behavioral intention relationships should hold true for leisure-sport servicescapes. Therefore the remaining hypotheses are proposed:

H2 : *Higher perceived servicescape quality will result in increased customer satisfaction.*

H3 : *Increased customer satisfaction will have a positive relationship with customers' desire to remain in the servicescape.*

H4 : *Increased customer satisfaction will positively affect repatronage behavior*

Conclusion

Wakefield & Blodget's (1996) Hypothesized Model for relationships between servicescape variables, which was developed from Bitner's (1992) Framework for understanding how the environment affects customer satisfaction in a service facility highlights the importance of further research into how the elements in spectator based leisure-sport facilities will affect customer satisfaction. Areas such as seating, electronic displays, scoreboards, cleanliness, aesthetics and facility layout have been discussed in this chapter and resulting hypotheses proposed. In Chapter Four, the hypothetical constructs are operationalized, and methodology for conducting the survey discussed. The research design for the study is outlined and sampling procedures used in this thesis reported.

Chapter 4

Methodology

Introduction

This chapter provides the methodology for the study. Details about how respondents were selected and approached, as well as research design/development are also reported. In addition, the data analysis plan is presented along with justification for the methods used. This methodology chapter describes and defines the different steps taken in the sample selection and data collection processes. Quantification of research variables, development of the research instruments, and data analysis procedures are also reported. Where appropriate, previous studies have been referred to as support for the methodology employed.

Sample

Data were collected during the period of October-November 2002. The target population consisted of individuals who were above 18 years old, and who were patrons of various leisure-sport facilities in and around Perth, Western Australia. The main reason for not including minors in the study was due to issues of parental consent, and because in the types of leisure-sport settings studied, it is often the adult who makes the decisions about expenditure, length of stay, and repatronage (Singer & Tolliver, 2001). Another reason that minors were excluded from the sample was because of their limited patronage behavior in the selected facilities due to gambling activities and alcohol sales. Adults were also deemed as the most suitable target population because of the ability to provide answers based on their own opinions. They were also assumed to possess the ability to consciously compare personal expectations about service quality with the actual service outcomes.

Sampling frame

800 questionnaires were distributed resulting in 703 valid cases. This was determined to be a sufficient working population because according to Hair, Anderson, Tatham, & Black (1998, p. 167), the ratio of observations to independent variables for Structural Equation Modeling should not fall below five responses to one variable in

order to minimize the risk of "over fitting" the data. Hair et al. (1998) further suggested that the optimum number is between twenty observations to one variable, if this level is reached, then the results obtained from the empirical analysis should be generalizable if the sample is representative of the population.

Other than the age restriction, there were no other prerequisites. The working population for this study consisted of individuals who physically attended an event at the selected leisure-sport venues on data collection days. Staff, players and any other individual connected with the provision of the leisure event or facility were excluded from the sample due to possible bias in their attitudes towards the facility. The venues and dates for data collection were:

- Gloucester Park (Harness Racing), 11th October, 2002
- Ascot Race Course (Gallops), 14th October, 2002
- Mandurah Greyhounds W.A. Track (Greyhound Racing), 22nd October, 2002
- Belmont Race Course (Gallops), 25th October, 2002
- Alf Barbagallo Raceway (Motor Vehicle Racing), 27th October, 2002
- Cannington Greyhounds W.A. (Greyhound Racing), 7th November, 2002
- Kwinana QUIT Motorplex (Motor Vehicle Racing/Drag strip), 9th November 2002

Sampling unit

Sample units were drawn from the working population using a systematic random sampling process. This probability sampling technique enabled researchers to collect data from a cross section of the people present at each venue. Zikmund (2000) suggested that cross-sectional data enhances the generalizability of results obtained from the sample. In practical terms, collection venues were divided into "zones" and individual interviewers worked through these zones in two sweeps during each data collection session. Individuals were approached in a systematic manner, with interviewers approaching the respondents, obtaining their consent, handing out surveys and later returning to collect them. Participant refusal was dealt with by simply moving to the next available respondent.

Research design and quantitative development

A field study approach was chosen due to the benefit of having respondents "in-situ" to evaluate the venue based on direct interaction with the facility. Respondents were able to observe and experience the servicescape directly, and subsequently report on their perceptions. This was judged to be a more valid method of data collection as opposed to relying on respondent memory when surveying respondents after the service encounter. This method was also chosen because depending on individual events, facilities and venues exhibited variation in cleanliness and ease of accessibility to different functional areas. It was decided that taking a "snapshot" of the facility during the timeframe of a single event was the most appropriate method of having respondents appraise their perceptions of the venue.

Use of a two stage sampling process; where the working population was first defined as a cluster (people who visit leisure-sport facilities), and then using a systematic random sampling method of choosing sampling units yielded a sample with a broad cross-section of respondents. Cross-sectional data increases the validity of results by being able to produce more representative samples of the population of interest (Zikmund, 2000).

Validity, reliability and generalizability

Internal and external validity of this project was addressed by using a combination of laboratory and field experiments (Zikmund, 2000). Laboratory type interviews in the form of (informal) expert interviews (Fontana & Frey, 1994), and a pre-test panel for the questionnaire were utilized. Hussey & Hussey (1997) suggested that using these methods to develop and pre-test the survey will increase the internal validity of the project. Validity of findings was also enhanced through the process of triangulating results with findings of other studies.

Additional validity checks were informal interviews with industry experts from local academic institutions as well as managers of local leisure-sport facilities. This provided insight into the appropriateness of the thesis constructs and aided in operationalizing the different dimensions of this study.

Scales used in the survey instrument were borrowed from Wakefield & Blodgett (1996) who surveyed college football, minor league baseball and casinos. The scale items of Wakefield & Blodgett's (1996) study exhibited high (>0.77) Cronbach Alpha's (Cronbach, 1951). By essentially replicating the scale and inserting one additional item, reliability of the survey instrument was maintained. To further ensure validity and reliability of the survey, pre-testing with a group of respondents was carried out and the survey instrument revised.

Statistical tests such as Tucker Lewis index (Marsh, Balla, & McDonald, 1988) and CFI (Bentler, 1990) were used to estimate the fit of data to the general population, thereby increasing generalizability of findings.

Questionnaire development

The main data collection instrument of this study was a quantitative questionnaire that utilized fixed alternative responses (Zikmund, 2000). Questionnaire development was undertaken over four stages:

Stage 1 – questionnaire scale items were obtained from literature, principally from Wakefield & Blodgett (1996).

Stage 2 - informal expert interviews to test theoretical concepts from literature.

Stage 3 - pilot test using test panel.

Stage 4 - questionnaire revision.

The main aim of this survey was to identify how physical servicescape factors affect customer satisfaction and subsequently repatronage intentions.

Scale development

Multivariate scales were developed for each of the Structural Equation Model constructs according to recommendations by Churchill (1995). The final survey was developed following the test-panel as detailed above. Modification of the scales for the final questionnaire was carried out based on statistical examination using covariance and correlation measures, reliability analysis (Cronbach Alpha), and factor analysis as suggested by Hair, Anderson, Tatham, & Black (1998). A sample of the questionnaire is available in Appendix 1.

Scales that were used were adapted from Wakefield & Blodgett (1996). An example of the questions used appears here

	Strongly agree				Strongly disagree
This facility maintains clean restrooms	1	2	3	4	5

and

The quality of this facility is:

Terrible --- : --- : --- : --- : --- : --- : --- Great

Much worse than I expected --- : --- : --- : --- : --- : --- : --- Much better than I expected

Wording for the questions in the survey were modified slightly for each venue in order to suit the particular needs of that facility. For instance, if it was a horse race instead of a greyhound race, the words "horse race" were used instead of "greyhound race".

Operationalization of concepts

The five servicescape concepts used in the questionnaire were operationalized in the following manner:

- Perceived servicescape quality and satisfaction was measured with scale items adapted from Wakefield & Blodgett (1996). They suggested that customers perceived servicescapes relative to performance, expectations and normative standards. Satisfaction is assumed to correlate and fluctuate according to the respondent's affective response to the various areas of the servicescape.

- Repatronage intentions were measured using a single question similar to that used by Cronin & Taylor (1994) where respondents were asked to indicate their future intentions of revisiting the venue.

The question for repatronage intentions was added to the questionnaire as Wakefield & Blodgett's (1996) survey instrument did not contain a measure for repatronage intentions.

The survey (Appendix 1) was unmasked in nature (Churchill, 1995) with a cover letter and an opening paragraph stating the purpose and intentions of the study. Respondents were assured of the confidentiality of their responses. There was a statement stating that if the respondent answers and returns the survey, they had implied consent for the researcher to use the data.

The questionnaire was split into three sections.

- Section One surveyed respondents about their perceptions of the facility.
- Section Two had three Semantic Differential questions that gauge the respondent's overall impression with the venue, satisfaction with the facility and repatronage intentions.
- Section Three collected limited demographic information about the respondent, namely: age, occupation and gender.

Materials and methods

Expert interviews

The theoretical concepts of this study, and the questionnaire were discussed in informal face to face and telephone interviews (Fontana & Frey, 1994) with three expert sources from local industry. These sources were from management of three of the facilities of interest. Remarks and insights offered by the interviewees were taken into consideration and changes made to the questionnaire where appropriate. Interviewees were shown the questionnaire, consulted on scale items, possible omission of important areas of the servicescape, superfluous questions and compatibility of the survey instrument with the needs of management.

Pilot test

A pilot test of the questionnaire was conducted using a test panel of thirteen respondents. The test panel was a convenience sample (Hussey & Hussey, 1997) of students from a second year Marketing Research class at Edith Cowan University. Test panel members were asked to evaluate the questionnaire in terms of appropriateness of language used, layout of questions, question sequencing, instructions and scales. This served as a final test of the questionnaire before the main field study.

Data analysis

SPSS 11 (SPSS, 2001) and Lisrel 8 (Joreskog & Sorbom, 1993a) were used to test the proposed Structural Equation Model. A two stage approach was utilized, as suggested by Long (1983). A exploratory factor analysis was first carried out using SPSS (SPSS, 2001), and subsequently a structural equation model was estimated using Lisrel 8 (Joreskog & Sorbom, 1993a).

Measurement models for Structural Equation Modeling

Two measurement models were constructed using Lisrel (Joreskog & Sorbom, 1993a). A search of literature has shown this to be a common and accepted practice (Cronin & Taylor, 1994; Wakefield & Blodgett, 1996). One measurement model was for the ξ constructs (the five servicescape factors); the second measurement model was for the η constructs (perceived quality, satisfaction, repatronage intentions and desire to stay). The ξ and η models were then confirmed and evaluated.

Bentler's Comparative Fit Index (CFI) (Bentler, 1990), the Tucker-Lewis Index (Tucker & Lewis, 1973) and the Goodness of Fit Index (GFI) (Joreskog & Sorbom, 1993a) were used to evaluate the fit of the Structural Model. The reason these indices were utilized instead of the chi-square ($\chi2$) was due to the size of the estimation sample (n=352); the $\chi 2$ statistic has been shown to be problematic with sample sizes larger than 200 (Tanaka, 1993). Justifications for not being totally reliant on the $\chi 2$ are:

1. **Sample size**: Chi-squares are more likely to be significant for samples of more than 200 cases (Type I error). On the other hand poor models may be accepted in studies with smaller sample sizes (Type II error).
2. **Model size**: Models with more variables and more complicated models tend to have larger chi-squares.
3. **Distribution of variable**: Highly skewed and kurtotic variables increase chi-square values.
4. There is always some **lack of fit** because of omitted variables.

The following section explains the strengths and weaknesses of the various fit measures that were used in estimating the overall fit of the Structural Equation Model. The fit indices employed were the goodness-of-fit index (GFI), Comparative Fit Index (CFI), and Tucker-Lewis Index (NNFI).

Goodness-of-Fit Index (GFI)

GFI (Joreskog & Sorbom, 1993a) is least affected by sample size, it is the percent of observed covariances explained by model implied covariances. In other words, R^2 in multiple regression deals with error variance whereas GFI deals with error in reproducing the variance-covariance matrix. GFI assesses the degree the actual covariances or correlations as predicted by the estimated model. "GFI measures are computed only based on the total input matrix and does not make any distinction between exogenous and endogenous constructs or indicators (degrees of freedom)" (Hair et al., 1998, p 580).

Comparative Fit Index (CFI)

The CFI is also known as the Bentler Comparative Fit Index (Bentler & Chou, 1987). CFI compares the proposed model with a baseline (null) model. The null model assumes that the latent variables in the model are uncorrelated (independence model). Comparison of the null and independence models is achieved by comparing the covariance matrix predicted by the model to the observed covariance matrix, and compares the null model (covariance matrix of 0's) with the observed covariance matrix. This comparison process gauges the percent of lack of fit which is accounted for by going from the null model to the existing model. CFI penalizes for sample size, with models containing more than 200 cases showing increasingly poor fit. CFI also takes into account degrees of freedom present in the model.

Tucker-Lewis Index (NNFI)

Tucker-Lewis Index, also known as the non-normed fit index (NNFI), is an incremental fit index that strives for model parsimony by penalizing for model complexity (Hair et al., 1998). It is a comparative index between the proposed and null models while taking into account degrees of freedom, and is one of the fit indexes that is least affected by sample size (Tucker & Lewis, 1973). NNFI is very much similar to CFI except that it strives for model simplicity.

Structural Equation Model

Analysis of the structural model was relatively similar to the measurement model. The same fit indices were utilized. However, in the structural model, respecification of the model was carried out with the final model resting on the results of the overall "fit" of the data.

Additional explanation and literature about the various fit indices will be provided in the results section. This is because it was felt that justification for the theoretical and empirical decisions regarding model estimation would be easier to understand by "walking" the reader through the data analysis process.

Research limitations

A number of problems and limitations were explicit in this research project. The first was the suitability of the chosen venues. The venues that were utilized in this study were chosen because of the type of leisure-sport product they offer. It was imperative that facilities offering non-team-based sports were studied. This was because in team-based sports, spectators or fans will frequent a facility, even if they do not like the venue, just to support their team. However, many of the venues that were studied had "members" or clubs. These clubs were made up of people who were highly involved in the industry (i.e. horse breeders, race car owners) who frequented the facilities regularly. Although this may have biased the results to a certain extent, care was taken to avoid surveying individuals who were actively involved in running the event, or who provided competition for the event (e.g. owners or jockeys).

The second potential limitation was the issue of choice. Many of these facilities offered events that were unique, for instance cart and drag racing. Because Perth is a city that covers a large geographic area, similar facilities are often located far from one another. This may result in a "captive audience" because of spectators' unwillingness to travel to other venues that may be far away from their place of residence. Respondents were informally asked about their town of residence, and it appeared that many had traveled long distances to visit the facilities.

The third limitation is a problem that occurs when participants answer questions in a certain manner. The common response errors that are found when conducting survey research are acquiescence bias, and desirability bias (Zikmund, 2000). Both are forms of "yea saying" where the participant agrees with all questions in order to create a favorable impression on the interviewer. Although response bias was noted, no such problems appeared present in the study.

The fourth limitation concerned the limited research done on this area, particularly in Australia. There has been no published large-scale study in the area of servicescapes combining all of these different sporting facilities. Nor was there much research into the drivers of customer satisfaction with leisure-sports facilities in general. To minimize this shortfall, a comprehensive literature review has been undertaken to provide greater understanding of the topic.

Ethical considerations

As this study involves human subjects, ethical considerations in the Doctoral & Masters by Research Handbook (Graduate School, 2002) have been to be taken into account. According to the Western Australian Education Department, the welfare of all human participants has to be properly considered and protected.

Due to the unmasked nature of this study, participants were informed throughout the data collection process of the nature of data being collected and the purposes that it was to be used for. Consent was sought and respondents were asked to sign a consent form prior to interviews and focus groups (Appendix 2). There was a statement in the questionnaire which informed respondents that by answering and returning the survey, they implied their consent (Appendix 1). The survey also included a cover letter detailing the study and contact numbers of the researcher and an independent third party if respondents had queries.

In the interviews, interviewees were pre-briefed about the activity they were about to undertake. Interviewees were informed that they were able to pull out of the study at any point. The briefing was as clear and unambiguous as possible. A description of the study, its purpose, usefulness, expected benefits, methods and risks was explained to subjects. Participants were informed of any side effects (none in this study) that would arise out of their participation.

Confidentiality of responses was assured. Names were not asked of the respondents. The only demographic data (optional) gathered were: Gender, Occupation, and Age.

The rights of religious and cultural groups were respected. If a certain religious or cultural variable prevented a person from participating in the study, they were given the choice of withdrawing from this study.

There were no minors included in this study. Tertiary students that participated in this study were expressly informed that their participating in this study would not form part or in whole any assessment of any courses that they are undertaking, have undertook, or will undertake in any institution.

To ensure and maintain confidentiality, the coding system used to electronically code data was known only to the researcher and all data was password protected. Following the completion of the research, all data sheets and survey forms will be kept in a locked cupboard in the research supervisor's office for a period of five years. After five years, all survey forms will be destroyed by shredding.

No electronic recording was taken of any interviews. The interviewees simply perused the questionnaire and made comments. There are no recordings of the interviews.

Chapter 5

Findings

Introduction

Results from the empirical analysis of this thesis are presented in this chapter together with pertinent literature on the data analysis techniques used. The chapter is divided into seven sections. The first reports the demographic profile of the respondents. The second section provides information on normality, homoscedascity and linearity of the data. Included in section two is how missing data was treated before structural equation modeling was carried out. The third section deals with the validity of the question wording and scales using Cronbach's Alpha scores. Section four describes factor analysis results. The fifth section explores results of the structural equation model that has been developed for this study. Goodness-of-fit measures for the Structural Equation Model are compared in section six. Finally, section seven deals with issues of fit interpretation and model modification. Relevant terminology of the statistical techniques used in the data analysis process was included in this chapter to help readers who are unfamiliar with some of the tests utilized here.

Section one - Respondent profile

Seven venues were utilized as data collection points. They were:

- Belmont Race Course (Gallops)
- Ascot Race Course (Gallops)
- Gloucester Park (Harness Racing)
- Cannington Greyhounds W.A. Track (Greyhound Racing)
- Mandurah Greyhounds W.A. Track (Greyhound Racing)
- Alf Barbagallo Raceway (Motor racing)
- Kwinana Quit Motorplex-Speedway (Drag racing)

The data collection effort yielded 703 usable questionnaires from 800 surveys that were distributed. 88 questionnaires were not returned to the interviewers and nine were rejected due to "yea saying" and incomplete data. Due to agreements with facility management of the various venues that participated in the survey, all identifying codes for individual facilities have been removed and the dataset has been treated as a single body of data. Also, respondents were not linked to specific facilities. From the 703 valid surveys, 417 were from the horse racing industry, 84 from dog racing, and 202 from motor racing.

Table 5.1 Respondent occupation by percentage

Profession	Percent
Retired / Pensioner	5.7
Professional	14.8
Self Employed	14.4
Clerical	10.7
Blue Collar	7.1
Managerial / Executive	8.3
Home Maker	4.7
Student	18.9
Unemployed	1.6
Other	11.9

Due to the nature of the survey, only limited demographic information was collected. The oldest respondent was 100 years old and the youngest was 18. Average respondent age was 33 years old. Males made up slightly more than half of the respondents (56.5 %). Respondent occupation is reported in Table 5.1. 67 percent of those surveyed were in paid employment, students made up 19 percent, retirees six percent, and five percent of the participants of this study were homemakers.

Data normality

Before undertaking any type of multivariate data analysis, it is always prudent to first examine the data for normality, homoscedascity and linearity. Hair et al. (1998, p. 39) suggests four steps to the data examination process:

1. A graphical examination of the nature of the variables in the analysis and the relationships that form the basis of multivariate analysis.
2. An evaluation process for understanding the impact of missing data on the analysis.
3. Identification of outliers.
4. An assessment of the ability of the data to meet the statistical assumptions specific to the chosen multivariate technique (Structural Equation Modeling).

Step 1 – Graphical examination of data

Graphical examination of the dataset was achieved through the use of histograms, Normal and Detrended Normal Q-Q Plots, as well as Box and Whisker Plots. Data entry errors were detected in the dataset and amended. The data in the data matrix appeared to be normal after "eyeballing" the graphical output of the tests mentioned.

Step 2 – Impact of missing data

The aim of undertaking missing data analysis is to identify any systematic pattern in the missing data within the dataset (Hair et al., 1998). Missing data analysis assists in addressing multivariate issues that are caused by incomplete data. Missing data may reduce the precision of multivariate tests because there is less information than originally planned. Another concern is that the assumptions behind many statistical procedures are based on complete cases, and missing values can complicate the theory required (SPSS, 2001).

The main aim of missing value analysis is to classify the missing data as Missing Completely at Random (MCAR). MCAR means that there are no apparent patterns in the missing data that could affect the results of the analysis. If there are satisfactory results that indicate MCAR, missing value replacement can then be carried out. The treatment of the missing data is discussed in detail in the following paragraphs. Missing data analysis was carried out using t-tests, EM analysis, and Little's MCAR Test (Little & Rubin, 1987). The mean-substitution method was then used to replace the missing values.

Missing data analysis was carried out using the Missing Value Analysis function of SPSS (SPSS, 2001). T-tests of groups of missing data, and dichotomized correlations were used to test for randomness of the missing data (Hair et al., 1998, p. 50). The tests resulted in low correlation values which denoted randomness in the missing data with "statistical significance tests of the correlations providing a conservative estimate of the degree of randomness" (Hair et al., 1998, p. 510).

The first step in missing data analysis is the comparison between groups of observations. Groups of observations with missing data are compared to those containing only valid data using t-tests. If there were systematic missing data processes present, the t-tests would show patterns of significant differences between the two groups.

Twenty-eight significant differences were detected between groups, one with complete data and the other with missing data. However, the differences of patterns in the missing data analysis were marginal, with the groups containing missing data having only small numbers of cases (ranging from 19 to 117 cases). The effect of the missing data was deemed negligible as there were only 28 significant values out of 128 possible combinations.

In order to ascertain the randomness of missing data, correlation matrices were generated using the EM method in SPSS. EM is an iterative two stage method (the E and M stages) where the E stage generates the best possible estimate of the missing data, the M stage then estimates the parameters (using correlations) by assuming that the data was replaced. Comparisons are then made between the datasets that contain missing and complete data. Low correlation values between the two datasets denote randomness in the missing data (Hair et al., 1998). There were some moderate correlations (around 0.7), but these were few and could be attributed to the variates belonging to the same exogenous construct. Otherwise, extremely low correlations were observed.

The final step to confirming that the missing data can be classified as Missing Completely At Random is a comparison of the actual pattern of missing data with what would be expected if the missing data were totally randomly distributed. To do this, Little's MCAR Test was employed (Little & Rubin, 1987). The significance level Little's MCAR Test was 0.124, this meets the guidelines for the data to be classified as MCAR (missing completely at random).

All the tests employed to ascertain the pattern of missing data indicated that the data could be classified as MCAR. The mean substitution method was chosen as the missing value substitution method. Hair et al. (1998) suggest that the mean substitution method generally leads to more consistent results compared with other methods and should only be used if the data appears to be MCAR.

Outliers and data normality

Scatterpolts were used to detect outliers. A visual inspection of the variables in the dataset revealed no significant numbers of outliers. Normality of the data was assessed through visual inspection of histograms. All of the variables appeared to approximate the normal distribution, the Kolmogorov-Smirnov test for normality was also applied and all variables were statistically normal. Scatterplots were also examined for non-linear data. The examination indicated that there appeared to be linearity in the data.

Step 3 – Cronbach's alpha

Cronbach's alpha (Cronbach, 1951) is a statistic used to test the reliability of the measures used in surveys. It has been used extensively in service marketing research to test the SERVQUAL scale (Parasuraman et al., 1985, 1988). According to Hair et al. (1998), and Nunnally (1978), reliability scores of 0.6 to 0.7 are sufficient to indicate reliability. There are certain assumptions that must be met before applying reliability tests to scales (Hair et al., 1998). These are:

- Linear relationships
- Homoscedasticity - The amount of error variance is assumed to be the same at any point along the linear relationship
- Minimal measurement error
- Normally distributed error terms as per central limit theorem

The Reliability module of SPSS (2001) was used to obtain Coefficient Alpha values. As can be seen in Table 5.2, all of the measures of this study were reliable; returning Cronbach's Alpha values of between 0.70 and 0.88. This suggested that there was sufficient consistency among the measurement variables of each construct (Hair et al., 1998). Alpha values for the Repatronage dimension of the model were not computed as it was a one item measure. Measure Validity was addressed previously by a through review of literature and test panel pretesting.

Table 5.2 Reliability of measures using Cronbach's Alpha

Item	Alpha
Layout accessibility	
The facility layout makes it easy to get the kind of food service I want	
The facility layout makes it easy to get to my seat	
The facility layout makes it easy to go to the restrooms	
Overall, this facility's layout makes it easy to get where I want to go	.74
Facility aesthetics	
This facility is painted in attractive colors	
The interior wall and color schemes are attractive	
This facility's architecture gives it an attractive character	
This facility is decorated in an attractive fashion	
This is an attractive facility	.88
Seating comfort	
There is plenty of knee room in the seats	
There is plenty of elbow room in the seats	
The seat arrangements provide plenty of space	
This facility provides comfortable seats	.70
Electronic displays	
The scoreboards are entertaining to watch	
The scoreboards add excitement to the place	
The scoreboards provide interesting statistics	
This facility has high quality scoreboards	.70
Facility cleanliness	
This facility has high quality restrooms	
This facility has clean restrooms	
This facility maintains clean food service areas	
This facility maintains clean walkways and exits	
Overall, this facility is kept clean	.86
Perceived servicescape quality	
The overall quality of this facility is:	
Terrible / Great	
Much worse / Much better than I expected	
Not at all what it should be / Just as it should be	.86
Satisfaction with servicescape	
The overall feeling I get from this facility is:	
Dissatisfaction / Satisfaction	
Puts me in a bad mood / Puts me in a good mood	.86
Desire to stay	
I enjoy spending time at this facility	
I would like to stay at this facility as long as possible	.80

Notes: Using a 5 point Likert scale; Y7 is reverse scored

Step 4 – Factor Analysis

Factor analysis is a multivariate technique used to identify latent or underlying endogenous relationships from exogenous variables (Hair et al., 1998).

R Factor Analysis was used to confirm that the data exhibited the same structure as posited in the Structural Equation Model proposed in Chapter 5 of this thesis. According to Hair et al. (1998), use of Factor Analysis is subject to various assumptions. These are:

- Data normality.
- Adequate numbers of significant correlations among the variables.
- Low values in Partial Correlations (Anti-image Correlation Matrix, Measure of Sampling Adequacy, Bartlett Test of Sphericity).
- Some underlying structure exists in the variables.

Discussion of the statistical techniques and terminology used to prove the four assumptions of factor analysis are presented in the following section; this is followed by the results of these tests.

Terminology for factor analysis

The Anti-image Correlation Matrix provides an analysis of the partial-correlations among variables. Partial-Correlations is a statistical technique where the correlation between two variables is calculated by taking into account the moderating effects of all other variables present. Hair et al. (1998) suggests that partial-correlations values should be small, otherwise, there are no "true" underlying factors in the data. Anti-image Correlations of SPSS (2001) was used to assess the partial-correlations of the dataset. Anti-image Correlations calculated by SPSS provides the negative value of partial-correlations, therefore large values in the Anti-image Correlations Matrix indicate low Partial Correlations.

Bartlett's Test of Sphericity is a statistical test that is employed to determine the presence of between-variable correlations. Correlations between variables are important in factor analysis as these correlations help determine the factors (dimensions) of the factor solution. Bartlett's Test of Sphericity provides a significance test for the presence of at least some significant correlations among the variables.

The Measure of Sampling adequacy (MSA) is used to quantify the degree of intercorellations among the variables and assists in assessing the appropriateness of applying factor analysis. MSA values in excess of 0.5 are deemed adequate (with values above 0.8 considered excellent).

Factor analysis results

R Factor Analysis utilizing Varimax rotation was carried out using SPSS 11 (SPSS, 2001). Varimax rotation is a rotational method in Factor Analysis that maximizes the sum of variances of the required loadings within the factor matrix (Hair et al., 1998, p. 110). Varimax rotation is thought to be the most conservative of all the rotational techniques in Factor Analysis.

Tests for data normality discussed in Step two of this chapter suggested that the data is normally distributed. The basic assumption that there are some underlying factors in the data was met through a-priori conceptual knowledge found in literature (as presented in Chapters 2 and 3 of this thesis).

The first task in Factor Analysis was to examine the correlations among the variables. A visual inspection of the correlation matrix indicated that all correlations were significant at the 0.05 level. This provided adequate basis for proceeding with the analysis.

The Anti-image Correlation Matrix indicated support for the second assumption of Factor analysis. A visual inspection revealed that most of the values clustered around the 0.9 mark, well above the 0.5 level suggested by Hair et al (1998) as being the lower limit of adequacy. The lowest value for the Anti-image Correlation Matrix was 0.80 and the highest was 0.96.

The Bartlett Test of Sphericity indicated that there were significant correlations (p= 0.00) among the variables. The Kaiser-Meyer-Olkin Measure of Sampling (KMO) returned a value of 0.90 (above the stipulated 0.5). This suggested that the results are generalizable to the general population. Overall it was assessed that the assumptions of Factor Analysis were adequately met.

Table 5.3 Rotated component matrix of environmental dimension variables associated with sporting facilities

Item		Factors 1	2	3	4	5
Layout accessibility						
The facility layout makes it easy to get the kind of food service I want	X1	.53				
The facility layout makes it easy to get to my seat	X2	.62				
The facility layout makes it easy to go to the restrooms	X3	.77				
Overall, this facility's layout makes it easy to get where I want to go	X4	.67				
Facility aesthetics						
This facility is painted in attractive colors	X5		.77			
The interior wall and color schemes are attractive	X6		.80			
This facility's architecture gives it an attractive character	X7		.73			
This facility is decorated in an attractive fashion	X8		.80			
This is an attractive facility	X9		.79			
Seating comfort						
There is plenty of knee room in the seats	X10			.86		
There is plenty of elbow room in the seats	X11			.87		
The seat arrangements provide plenty of space	X12			.82		
This facility provides comfortable seats	X13			.56		
Electronic displays						
The scoreboards are entertaining to watch	X14				.80	
The scoreboards add excitement to the place	X15				.89	
The scoreboards provide interesting statistics	X16				.83	
This facility has high quality scoreboards	X17				.69	
Facility cleanliness						
This facility has high quality restrooms	X18					.60
This facility has clean restrooms	X19					.69
This facility maintains clean food service areas	X20					.71
This facility maintains clean walkways and exits	X21					.79
Overall, this facility is kept clean	X22					.78

Note: Only loadings greater than 0.3 are shown
Using a 5 point Likert scale

An Exploratory Factor Analysis (principal components analysis) was then performed using Varimax rotation. Table 5.3 shows the rotated pattern matrix. The loadings appeared to fit the hypothesized model. All items loaded on the appropriate factors.

An inspection of the Scree Plot indicated that there were five factors in the solution. Upon examining the total variance explained (by applying the latent root criterion) showed that all five factors returned eigenvalues of above 1.0 (see Table 5.4).

Table 5.4 Results of extraction of the Component Factors

Factor	Eigenvalue	Percent of variance	Cumulative percent of variance
1	3.50	15.90	15.90
2	3.16	14.35	30.25
3	2.91	13.21	43.46
4	2.91	13.21	56.67
5	2.23	10.14	66.81

An eigenvalue, also referred to as the latent root, is a statistical value which is the column sum of squared loadings for a dimension in Factor Analysis. It represents the explanation power attributed to that particular factor within the stipulated model (Hair et al., 1998). The latent root criterion suggests that only factors with eigenvalues of 1.0 or above be included in the final model, however it is recommended that "using the eigenvalue for establishing a cutoff is most reliable when the number of variables is between 20 and 50" (Hair et al., 1998, p. 103). This rule is met as there are 22 variables used in the factor model.

As can be seen from the Cumulative Percent Variance column in Table 5.4, the total variance accounted for by the overall model was 66.81 percent. This indicated that the variables included in the Factor Analysis Solution contributed to 66.8 percent of the explanation power of the derived model.

In the final factor model, communalities for the solution were all above the stipulated 0.5 level recommended by Hair et al.(1998). The five factors that were extracted were Labeled Layout Accessibility, Facility Aesthetics, Seating Comfort, Electronic Displays, and Facility Cleanliness. These factors corresponded with the Environmental Dimensions in the Structural Equation Model Presented in Figure 3.2.

Step 5 – Structural Equation Modeling

Linear Structural Relations 8.03 (LISREL) (Joreskog & Sorbom, 1993a) was used to test the servicescape model. For readers familiar with regression techniques, Structural Equation Modeling (SEM) grows out of and serves the same purposes as linear regression but is a more powerful statistical technique for model building than regression. Whereas regression can only estimate the relationship between two variables at any one time (without taking into account other moderating variables), interactions between all variables, nonlinearities, correlated independents, measurement error, correlated error terms, and multiple latent independents are taken into account in SEM. Each construct in the model is measured by multiple indicators, and one or more latent dependents. In turn, each dependant construct is measured with multiple indicators (Joreskog & Sorbom, 1993a).

In short, SEM does not just analyze the statistical relationship between exogenous and endogenous variables, but it also takes into account all other moderating variables that may affect this relationship. SEM also allows the researcher to deal with multiple relationships simultaneously, which helps in providing parsimony and elegance in model building.

SEM also has the ability to let a dependent variable become an independent variable in a structural relationship. For example, four independent measures, color, music, temperature and lighting are used to measure the dependant construct ambiance. Ambiance then becomes an independent variable (along with seating, aesthetics and cleanliness) in the measurement of satisfaction. Therefore, SEM can be thought of as a model with "stages", where Stage A acts as the predictor variables for Stage B, and Stage B then acts as the predictor variable for Stage C. This set of relationships is the basis of SEM and can be expressed as

$$Y_1 = X_{11} + X_{12} + X_{13} + \ldots + X_{1n}$$

$$Y_2 = X_{21} + X_{22} + X_{23} + \ldots + X_{2n}$$

$$Y_m = X_{m1} + X_{m2} + X_{m3} + \ldots + X_{mn}$$

where Y represents the endogenous variable

X represents the exogenous variables

SEM also has the ability to take into account error terms within the estimated model, thus providing for a more "realistic" model.

SEM was used to confirm and explore patterns in the data that was collected for this thesis. Hair et al. (1998) suggested following a seven stage process when undertaking SEM, these are:

1. Develop a theoretically based model.
2. Define the exogenous and endogenous constructs of the model.
3. Translate the constructs into measurement and structural models.
4. Estimate the structural model.
5. Assess the identification of the model.
6. Evaluate Goodness-of-Fit criteria.
7. Compare estimated model with competing model(s).

In the following sections, each of the seven-stages of SEM analysis is explained in detail. Justifications of analysis decisions are provided and terminology explained for readers less familiar with SEM.

Stage 1 – Develop a theoretically based model

Hair et al. (1998) indicated that models utilizing SEM analysis should be based on theory, and researchers should not use the technique as a means of "fishing". The theological basis of the model was presented in Chapters 2 and 3 and is based on previous studies as well as Services Marketing literature.

Stage 2 – Defining the exogenous and endogenous constructs

The evaluative dimensions of the measurement model were based on data collected through the survey in Appendix 1. It was posited that the five servicescape dimensions in the measurement model were Layout accessibility, Facility aesthetics, Seating comfort, Electronic displays and Facility cleanliness.

The structural model was made up of the five servicescape dimensions (ξ 1- ξ 5) as exogenous measures. Perceived servicescape quality (η 1), Satisfaction with servicescape (η 2), Desire to stay (η 3) and Repatronage intentions (η 4) were the endogenous variables. Measurement attributes of the model were coded $x\,1$ to $x\,22$ and $y\,1$ to $y\,8$. The evaluative dimensions of the model are detailed in Table 5.5.

Table 5.5 Evaluative dimensions of the Leisure sport facility survey

Evaluative dimension		Measurement attribute
ξ_1 Layout accessibility	x_1	Ease of access to food service
	x_2	Easy to get to seat
	x_3	Easy to get to restrooms
	x_4	Overall easy to get where I want to go
ξ_2 Facility aesthetics	x_5	Painted in attractive colors
	x_6	Attractive interior wall and color schemes
	x_7	Attractive architecture
	x_8	Attractive decorations
	x_9	Overall attractive facility
ξ_3 Seating comfort	x_{10}	Plenty of knee room in seats
	x_{11}	Plenty of elbow room in seats
	x_{12}	Overall plenty of space in seats
	x_{13}	Comfortable seats
ξ_4 Electronic displays	x_{14}	Entertaining
	x_{15}	Adds excitement
	x_{16}	Provides interesting statistics
	x_{17}	High quality
ξ_5 Cleanliness	x_{18}	High quality restrooms
	x_{19}	Clean restrooms
	x_{20}	Clean food service areas
	x_{21}	Clean walkways and exits
	x_{22}	Overall kept clean
η_1 Perceived servicescape quality		Overall quality of facility
	y_1	terrible – great
	y_2	worse – better than expected
	y_3	not at all – just as it should be
η_2 Satisfaction with servicescape		Overall feeling of facility
	y_4	dissatisfaction –satisfaction.
	y_5	puts me in a good mood – bad mood
η_3 Desire to stay	y_6	Enjoy spending time in facility
	y_7	Stay as long as possible
η_4 Repatronage intentions	y_8	Highly –do not intend to return

Stage 3 – Translation of constructs into measurement and structural models

The constructs and the relationships between the exogenous and endogenous constructs were portrayed in the path diagram presented in Figure 3.2. Figure 5.1 depicts the full path model including all the measurement attributes and evaluative constructs, the LISREL notations of Figure 5.1 are explained in Table 5.5.

The constructs in Figure 5.1 were broken down into constructs and indicators, as well as structural and measurement model relationships. The constructs and indicators were represented in the following manner:

- Exogenous constructs represented by ξ
- Exogenous indicators represented by x
- Endogenous constructs represented by η
- Endogenous indicators represented by y

According to Hair et al. (1998, p 645), "because of its widespread application, LISREL has become the standard for notation". Therefore, Table 5.6 is a summary of what each of the Greek notations used in Figure 5.1 represent.

Table 5.6 Summary of Greek notation used for LISREL adapted from Hair et al.(1998, p 646)

Model element	*Description*	*Notation* *Matrix*	*Element*
Matrix			
Structural model			
Beta	Relationships of endogenous to endogenous constructs	Β	β
Gamma	Relationships of exogenous to endogenous constructs	Γ	γ
Measurement model			
Lambda	Correspondence (loadings) of indicators	Λ	λ
Constructs			
γ	Exogenous construct		ξ
β	Endogenous construct		η
Indicators			
λ^x	Exogenous indicator		x
λ^y	Endogenous indicator		y
Errors			
Epsilon	Endogenous indicator measurement model		ε
Delta	Exogenous indicator measurement model		δ
Zeta	Endogenous construct structural model		ζ

It is assumed in the measurements that:

- ε is uncorrelated with η
- δ is uncorrelated with ξ
- ζ is uncorrelated with ξ
- ζ is uncorrelated with ε and δ

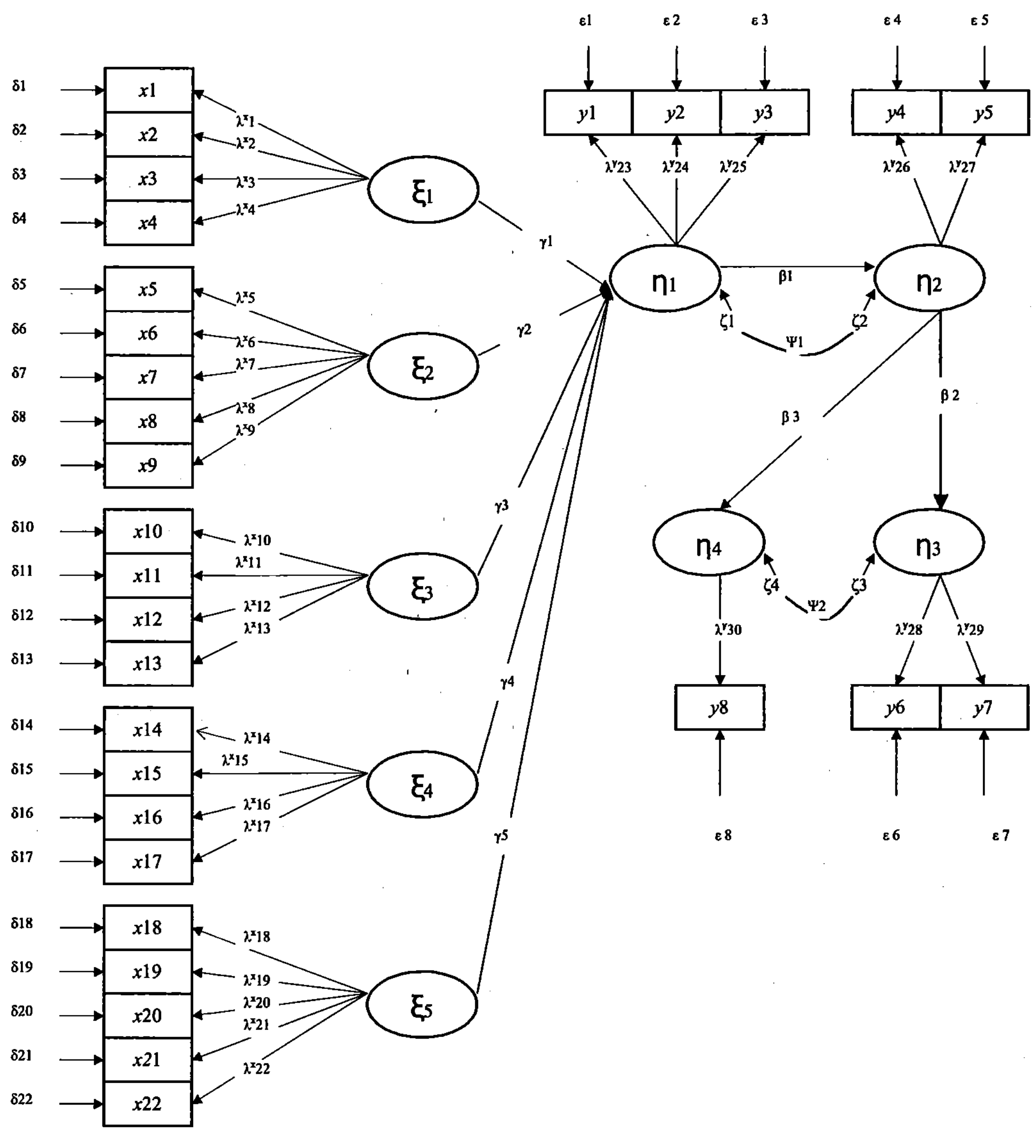


Figure 5.1 Full path diagram of Structural Equation Model with LISREL notation

From the path diagram depicted in Figure 5.1, a more formal specification of the model is presented through a series of equations that define both the x and y measurement models as well as the structural equations linking the constructs. Hair et al. (1998, p 596) indicates that the purpose of this was "to link operational definitions of the constructs to theory for the appropriate empirical test".

The measurement model for x – variables as depicted in Figure 5.1

$$
\begin{pmatrix} x1 \\ x2 \\ x3 \\ x4 \\ x5 \\ x6 \\ x7 \\ x8 \\ x9 \\ x10 \\ x11 \\ x12 \\ x13 \\ x14 \\ x15 \\ x16 \\ x17 \\ x18 \\ x19 \\ x20 \\ x21 \\ x22 \end{pmatrix}
=
\begin{pmatrix}
\lambda^x 1 & 0 & 0 & 0 & 0 \\
\lambda^x 2 & 0 & 0 & 0 & 0 \\
\lambda^x 3 & 0 & 0 & 0 & 0 \\
\lambda^x 4 & 0 & 0 & 0 & 0 \\
0 & \lambda^x 5 & 0 & 0 & 0 \\
0 & \lambda^x 6 & 0 & 0 & 0 \\
0 & \lambda^x 7 & 0 & 0 & 0 \\
0 & \lambda^x 8 & 0 & 0 & 0 \\
0 & \lambda^x 9 & 0 & 0 & 0 \\
0 & 0 & \lambda^x 10 & 0 & 0 \\
0 & 0 & \lambda^x 11 & 0 & 0 \\
0 & 0 & \lambda^x 12 & 0 & 0 \\
0 & 0 & \lambda^x 13 & 0 & 0 \\
0 & 0 & 0 & \lambda^x 14 & 0 \\
0 & 0 & 0 & \lambda^x 15 & 0 \\
0 & 0 & 0 & \lambda^x 16 & 0 \\
0 & 0 & 0 & \lambda^x 17 & 0 \\
0 & 0 & 0 & 0 & \lambda^x 18 \\
0 & 0 & 0 & 0 & \lambda^x 19 \\
0 & 0 & 0 & 0 & \lambda^x 20 \\
0 & 0 & 0 & 0 & \lambda^x 21 \\
0 & 0 & 0 & 0 & \lambda^x 22
\end{pmatrix}
\begin{pmatrix} \xi 1 \\ \xi 2 \\ \xi 3 \\ \xi 4 \\ \xi 5 \end{pmatrix}
+
\begin{pmatrix} \delta 1 \\ \delta 2 \\ \delta 3 \\ \delta 4 \\ \delta 5 \\ \delta 6 \\ \delta 7 \\ \delta 8 \\ \delta 9 \\ \delta 10 \\ \delta 11 \\ \delta 12 \\ \delta 13 \\ \delta 14 \\ \delta 15 \\ \delta 16 \\ \delta 17 \\ \delta 18 \\ \delta 19 \\ \delta 20 \\ \delta 21 \\ \delta 22 \end{pmatrix}
$$

Two measurement models were presented in Figure 5.1. The x – variables (theta-delta matrix) measurement-equations represented the measurement variables x1 through x22 (from Questions 1-22 of the survey) with the corresponding exogenous constructs ($\xi 1$- $\xi 5$) through the paths ($\lambda^x 1$- $\lambda^x 22$) with the corresponding error terms ($\delta 1$- $\delta 22$).

The measurement model for y – variables as depicted in Figure 5.1

$$\begin{bmatrix} y1 \\ y2 \\ y3 \\ y4 \\ y5 \\ y6 \\ y7 \\ y8 \end{bmatrix} = \begin{pmatrix} \lambda^y 23 & 0 & 0 & 0 \\ \lambda^y 24 & 0 & 0 & 0 \\ \lambda^y 25 & 0 & 0 & 0 \\ 0 & \lambda^y 26 & 0 & 0 \\ 0 & \lambda^y 27 & 0 & 0 \\ 0 & 0 & \lambda^y 28 & 0 \\ 0 & 0 & \lambda^y 29 & 0 \\ 0 & 0 & 0 & \lambda^y 30 \end{pmatrix} \begin{bmatrix} \eta 1 \\ \eta 2 \\ \eta 3 \\ \eta 4 \end{bmatrix} + \begin{bmatrix} \varepsilon 1 \\ \varepsilon 2 \\ \varepsilon 3 \\ \varepsilon 4 \\ \varepsilon 5 \\ \varepsilon 6 \\ \varepsilon 7 \\ \varepsilon 8 \end{bmatrix}$$

The y – variables (theta-epsilon matrix) measurement model presented here represents the measurement variables y1 to y8 (Questions 23-27 of the survey) with the corresponding endogenous constructs ($\eta 1$- $\eta 4$). The paths are represented by $\lambda^y 23$ to $\lambda^y 30$ with the corresponding errors ($\varepsilon 1$- $\varepsilon 8$).

In SEM, each endogenous variable (η_j) can be predicted either by exogenous variables (ξ_j) or by other endogenous variable(s).

From the x – variable, and y – variable measurement models, a structural model was specified. Only the coefficients to be estimated were included. For each hypothesized effect, a structural coefficient was estimated (β_j and γ_j) that included an error term (ζ_j). The structural equations were:

$$
\begin{aligned}
\eta_1 &= \gamma_1\xi_1 + \gamma_2\xi_2 + \gamma_3\xi_3 + \gamma_4\xi_4 + \gamma_5\xi_5 + \zeta_1 \\
\eta_2 &= \beta_1\eta_1 + \zeta_2 \\
\eta_3 &= \beta_2\eta_2 + \zeta_3 \\
\eta_4 &= \beta_3\eta_2 + \zeta_4
\end{aligned}
$$

or

$$
\begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \end{pmatrix} = \begin{pmatrix} 0 & 0 & 0 \\ \beta_1 & 0 & 0 \\ 0 & \beta_2 & 0 \\ 0 & 0 & \beta_3 \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} + \begin{pmatrix} \gamma_1 & \gamma_2 & \gamma_3 & \gamma_4 & \gamma_5 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix} \begin{pmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \end{pmatrix} + \begin{pmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \\ \zeta_4 \end{pmatrix}
$$

The paths described in the structural equation notations were direct paths of the Structural Equation Model. The relationships described were: the servicescape factors - Layout accessibility ($\xi 1$), Facility aesthetics ($\xi 2$), Seating comfort ($\xi 3$), Electronic displays ($\xi 4$) and Facility cleanliness ($\xi 5$) contributed through the paths $\gamma 1$ - $\gamma 5$ to the variance of Perceived servicescape quality ($\eta 1$) with allowance for error in estimation ($\zeta 1$).

Perceived servicescape quality ($\eta 1$) lead to Satisfaction with servicescape ($\eta 2$) using the path $\beta 1$, allowing for the error ($\zeta 2$).

Satisfaction with servicescape ($\eta 2$) leads to Desire to remain in the facility ($\eta 3$) with the path $\beta 2$, with allowance for error in the data (and $\zeta 3$).

Satisfaction with servicescape ($\eta 2$) also influenced Repatronage intentions ($\eta 4$) through the path $\beta 3$, with allowances for error in estimation ($\zeta 4$).

It is posited that Desire to remain ($\eta 3$) is correlated with Repatronage intentions ($\eta 4$) with the correlation of $\psi 2$. Likewise, the constructs of Perceived servicescape quality ($\eta 1$) and Satisfaction with servicescape ($\eta 2$) were allowed to correlate ($\psi 1$).

Stage 4 - Estimate the structural model

With specification of the SEM model completed, the next steps were to select the type of input matrix to be used for estimation, and to estimate the measurement and structural models. It was decided not to fix any values in the structural and measurement models as there was sufficient theoretical rationale and highly reliable measures utilized in the model.

A single step analysis was chosen as opposed to the more common "two-step process" where the measurement models are first estimated and then "fixed" before the structural model is estimated. Hair et al. (1998) suggested that a "single step analysis" is the best approach when the model possesses highly reliable measures as well as strong theoretical foundations. The theory of the model was presented in Chapters 2 and 3 of this thesis and strong Alpha values of between 0.7 and 0.86 suggested the suitability of using single step analysis. Hair et al. (1998) further indicated that utilizing a single step analysis would result in more accurate relationships and decreased the possibility for interaction between the structural and measurement models.

Correlations were chosen as the input matrix type. The variance of the constructs was estimated directly. This was due to the inherent misspecification within the model; as a matter of practicality, not all measurements of the constructs of interest could be included in the survey. Correlations were also appropriate because the purpose of the analysis was to examine the pattern of relationships among the endogenous and exogenous constructs (Hair et al., 1998). Correlation matrices also made interpretation of the results easier as a correlation matrix is a "standardized" matrix. This standardization made it possible to compare coefficients within the model directly. Additionally, use of the correlation matrix results in estimates that are not upwardly biased, and results in estimates that are more conservative than covariance matrices (Dillon, Kumar, & Mulani, 1987).

Bootstrapping

A bootstrap sample of 352 cases was drawn from the dataset. The sample size maintained a ratio of 10 respondents per parameter (Hair et al., 1998). An asymptotic variance – covariance matrix was calculated using PRELIS 8.3 (Joreskog & Sorbom, 1993b) and used in the Unweighted Least Squares (ULS) estimation method (Joreskog & Sorbom, 1993a).

Bootstrapping is a resampling technique where samples are drawn from the dataset and the sample elements are replaced and sampled again. This makes it possible for the creation of literally thousands of samples from the same dataset. Bootstrap samples have been shown to provide direct empirical estimates of confidence intervals and are suitable for larger datasets (Efron & Tibshiran, 1993; Mooney & Duval, 1993). The full estimated model is depicted in Figure 5.2 with standardized loadings shown.

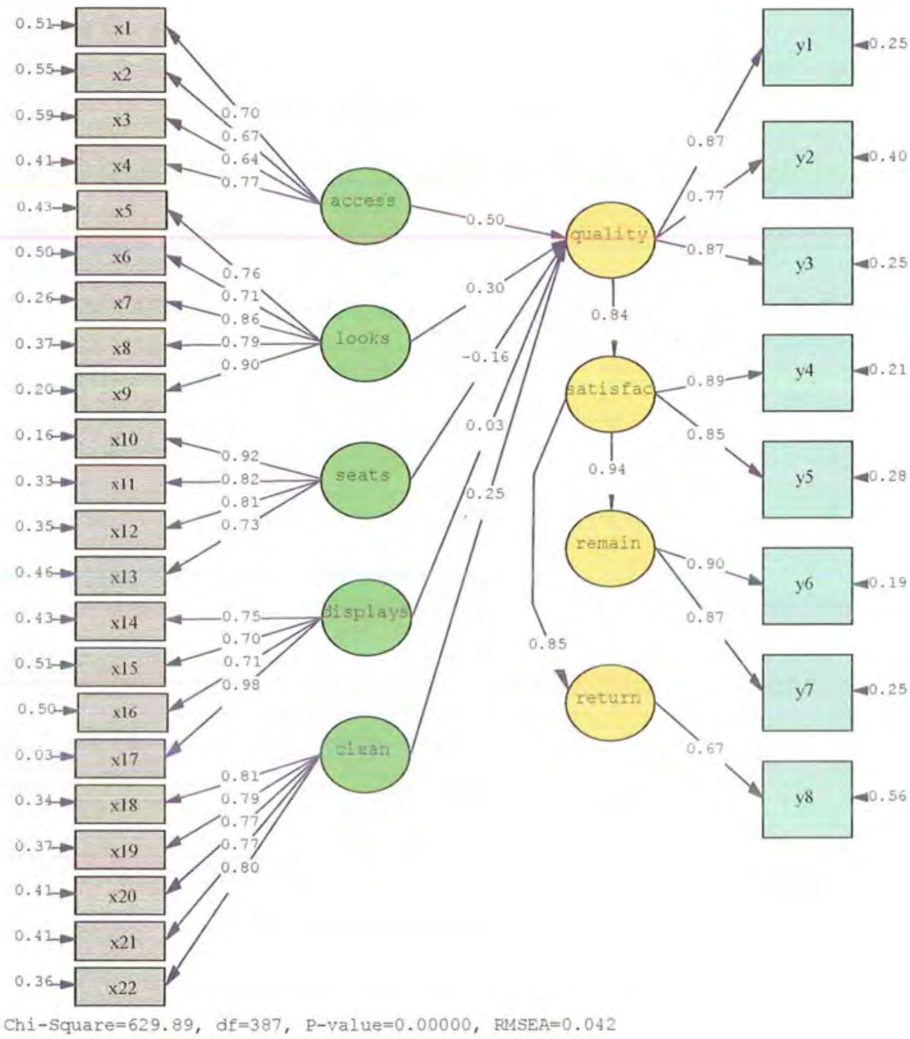


Figure 5.2 SEM Model with standardized loadings

Stage 5 - Assess the identification of the model

For purposes of identification, the size of the correlation matrix relative to the number of estimated coefficients within the model was determined through the degrees of freedom. A degree of freedom is an unconstrained element of the data matrix (Hair et al., 1998) and is calculated by the formula:

$$df \quad = \tfrac{1}{2}\left[(p+q)(p+q+1)\right] - t$$

where

p = the number of endogenous indicators

q = the number of exogenous indicators

t = the number of estimated coefficients in the model

The model had 387 degrees of freedom and this met one of the criteria for model identification (positive degrees-of-freedom).

Two other rules of identification suggested by Hair et al. (1998) are the order condition and the rank condition. The order condition states that the model must have a zero or positive degree-of-freedom. As the model possesses positive degrees-of-freedom, this condition was satisfied.

The rank condition requires that the each parameter within the model be algebraically defined as unique. As this is impossible for all but the simplest of models, Rigdon (1995) suggested that as a matter of practicality, any construct with three or more indicators will always be identified. As shown in Figure 5.2, each of the exogenous constructs of the model had at least three measurement indicators. Hence, with positive degrees of freedom and sufficient numbers of indicators for the measurement constructs, the model satisfied the conditions for assessment of identification.

Stage 6 – Evaluate Goodness-of-Fit criteria

Now that the model was correctly specified, and the estimation process free of identification problems, it was time to evaluate the "fit" of the model. Goodness-of-fit was assessed at several levels. First, offending estimates (if any) were identified and remedied, and then overall model fit was assessed. The next step was to assess the fit of the measurement and structural models. Competing models were then specified according to existing theory and compared to different "nested models" in order to assess the suitability and goodness-of-fit of the estimated SEM model.

Offending estimates

The results for the model were first examined for offending estimates. This was done by identifying any negative error variances, standardized coefficients that exceeded or were very close to 1.0, or very large standard errors associated with any estimated coefficient (Hair et al., 1998).

An examination of the values reported in Table 5.7 and Table 5.7a indicated that there were no such problems. The Structural Equation Coefficients (Table 5.7) for both endogenous and exogenous constructs ranged between -0.16 to 0.94, all were below the 1.00 mark stipulated as the cut-off point for offending estimates (Hair et al., 1998). The fit indexes (R^2) also suggested adequate fit as all were above the 0.70 cut-off mark (as dictated by convention).

Table 5.7 Structural equation coefficients (t-values in parentheses)

Endogenous Constructs	Endogenous Constructs: Quality	Satisfaction	Exogenous constructs: Access	Looks	Seats	Displays	Clean	Structural equation fit (R^2)
Quality			.50 (2.52)	.30 (3.91)	-0.16 (-1.45)	.03 (0.52)	.25 (2.12)	.71
Satisfaction	.84 (7.52)							.71
Remain		.94 (2.80)						.88
Return		.85 (11.23)						.72

Table 5.7a Correlations among the exogenous constructs (t-values in parentheses)

Exogenous constructs	Access	Looks	Seats	Displays	Clean
Access	1.00				
Looks	.57 (10.71)	1.00			
Seats	.70 (18.34)	.41 (5.99)	1.00		
Displays	.38 (6.09)	.52 (9.46)	.15 (2.23)	1.00	
Clean	.81 (23.10)	.58 (10.31)	.48 (8.69)	.47 (9.09)	1.00

Upon examining the standard errors of the estimated coefficients (Figure 5.2), none were found to have large standard errors. A closer examination of Table 5.7a indicated that there were no “Heywood cases”. Heywood cases are a common type of offending estimate. It occurs when the estimated error term for an indicator becomes negative. As there cannot be a negative error, it is a nonsensical value (Hair et al., 1998). Correlations between the exogenous constructs in Table 5.7a were low, reporting values from 0.15 to 0.81. Only one correlation (Access-Clean) was moderately high (0.81). However, as none of the correlations exceeded the value of 1.0, the correlation matrix of the exogenous indicators suggested that there was true discriminant validity among the constructs (Hair et al., 1998).

Low correlations between constructs suggest that respondents viewed the different servicescape elements as distinct from one another. This is in the spirit of factor analysis, as correlations within constructs should be high, but correlations between constructs should be low (Hair et al., 1998). The low coefficients of the measurement model suggest that there are other elements that contribute to quality perception within the servicescape. These elements could be those that were not included in this study.

Overall model fit

Having established that the model was free of offending estimates, an assessment of overall model fit was carried out. This was done in order to ensure that the model adequately represented the entire set of specified causal relationships. Overall model fit was assessed through the Normal Theory Weighted Least Squares Chi-square statistic (χ^2), Goodness of Fit Index (GFI), Root-mean-square error approximation statistic (RMSEA), Comparative Fit Index (CFI) and the Tucker-Lewis Index (NNFI). These fit measures were discussed in Chapter 3, however, brief descriptions of these fit measures will be provided here.

Absolute fit measures

The most basic of absolute goodness-of-fit measures are the χ^2 , GFI and the RMSEA. The χ^2 is the only statistically based goodness-of-fit measure available in SEM. A large value of the χ^2 relative to the degrees-of-freedom signifies that the observed and estimated matrices differ considerably, and statistical significance of the χ^2 measures indicates that these differences are due solely to sampling variations (Hair et al., 1998).

As the χ^2 test is between the actual and predicted matrices within the structural model, a non-significant χ^2 is the aim, as it is desirable for the measurement and structural models to be similar. It must be mentioned here that the χ^2 is recommended for studies with sample sizes of between 100 and 200 respondents. This is due to its sensitivity to larger or smaller sample sizes and to the number of indicators that make up the model constructs, therefore, Green, Akey, Fleming, Hershberger, & Marquis (1997) have suggested that the χ^2 only be used in conjunction with other goodness-of-fit measures.

The estimated model produced a χ^2 value of 629.89 (p=0.00) with 387 degrees of freedom (see Table 5.8). The significant χ^2 value may be due to the complexity of the estimated model, and the large sample size (n=352), which was above the recommended ceiling of n=200 for use of the χ^2 statistic. Therefore, in order to prevent rejecting the model in a Type II error situation, other measures of fit were taken into account as well.

The Goodness-of-fit index (GFI) is a non-statistical fit measure that ranges from 0.00 (poor fit) to 1.00 (perfect fit), but theoretically can yield meaningless negative values. The GFI is the percent of observed covariances (estimated model) explained by the covariances implied by the null model. In other words, whereas R^2 in multiple regression deals with error variance, GFI deals with error in reproducing the variance-covariance matrix. Among all the fit indices that are based solely on the estimated model, the GFI is least affected by sample size and performs "better than any other stand alone index" (Marsh et al., 1988, p. 369). As GFI often runs high compared to other fit measures, Hu & Bentler (1999) suggested using 0.95 as the cutoff. By convention, GFI should be ≥ 0.90 to accept the model (Hair et al., 1998).

The GFI value of the model (Table 5.8) is 0.98, was above both the conventional (0.90) and upper cut-off (0.95) points. This suggested that the model fits well.

Table 5.8 Goodness of fit measures for estimated model

Chi-square (χ^2) of estimated model	629.89 (p=.00)
Degrees-of-freedom	387
GFI	0.98
RMSEA	0.042
90% confidence interval for RMSEA	0.036 ; 0.048
PCLOSE (RMSEA < 0.05)	0.99
Chi-square (χ^2) of null model (*df* = 435)	24767.33
CFI	0.99
NNFI	0.99

The Root-mean-square error approximation (RMSEA) is a regularly reported fit-measure in journal articles utilizing SEM analysis; this is partly because it is a "stand alone" measure and does not need comparison with a null-model (this means that the researcher does not need to posit a null-model which has complete independence of the latent variables). RMSEA is a goodness-of-fit measure that attempts to correct for the effects of large model sizes on the χ^2. By convention, RMSEA indicates good fit if the value is ≤ 0.05, with adequate fit if the value is ≤ 0.08. Recent research has suggested the value of ≤ 0.06 as an indicator of good fit (Hu & Bentler, 1999). RMSEA should also be interpreted along with the Test of Close Fit Value (PCLOSE), which corrects for model complexity. PCLOSE tests the null hypothesis that RMSEA is no greater than 0.05. PCLOSE values of ≤ 0.05 indicate lack of fit. Conversely, if the PCLOSE value is $\geq$ to 0.05, then the model fits well.

The value of RMSEA as reported by LISREL (Joreskog & Sorbom, 1993a), was 0.042, which was below the 0.05 level deemed by convention as the cut-off for good fit. The reported PCLOSE value was 0.99, which indicated good-fit. Thus along with GFI, RMSEA added further strength towards confirming that the model fits well.

Incremental fit measures

In additional to overall fit measures, the model can be evaluated using incremental fit measures. Incremental fit measures are where the estimated model is compared with a null model. A null model is a baseline model where the covariances in the covariance matrix for the latent variables are all assumed to be zero (Joreskog & Sorbom, 1993a). It is therefore the simplest model that can be theoretically justified.

The χ^2 for the null model was 24767.33 with 435 degrees of freedom (Table 5.8). When the χ^2 for the null and estimated model were compared (24767.33 versus 629.89), a significant reduction of the χ^2 statistic was obtained.

The Bentler Comparative Fit index (CFI) and The Tucker-Lewis index, otherwise known as Bentler-Bonett Non-normed Fit index or the Non-normed Fit index (NNFI) are two incremental measures employed to assess the incremental fit of the estimated model.

CFI compares the fit the estimated model with the null model. CFI does this by comparing the predicted covariance matrix of the estimated model with the observed covariance matrix, and then compares the null model with the observed covariance matrix. The aim of these comparisons is to gauge the percentage of lack of fit between the null-model and the estimated model, while penalizing for larger sample sizes. The value of CFI is between 0.00 (poor fit) to 1.00 (good fit). Convention dictates that CFI should be $\geq$ 0.90 to accept the model. A CFI value of more than 0.90 indicates that 90 percent of the covariation in the data can be reproduced by the given model (Bentler, 1990; Bentler & Chou, 1987).

The CFI value reported in Table 5.8 was 0.99. This value was above the 0.90 cut-off, and very close to the maximum of 1.00, therefore CFI indicated that the model fit extremely well.

NNFI or Tucker-Lewis Index reflects the proportion by which the estimated model improves fit over to the null model while penalizing for model complexity. This fit measure therefore strives for model parsimony. NNFI is also one of the fit measures that are less affected by sample size. NNFI values range from 0.00 to 1.00 with those close to 1.00 indicating good fit. By convention, NNFI values below 0.90 indicate a need to respecify the model. Hu & Bentler (1999) have suggested NNFI $\geq$ 0 .95 as the cut-off for a good model fit.

The NNFI value generated by LISREL (Joreskog & Sorbom, 1993a) was 0.99, which was above all the suggested cut-off values and indicated an almost perfect fit for the model. Along with the CFI (0.99), the NNFI (0.99) values suggested that the model achieved an almost perfect fit.

Measurement model fit

With the overall model showing acceptable fit, the measurement model was evaluated for goodness of fit. Hair et al.(1998) suggested that each of the constructs in the measurement model should be evaluated separately by first examining the indicator loadings for statistical significance, reliability of the construct, and variance extracted.

Indicator loadings

The loadings of the individual indicators that make up each construct are reported in Table 5.9 and Table 5.9a. *T*-values are also provided to assess the significance of the loadings. For each indicator, *t*-values exceeding the critical value for the 0.01 significance level (critical value $\geq$ 2.576)) are desirable. If the *t*-values of the loadings exceed the critical value of 2.576, the indicators are considered significantly related to their specific constructs. By convention, construct loadings should be at 0.70 and above (Hair et al., 1998).

An examination of the indicator loadings for each of the constructs of the λ-x measurement model reported in Table 5.9 showed acceptable loadings for X-Lambda indicators of 0.64 to 0.98 for all the indicator variables. There were only two loadings which fall below 0.70, these are $x1$ (0.64) and $x2$ (0.67), as these were only marginally lower than 0.70, no remedial action was considered necessary. *T*-values for each of the indicator variables were also above the critical *t*-value of 2.576, thereby signifying that each of the indicators was statistically significant at the 0.01 level.

An examination of Table 5.9a indicated that loadings for the Y-Lambda indicators were between 0.67 and 0.90. The *t*-values for the indicators were all significant at the 0.01 level ($t \geq 2.576$) for all the Y-Lambda- matrix loadings.

Table 5.9 Construct loadings for X-λ measurement model

Indicators		Exogenous constructs			
	Access	Looks	Seats	Displays	Clean
X 1 Ease of access to food service	.70 (18.27)				
X 2 Easy to get to seat	.67 (17.50)				
X 3 Easy to get to restrooms	.64 (14.62)				
X 4 Overall easy to get where I want to go	.77 (23.19)				
X 5 Painted in attractive colors		.76 (16.81)			
X 6 Attractive interior wall and color schemes		.71 (14.94)			
X 7 Attractive architecture		.86 (29.63)			
X 8 Attractive decorations		.79 (20.35)			
X 9 Overall attractive facility		.90 (32.53)			
X 10 Plenty of knee room in seats			.92 (25.34)		
X 11 Plenty of elbow room in seats			.82 (27.06)		
X 12 Overall plenty of space in seats			.81 (21.85)		
X 13 Comfortable seats			.73 (12.33)		
X 14 Entertaining				.75 (17.01)	
X 15 Adds excitement				.70 (19.03)	
X 16 Provides interesting statistics				.71 (16.41)	
X 17 High quality				.98 (21.49)	
X 18 High quality restrooms					.81 (25.90)
X 19 Clean restrooms					.79 (27.23)
X 20 Clean food service areas					.77 (19.10)
X 21 Clean walkways & exits					.77 (21.92)
X 22 Overall kept clean					.80 (10.71)

Table 5.9a Construct loadings for Y-λ measurement model

Indicators	Quality	Satisfaction	Remain	Return
	Exogenous constructs			
y_1 Terrible-Great	.87 (10.09)			
y_2 Worse-Better than expected	.77 (10.80)			
y_3 Not at all-Just as it should be	.87 (9.63)			
y_4 Dissatisfaction-Satisfaction		.89 (10.70)		
y_5 Puts me in a good mood-Bad mood		.85 (10.18)		
y_6 Enjoy spending time in the facility			.87 (3.17)	
y_7 Stay as long as possible			.90 (3.15)	
y_8 Highly-Do not intend to return				.67 (24.23)

With all of the loadings achieving acceptable levels, and returning statistically significant *t*-values, the indicators of the X-λ and Y- λ measurement models were deemed significant and related to their particular constructs. This lent further evidence to the hypothesized relationships between the indicators and constructs.

The next step in verifying the measurement model was the calculation of the composite reliability of the measurement model.

Composite reliability

Composite reliability is similar to factor loadings in that it "indicates" or loads on a common latent construct (Hair et al., 1998). Composite reliability is the sum of all of the separate loadings of a construct and is assumed to be highly intercorrelated. The commonly used threshold value for assessing composite reliability is 0.70, with higher values indicating better "fit". Composite reliability is computed by the formula:

$$\text{Construct reliability} = \frac{(\Sigma\, sl_i)^2}{(\Sigma\, sl_j)^2 + \Sigma\, \varepsilon_j}$$

Where sl_i are the standardized loadings for the indicators of a particular latent variable, and ε_i are the corresponding error terms. Error terms are calculated as $1 - (\text{Standardized loading})^2$.

Table 5.10 Construct reliability for the exogenous constructs of SEM model

Construct reliability = $\dfrac{(\Sigma\, sl_j)^2}{(\Sigma\, sl_j)^2 + \Sigma\, \varepsilon_j}$

Sum of standardized loadings		
Access =	.70 + .67 + .64 + .77	= 2.78
Looks =	.76 + .71 + .86 + .79 + .90	= 4.02
Seats =	.92 + .82 + .81 + .73	= 3.28
Displays =	.75 + .70 + .71 + .98	= 3.14
Clean =	.81 + .79 + .77 + .77 + .80	= 3.94
Sum of measurement error[a]		
Access =	.51 + .55 + .59 + .41	= 2.06
Looks =	.43 + .50 + .26 + .37 + .20	= 1.76
Seats =	.16 + .33 + .35 + .46	= 1.30
Displays =	.43 + .51 + .50 + .03	= 1.47
Clean =	.34 + .37 + .41 + .41 + .36	= 1.89
Reliability computation		
Access =	$\dfrac{(2.78)^2}{(2.78)^2 + 2.06}$	= .79
Looks =	$\dfrac{(4.02)^2}{(4.02)^2 + 1.76}$	= .90
Seats =	$\dfrac{(3.28)^2}{(3.28)^2 + 1.30}$	= .89
Displays =	$\dfrac{(3.14)^2}{(3.14)^2 + 1.47}$	= .87
Clean =	$\dfrac{(3.94)^2}{(3.94)^2 + 1.89}$	= .89

[a] Indicator measurement error can be calculated as 1- (standardized loading)^2 or obtained from the theta-delta-matrix of LISREL output

In terms of construct reliability, the reliability values of the five exogenous constructs reported in Table 5.10 exceeded the recommended 0.70 threshold, with values ranging from 0.79 to 0.90, this indicated a high degree of construct reliability.

Variance extracted

The third reliability measure employed to ascertain the reliability of the measurement model was the variance extracted measure. This measure reflects the amount of variance in the indicators, as accounted for by the latent construct (Hair et al., 1998). Convention dictates that the indicator reliabilities should be more than 0.50 as this roughly approximates a standardized loading of 0.70. The variance extracted measure is calculated by the formula:

$$\text{Variance extracted} = \frac{\Sigma\,(sl_i)^2}{\Sigma\,(sl_j)^2 + \Sigma\,\varepsilon_j}$$

Where sl_i are the standardized loadings for the indicators for a particular latent variable, and ε_i the corresponding error terms, where error is 1 minus the reliability of the indicator, which is the square of the indicator's standardized loading. Table 5.11 shows the workings and values for the variance extracted measures for the SEM model.

Table 5.11 Variance extracted for the exogenous constructs of SEM model

Construct reliability = $\dfrac{\Sigma (sl_j)^2}{\Sigma(sl_j)^2 + \Sigma\, \varepsilon_j}$

Sum of squared standardized loadings		
Access =	$.70^2 + .67^2 + .64^2 + .77^2$	= 1.94
Looks =	$.76^2 + .71^2 + .86^2 + .79^2 + .90^2$	= 3.26
Seats =	$.92^2 + .82^2 + .81^2 + .73^2$	= 2.71
Displays =	$.75^2 + .70^2 + .71^2 + .98^2$	= 2.52
Clean =	$.81^2 + .79^2 + .77^2 + .77^2 + .80^2$	= 3.11
Sum of measurement error[a]		
Access =	.51 + .55 + .59 + .41	= 2.06
Looks =	.43 + .50 + .26 + .37 + .20	= 1.76
Seats =	.16 + .33 + .35 + .46	= 1.30
Displays =	.43 + .51 + .50 + .03	= 1.47
Clean =	.34 + .37 + .41 + .41 + .36	= 1.89
Variance extracted computation		
Access =	$\dfrac{1.94}{1.94 + 2.06}$	= .49
Looks =	$\dfrac{3.26}{3.26 + 1.76}$	= .65
Seats =	$\dfrac{2.71}{2.71 + 1.30}$	= .68
Displays =	$\dfrac{2.52}{2.52 + 1.47}$	= .63
Clean =	$\dfrac{3.11}{3.11 + 1.89}$	= .62

[a] Indicator measurement error can be calculated as 1- (standardized loading)^2 or obtained from the theta-delta-matrix of LISREL output

For variance extracted measures, the Access construct had a value of 0.49, which was marginally lower than the recommended 0.50. The other four constructs (Looks, Seats, Displays and Clean) returned values ranging from 0.62 to 0.68, which were above the recommended fifty percent lower limit. The variance extracted for the Access construct (0.49) indicated that more than half of the variance for the construct is unaccounted for by the construct. However, in light of the four other constructs returning acceptable results, and the marginality of the value for the Access construct, the results were deemed sufficient in terms of how the measurement model was specified.

Structural model fit

The next step in assessing the SEM model was to examine the estimated structural coefficients themselves. The relationships between the estimated constructs were examined to understand both the practical and theoretical implications of the coefficients.

Referring back to Table 5.7, examination of the endogenous constructs revealed that all four structural equations had statistically significant coefficients. Inspection of the Gamma matrix coefficients indicated that of the five evaluative dimensions for Quality, Access ($t = 2.52$), Looks ($t = 3.91$), and Clean ($t = 2.12$) were significant at the 0.05 level ($t \geq 1.96$). Seats ($t = -1.45$), and Displays ($t = 0.52$) were non-significant. This suggested that for the Quality construct, the Access, Looks, and

Cleanliness constructs were more important to facility users than Seats and Displays. The five combined evaluative constructs of the Gamma matrix achieved a coefficient of determination (R^2) of 0.71.

Although R^2 in SEM is not a test of statistical significance, it does provide a relative measure of the contribution of the five evaluative dimensions to the amount of variance explained for the construct Quality, therefore it could be implied that together, the five constructs (Access, Looks, Seats, Displays, and Clean) accounted for 71 percent of what users perceived to be Quality in leisure-sport facilities in Western Australia.

The structural path from Quality to Satisfaction (the t= 7.52), was significant at the 0.01 level with a R^2 value of 0.71. This suggested that Quality could perhaps contribute to 71 percent of what facility users defined as Satisfaction. The structural equation for the path between Satisfaction and Remain was also significant at the 0.01 level (t = 2.80) and reported a R^2 value of 0.88. Finally, the path between Satisfaction and Return was also statistically significant (t = 11.23; R^2=0.88), this suggested that satisfaction with facility affected repatronage intentions. The coefficient of determination (R^2) suggested that 88 percent of Desire to Return could be explained by customer perception of the Satisfaction they got from the venue.

Correlations between the five exogenous constructs were also of interest; as high correlations signify multicollinearity. Convention dictates that correlation values exceeding 0.90 are troublesome, with correlations of more than 0.80 sometimes indicating multicollinearity problems.

An examination of Table 5.7a indicated that each construct was positively correlated with the other exogenous constructs; with only one correlation bordering on the high side (Access and Clean =0.81). The rest of the correlations between the exogenous constructs ranged from 0.15 to 0.70, which were well within the suggested cut-off value. While the correlation between Access and Clean was borderline high, it did not seem to cause any problems in interpreting the model; hence no remedial action was necessary. The positive inter-construct correlations indicated that the evaluative constructs were interwoven, and all played a role in contributing to customer perception of Quality. Overall, the structural model achieved an acceptable level of fit.

Stage 7 – Competing models

In SEM, equivalent models exist for almost all specified structural models. Alternative models should be examined in order to test the validity of the proposed model (Hair et al., 1998; Hayduk, 1987; Kline, 1998). In testing the fit of competing models, one or more alternative models are proposed according to existing theory and compared with the estimated model. This is done in the hopes of improving model fit while keeping with proposed theory. In order to be able to realistically compare the different models, they must have a common null model. In order to achieve this, the number of constructs for the specified and alternative models must be the same, as in the case of nested models (Hair et al., 1998).

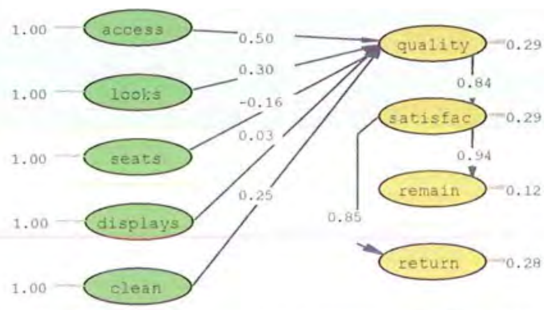
Inspection of modification indexes from the specified model indicated that the fit of the proposed model could be improved by specifying numerous paths in the measurement model. However, many of these paths did not make theoretical sense and were not incorporated into a competing model.

Through a further literature search, there were two alternative possibilities for specifying alternative nested models. Hui & Bateson (1991), who studied consumer crowding, approach-avoidance behavior, and repatronage intentions, proposed that in a crowded facility, customers perceived crowding (or lack of it) as an element that would impact on their enjoyment of the event in the venue. This perception of crowding and their perceived control over the crowding would lead to a situation of either "Pleasure" or "Displeasure". The Pleasure-Displeasure construct in Hui &

Bateson's (1991) model corresponded with the "Remain" construct of this thesis; as one of the measures of this construct was "I enjoy spending time at this facility". In Hui & Bateson's (1991) model, Pleasure-Displeasure led to Approach-Avoidance behavior, which was similar to the Return construct of the Structural Model. In light of this line of reasoning, a modification was made to the Structural Model by positing that the five servicescape factors (Access, Looks, Seats, Displays, and Clean) would affect customer perception of quality. Quality would in turn influence Satisfaction, Satisfaction would then decide whether customers would Remain in the facility. The construct of Remain would then influence Return. The modified model is named ComMod1, and is depicted in the path diagram in Figure 5.3.

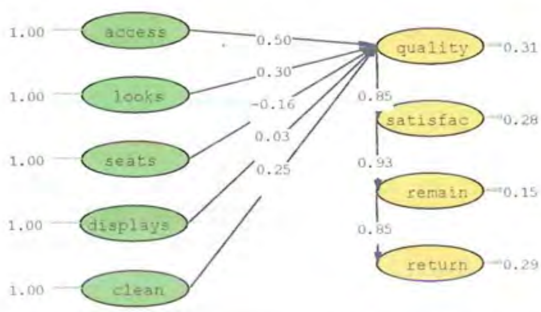
A second nested model (ComMod2) was posited based on Bitner's (1990) work that assessed how consumers and employees interacted with servicescapes. In this article, Bitner (1990) hypothesized that perceived Servicescape Quality would have direct impact on Word of Mouth, Service Switching, and Service Loyalty. The constructs of Service Switching and Service Loyalty could be construed as the Remain and Return constructs of the Structural Model posited in this thesis. Therefore, in ComMod2, Quality influenced Desire to Remain through a direct path, while Desire to Remain lead to Desire to Return. ComMod2 is depicted in the path diagram Figure 5.3 (see next page).

Structural model



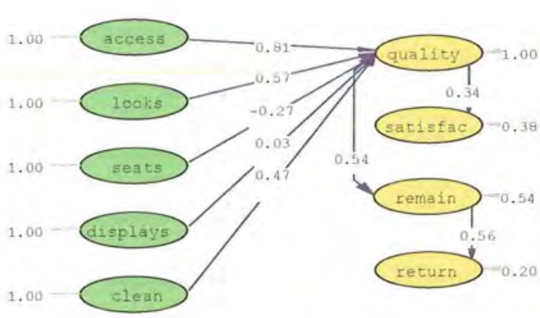
Chi-Square=629.89, df=387, P-value=0.00000, RMSEA=0.042

ComMod1



Chi-Square=627.34, df=387, P-value=0.00000, RMSEA=0.042

ComMod2



Chi-Square=605.32, df=385, P-value=0.00000, RMSEA=0.040

Figure 5.3 Original Structural Equation Model with ComMod1 and ComMod2

Table 5.12 Comparison of Goodness-of-Fit measures between estimated and competing Models

Measures	Structural Model	ComMod1	ComMod2
Absolute fit measures			
Chi-square (χ^2)	629.89	627.34	605.32
Degrees of freedom(*df*)	387	387	385
Noncentrality parameter (NCP)	242.89	240.34	220.32
Goodness-of-fit index (GFI)	0.98	0.98	0.98
Root mean square residual (RMSR)	0.062	0.062	0.063
Root mean square error of approximation (RMSEA)	0.042	0.042	0.040
Expected cross validation index (ECVI)	2.24	2.23	2.18
Incremental fit measures			
Adjusted goodness-of-fit index (AGFI)	0.97	0.97	0.98
Tucker-Lewis Index (NNFI)	0.99	0.99	0.99
Normed fit index (NFI)	0.97	0.97	0.98
Parsimonious fit measures			
Parsimonious fit index (PNFI)	0.87	0.87	0.86
Parsimonious goodness-of-fit index (PGFI)	0.81	0.81	0.81
Akaike information criterion (AIC)	785.89	783.34	765.32
Normed chi square	1.628	1.621	1.571

As a means of comparing the three hypothesized models, a set of goodness-of-fit measures were calculated for each of the models and reported in Table 5.12. For the purpose of comparing nested models, Hair et al. (1998) suggested that the comparison of the chi-square values from the different models would be sufficient. The difference in the chi-square values can be tested for statistical significance, with the degrees of freedom for the individual models indicating the number of estimated coefficients. However, for the purpose of model comparison, a set of absolute, incremental, and parsimonious fit measures are provided and discussed in the following sections.

Absolute fit measures

The absolute fit measures provided in Table 5.12 as a comparison between models were the chi square (χ^2), degrees of freedom, Noncentrality parameter (NCP), Goodness-of-fit index (GFI), Root mean square residual (RMSR), Root mean square error of approximation (RMSEA), and Expected cross validation index (ECVI).

The χ^2 value of the Structural Model was the highest at 629.89 (*df*=387), while ComMod1 had a χ^2 value of 627.34 (*df*=387), and ComMod2 had a χ^2 of 605.32 (*df*=385). All the χ^2 were statistically significant (p=0.00).

Lower χ^2 values are desirable in comparing models as it indicates better fit. The statistic must however, be evaluated by taking the degrees-of-freedom (*df*) into account. It was observed that while the Structural Model and ComMod1 had similar degrees of freedom, ComMod2 had lower degrees of freedom. By comparing the χ^2 statistic and degrees of freedom, ComMod1 appeared to exhibit slightly better fit. However, other fit measures must be taken into account when assessing the fit of the models.

The NCP is an alternative measure to the χ^2. It was developed to minimize the effects of sample size on the χ^2 statistic, with lower values indicating better fit. In the case of the three competing models, ComMod2 (NCP=220.32) had the lowest NCP.

The GFI values for all three competing models were identical (GFI=0.98), indicating that in terms of GFI, all three models fit extremely well.

A comparison of RMSEA values indicated that all three models achieved good fit, returning RMSEA values of ≤ 0.05.

Upon examining the RMSR; which is the square root of the squared residuals, which in this case is the average residual correlation, indicated that the RMSR value for ComMod2 was marginally higher at 0.063 compared to the Structural Model (RMSR=0.062) and ComMod1 (RMSR=0.062). This suggested that the Structural Model and ComMod1 fit better than ComMod2 (lower values for RMSR are desirable).

The ECVI is a measure that reflects the difference between model-implied and observed covariance matrices, with lower ECVI denoting better fit. Comparison of the ECVI values suggested that ComMod2 (ECVI=2.18) has the best fit.

Incremental fit measures

The three incremental measures (AGFI, NNFI, NFI) were employed to measure model fit between the competing models. AGFI and NFI indicated that ComMod2 (AGFI, NFI =0.98) exhibited marginally better fit than the Structural Model and ComMod1, which returned identical fit values for all the incremental fit measures.

Parsimonious fit indexes

Parsimonious fit indexes that were used to assess competing model fit were PNFI, PGFI and AIC. The PNFI is a fit index that takes into account the degrees of freedom used to achieve fit. PNFI strives for parsimony as it tries to achieve "higher degrees of fit per degree-of-freedom used" (Hair et al., 1998, p 658). PNFI is mainly used to compare models with different degrees-of-freedom. Higher PNFI values are considered to indicate better fit for a model. PNFI results indicated that the Structural Model and ComMod1 (PNFI=0.87) exhibited marginally better fit than ComMod2 (PNFI=0.86).

PGFI is a goodness-of-fit index that is similar to the GFI, and is based on the parsimony of the estimated model (hence its suitability for comparing models). Higher values of PGFI indicate better fit. The PGFI values of the three competing models were identical (PGFI=0.81).

AIC is a measure based on statistical information theory and is similar to the PNFI, with smaller values indicating better model fit and parsimony. The AIC measure indicated that ComMod2 (AIC=765.32) was the best fitting model.

The Normed chi-square was proposed by Joreskog (1970) as a means of comparing different models. The Normed chi-square is calculated by dividing the Normally Weighted Chi-Square with the degrees-of-freedom of the model. The resulting value should be between 1.00 and 2.00. Values below 1.00 signify over fitting of the model, and values between 2.00 and 5.00 signify that the model may not be representative of the data. Each of the competing models had acceptable Normed chi-square values that fell within the 1.00 to 2.00 range (see Table 5.12).

Comparison of models

After examination of the three competing models, the results were inconclusive as to which model exhibited the best fit. In the Absolute Fit Measures category, ComMod2 exhibited marginally superior fit in the χ^2, NCP, and ECVI measures, while the Structural Model and ComMod1 excelled in Degrees of freedom and RMSR. In the Incremental Fit Measures category, ComMod2 showed marginally better fit in the AGFI and NFI measures. In the Parsimonious Fit Measures category, the Structural Model and ComMod1 were better in the PNFI test, while ComMod2 demonstrated better fit in the AIC measure.

The mixed results of the three different types of fit measures showed that some measures favored ComMod2, while Structural Model and ComMod1 were favored in other tests. Even when there were differences, the differences between the models were marginal. When focus was limited to the Parsimonious Fit Measures, the results were still split between the different competing models. In light of this, the originally estimated Structural Model was retained and used to test the hypotheses of this dissertation.

Summary of fit measures

Table 5.13 provides a summary of all the fit measures that were discussed in the previous sections of this chapter. In the area of Absolute fit measures, GFI and RMSEA all reported acceptable fit levels. The χ^2 displays marginal fit, probably due to the large sample size and complexity of the Structural Model. In the Incremental fit measures category, CFI and NNFI indicated that the model fitted extremely well, each test returned values of 0.99. The PGFI, PNFI and AIC measures in the Parsimonious fit measures category were not used to judge how well a particular model fits; but rather to compare different models to see which one achieves a better fit. The Normed Chi-square returned a value of 1.628, which indicated that the model achieved adequate fit. Overall, the model exhibited adequate fit for all three categories of fit measures.

Table 5.13 Comparison of Goodness-of-fit measures for the Structural Equation Model

Structural model data: 30 indicators for 9 constructs (5 exogenous & 4 endogenous)
Sample size = 352
Estimated model χ^2 = 629.89 (p=0.00) (df=387)
Null model χ^2 = 24767.33 (df=435)

Measure	Levels of acceptable fit	Value of measure	Acceptability
Absolute fit measures			
Likelihood ratio χ^2	Statistical significance fit test provided	χ^2 = 629.89 (p=0.00)	Marginal
Goodness-of-fit index	Higher values indicate better fit, no established thresholds	GFI = 0.98	Excellent
Root mean square error of approximation	Acceptable values ≤ 0.08, good fit ≤ 0.05	RMSEA = 0.042	Good
Incremental fit measures			
Comparative fit index	0.00 = no fit, 1.00 = perfect fit	CFI = 0.99	Excellent
Tucker-Lewis fit index	0.00 = no fit, 1.00 = perfect fit	NNFI = 0.99	Excellent
Parsimonious fit measures			
Parsimonious fit index	Higher values reflect greater model parsimony	PGFI = 0.81	Not applicable
Parsimonious normed fit index	Higher values indicate better fit	PNFI = 0.87	Not applicable
Akaike information criterion	Smaller positive values indicate parsimony	AIC = 7.85	Not applicable
Normed chi-square	Lower limit 1.00 Upper limit 2.00-5.00	Normed χ^2 = 1.628	Adequate

Note: Tests classified as Not Applicable are measures used only in comparison of alternative models

An assessment of the measurement model was carried out by examining the loadings and significance levels of the Lambda-x and Lambda-y matrices. Both matrices showed adequate, as well as significant loadings. The Lambda-x measurement model exhibited high composite reliability and variance extracted scores. This indicated that the measurement model exhibited good fit.

Gamma matrix coefficients were examined to determine the fit of the Structural model. The Beta coefficients were all adequate (0.84-0.94). Three variables predicting Quality were significant (Access, Looks, Clean), with the construct returning a coefficient of determination (R2) value of 0.71.

Through assessment of the various fit measures as well as coefficients of the measurement and structural models, and through comparison with other theoretically viable nested models, the estimated Structural Model is accepted as it exhibited good fit in most fit measurements.

Results and associated hypothesis

The Structural Model has demonstrated a high degree of fit in many of the fit measures (see Table 5.13). Table 5.14 reports the values of the estimated parameters that were be used to test the hypotheses that were proposed in Chapter 3.

Table 5.14 LISREL estimates of Structural Equation Model

Parameters	Estimated values
$\gamma 1$	0.50 (2.52)*
$\gamma 2$	0.30 (3.91)**
$\gamma 3$	-0.16 (-1.45)
$\gamma 4$	0.03 (0.52)
$\gamma 5$	0.25 (2.12)**
$\beta 1$	0.84 (7.52)**
$\beta 2$	0.94 (2.80)**
$\beta 3$	0.85 (11.23)**

Note: data is from standardized estimates. For the sake of simplicity, only the estimated values associated with the proposed hypothesis are presented. *t*-values are in parenthesis.
* $p < 0.05$, ** $p < 0.01$

Hypothesis 1.i : **Facility lay-out accessibility will have a positive effect on the perceived quality of the servicescape**

Hypothesis 1.i was supported, the estimated parameter from the Access to Quality construct ($\gamma 1 = 0.50$) was both positive and significant. This suggested that the layout and design of the interior of leisure sports facilities influenced how facility users viewed facility quality. This was similar to the findings of Bitner (1992). The positive coefficient indicated that better layout and increased ease of access to different interior areas of the venue contributed to increased user perception of Quality.

Hypothesis 1.ii : Pleasing facility aesthetics will have a positive effect on the perceived quality of the servicescape

The path $\gamma 2$ had a statistically significant coefficient of 0.30 (*t*-value=3.91). This indicated that H1.ii was supported. Pleasing facility appearance contributed positively to customer perception of servicescape quality. This was consistent with the findings of Baker et al.'s (1988) study about the aesthetic aspects of bank branches, Kerin et al (1992) who studied retail settings, and Tom et al.(1987) who researched how consumers reacted to dull and unpainted facades and seats, these authors found that pleasing aesthetics contributed positively to customer evaluation of servicescape quality in those settings.

Hypothesis 1.iii : **Comfortable seating will have a positive effect on the perceived quality of the servicescape**

The path between Seating and Quality was non-significant and yielded a negative coefficient of ($\gamma3$= -0.16). This result failed to provide support for H1.iii. Although the result appeared to suggest that less comfortable seating improved customer perception of quality, this was not entirely correct. The non-significant loading (t = -1.45) could have been because some of the survey venues did not have proper seats. These venues were Alf Barbegallo Raceway, Ascot Racecourse, Belmont Racecourse, and Quit Kwinanna Motorplex. These facilities had "seating areas" where the patrons often did not have proper seats; most of the time, customers at these facilities had to bring their own seats, or sat on the grass. However, it must be noted, that all of these facilities provided "stadium" style seating where there were concrete terraces that served as grandstands. This may have been a mediating factor for the non-significant and negative loading on this construct.

Hypothesis 1.iv : **Availability of electronic equipment and displays will have a positive effect on the perceived quality of the servicescape**

This hypothesis was not supported. The path between Displays and Quality ($\gamma4$ = 0.03, t=0.52) was non-significant. This could be attributed to the absence of electronic displays such as scoreboards and television sets at some facilities. At most of the leisure sport facilities, the scoreboard consisted of a static non-electronic scoreboard that (if working) displayed only numbers. Hence the researcher was unable to test this dimension in the servicescape adequately.

There was however, one facility that had adequate electronic displays. A structural model was constructed for this venue alone, and this dimension of the servicescape loaded positively ($\gamma = 0.41$, $t = 2.51$). Unfortunately, this result was venue specific and cannot be used to test H1.iv, but it does give the suggestion that this dimension of the servicescape does contribute to the overall customer perception of quality.

Hypothesis 1.v : **Cleanliness will have a positive effect on the perceived quality of the servicescape**

This hypothesis was supported ($\gamma 5 = 0.25$, $t = 2.12$). The statistically significant positive value for $\gamma 5$ suggested that the Cleanliness dimension had a positive role in contributing to customer perception of Quality of servicescape. This was in line with the findings of Gary & Sansolo (1993), and Miller (1993) who studied cleanliness in retail stores and service settings. It was also congruent with Wakefield & Blodgett's (1994) work which posited that customers associated cleanliness with servicescape quality.

The five servicescape constructs (H1.i to H1.v) also yielded a combined R^2 value of 0.71. While the R^2 in SEM is not a statistical value, it can still be interpreted in a similar manner as R^2 is interpreted in multiple-regression (Hair et al., 1998). This suggested that seventy-one percent of the explanation power attributed to the concept of satisfaction with leisure sport facilities could be accounted for by these five measurement constructs.

Hypothesis 2 : **Higher perceived servicescape quality will result in increased customer satisfaction**

H2 was supported, the coefficient between Quality and Satisfaction ($\beta 1 = 0.84$, $t = 7.52$) was positive and statistically significant at the 0.01 level. This lent further support to Bitner's (1992) hypothesized model. The R^2 value of 0.71 suggested that seventy-one percent of what customers perceived as quality in a leisure sport servicescape should translate to satisfaction.

Hypothesis 3 : **Increased customer satisfaction will have a positive relationship with customers' desire to remain in the servicescape**

H3 was fully supported. The estimated beta coefficient ($\beta 2 = 0.94$, $t = 2.80$) loaded highly and was significant at the 0.01 level. This suggested that customers who experienced satisfaction with the servicescape were likely to remain in the facility longer than patrons who did not feel satisfied. The R^2 for H3 was 0.88; this indicated that satisfaction with servicescape may have accounted for eighty-eight percent of why customers wished to remain in a leisure sport facility.

Hypothesis 4 : **Increased customer satisfaction will positively effect repatronage behavior**

Support was found for H4. β3 returned a loading of 0.85 (t = 11.23) significant at the 0.01 level. This meant that satisfied customers were likely to revisit the facility again. H4 had a R^2 value of 0.72, which suggested that seventy-two percent of the reason that customers wished to return to a certain venue could be attributed to their level of satisfaction with the servicescape.

Summary

This chapter has examined the results of the survey in detail in order to test the four hypotheses. This was accomplished through a seven-step process that systematically addressed different aspects of the empirical analysis that was undertaken. A total of 800 surveys were distributed with a result of 703 valid surveys. A seven-step data analysis plan was then implemented. The data analysis strategy employed dealt with data "sanitization" issues such as normality, missing data and outliers.

Once the data had been treated, a Cronbach's Alpha (Cronbach, 1951) test indicated that the measures utilized in this study had sufficient reliability by returning values of between 0.70 and 0.88 for each of the constructs. A factor analysis was then carried out to determine if the measures were "asking what they were supposed to ask". The factor analysis yielded five factors, with the measures loading on the appropriate constructs of the theorized model. These five constructs were Access, Looks, Seats, Displays, and Cleanliness.

Structural Equation Modeling was then carried out. A Structural Equation Model showing above average fit was estimated. The loadings of the measurement and structural models fit the hypothesized model. Three of the five parts for Hypothesis 1 were supported. The model suggested that in the sample of leisure-sport facilities that were the focal point of this study, accessibility to different interior areas within the facilities, how the facility looked, and cleanliness had a positive effect on how users of these facilities judged the quality of these venues. This suggested that the happier facility users are with the looks, cleanliness and accessibility of a facility, the more highly they rated the quality of the venue.

This chapter also examined how quality of servicescape influenced customer satisfaction. The results suggested that customer perception of quality influenced their satisfaction levels; the more customers thought that they were in quality surroundings, the more satisfied they were. The results also suggested that for the sample of servicescapes used here, quality of servicescape could account for eighty-four percent of what customers thought of as satisfaction, with the other sixteen percent for the explanation of customer satisfaction lying elsewhere.

The relationship between satisfaction and desire to remain in the facility, as well as repatronage intentions was also explored. The results indicated that the more satisfied a customer is, the more they were likely to remain in the facility and/or come back. The results of the Structural Model suggested that satisfaction with the servicescape accounted for eighty-eight percent of the reason a customer remained in the leisure-sport facility. Satisfaction with the facility could also contribute to seventy-two percent of the explanation for a customer choosing to return to the facility in future.

Chapter 6

Conclusions, implications and future research

Introduction

This is the final chapter of this thesis and is presented in five sections. The first section will discuss the conclusions that were drawn from the data analysis presented in the previous chapter. The second section addresses the research hypotheses and discusses implications of the findings. The third section of this chapter discusses the contributions that this study makes to the field of marketing. Recommendations for future research are brought forth in the fourth section, and finally the limitations of this study are examined.

Summary of the study

Due to the lack of published research into "place" issues in leisure-sport servicescapes, many managers, designers, and owners of leisure-sport facilities have little theoretical knowledge to refer to when running, upgrading or building new facilities. This lack of research was the main reason for undertaking this thesis. In order to understand the meaning and importance of leisure-sport facilities, a comprehensive literature review was undertaken. From this, the Structural Equation Model of this thesis was developed. The Structural Equation Model borrowed from Bitner's (1992) Servicescape Model; which was developed to help researches understand the effects of the service environment on customer satisfaction. The Structural Equation Model also relied heavily on Wakefield & Blodgett's (1996) study about how the servicescape influences customers' behavioral intentions in leisure-service settings.

This study had three main aims. The first was to identify how the five servicescape elements (spatial layout/access, aesthetics, seating, electronic displays, and cleanliness) contributed to customer perception of the quality of a servicescape. The second was to focus in detail on selected aspects of Bitner's (1992) theoretical framework; namely the areas of spatial layout, functionality, furnishings, décor, signs and artifacts within a leisure-sport setting. The main area of interest was customer behavioral intentions arising out of perception of servicescape quality, how quality perception influenced customer satisfaction, and the resulting customer approach/avoidance and repatronage intentions. This thesis strived to address these areas in more detail than Bitner (1992).

A self-administered questionnaire was developed and administered at seven leisure-sport venues in and around Perth, Western Australia. This yielded a total of 703 valid cases. Factor analysis and structural equation modeling were the primary methods used in analyzing the data. Factor analysis was used to determine if the measures used in the Facility Survey conformed to the hypothesized model. Structural Equation Modeling was used to test the hypotheses of this study. The Structural Equation Model was split into two parts, the structural, and measurement models. Two alternative models were estimated as a comparison for the Structural Equation Model. However, they were not found to be superior to the originally estimated model, and the original model was retained.

The results indicated that the hypothesized Structural Equation Model was supported to a certain extent. Interestingly, the coefficient loadings of the Structural Equation Model were in some cases better than those of previous studies (see Wakefield &

Blodgett, 1996). In the measurement model, two constructs (Seats, Displays) failed to provide significant loadings. The study found that there were positive relationships between perceived servicescape quality, satisfaction, desire to remain, and repatronage intentions. These findings will be discussed in detail in the next section.

Discussion of findings

The findings of this study strongly supported the hypothesized Structural Equation Model, and confirmed the power of perceived servicescape quality in influencing consumer satisfaction and behavioral intentions in a leisure-sport setting. The following discussion seeks to address how leisure-sport venue operators may wish to measure customer satisfaction within their servicescapes, and how the different servicescape aspects influence customer satisfaction. Additionally, strategies to improve leisure-sport facility servicescapes are explored.

Customer Perception of towards different servicescape constructs

Access and Looks

The results provided some interesting revelations about how users viewed different servicescape elements of non-team-based leisure-sport facilities. The Layout Accessibility and Facility Aesthetics constructs were fully supported. These two servicescape areas had positive effects on the perceived quality of the leisure-sports facilities used in the study. This suggested that customers value ease of access to different areas of the facility. The Access construct (which loaded positively) also included a measure for access to seating. This was interesting because although Seating Comfort did not exhibit significant loadings, access to seats was important to customers. This may indicate that customers value wider spaces between seats that facilitate ingress and egress from seating rows. Customers also valued ease of access to food service areas. This may be partly because the sporting activities that were offered to spectators at the survey venues happened in "waves", with brief intermissions between them. For example horse, motor and dog racing events are often run in races, with breaks in between when customers do not have much to do other than sit around, bet, and/or get something to eat and drink. This means that spectators will have to get to and from seating/viewing areas numerous times during their visit. Having sufficiently wide access corridors and "walkways" between seats helps in getting in and out of seating areas easily.

The managerial implications of this finding is clear, management should pay more attention to layout of access/egress routes for seating, spectator, and food and beverage service areas. In designing seating areas, managers and designers must take into account the flow of spectators during peak capacity periods. The simple act of making access corridors and thoroughfares wider is not enough. Attention should be paid to the layout, slope, and placement of access/egress routes to these areas. In grandstand areas, the slope of the grandstand is important. Having grandstands with steeply sloping stairs not only impedes access, but could be dangerous for some people (e.g. handicapped, children, intoxicated). While it is understandable that for economic reasons, many facility managers would wish to have large grandstands to increase seating capacity, this is not necessarily a sound idea. As access to seating is important to spectators in non-team-based leisure-sport facilities, seating should be configured so that the seats form smaller groups, with perhaps a maximum of fifteen to twenty seats per row which are serviced by two entry points. This would make it easier for spectators to get to the middle seats and minimize the "bum-brush" effect when passing people in other seats.

Building more leg room into seating rows is another way of providing better access for mass seating areas. If this is not possible due to renovations where there is minimal structural change, the seats can perhaps be moved forward to the middle of the seating terrace. This will enable access through the front of the terrace (providing there is sufficient room). This method would perhaps enable better access because the spectator would not have to "walk through the feet" of other spectators to get to their seats, thus causing less disruption to spectators who are already seated.

The addition of extra access routes would mean less fixed seating for many grandstands. However, as these grandstands are terraces, the steps of the access routes could double as makeshift seats during capacity periods. This is common practice in many motor sport facilities, where some spectators take to sitting on the steps if it gets really packed.

Seating areas in non-team-based leisure-sport venues could also adopt an open style concept. This is where seating is grouped in small pockets throughout the facility. As motor sport, horse, and dog racing facilities are generally much larger than other types of stadia, there is opportunity to utilize unused areas (around track corners) to spread seating areas out.

Management could improve access to food and beverage, and washroom facilities by having smaller outlets situated throughout the facility. Due to cost constraints, many leisure-sport facilities that were constructed in the 1950s to 1980s were built with food and beverage outlets clustered underneath or near the main grandstand. By having more mobile and smaller food and beverage outlets, and portable toilet facilities, access times and distances to these facilities would be reduced. These mobile outlets could sell an "abbreviated" menu of snacks which could be supplied from the main kitchens (reducing outlay). They could also be situated along the route to and from other functional areas (e.g. betting, stables) so that spectators can visit them as they move between different facility areas.

Access paths to mass seating areas should also be designed so that they do not have too many "bends" or comers in them. This is because traffic often slows down in bends (like on a freeway). These routes should also be short, with direct access to the outside of the building. The rationale for this is, the less you keep the customers in small, enclosed spaces, the less they will perceive of being "cooped-up".

It is highly probable that customers who spend extended periods of time in leisure-sport facilities would also wish to be more mobile than those that are in the venue for only brief periods of time. This need for increased mobility would perhaps explain the need for ease of access to different areas of the venue. Of course, the same can be said for leisure-sport facilities that staged games which had long spectating periods with short intermissions (like football and cricket). Customers in these types of situations would value ease of access to amenities like washrooms and food and beverage counters highly as well. The reason for this is the high demand for these amenities during event intermissions. Therefore, high priority should be given to making sure that there is plenty of room for facility users to move about within the service setting. The easier it is for a customer to get to where they want to go, the happier they are likely to be.

Customers spending extended periods of time in facilities also value pleasant surroundings. The findings of this study supports a premise made by Wakefield & Blodgett (1994), that customers spending extended amounts of time in a service facility would wish to spend it in a pleasant venue. The importance of facility aesthetics to customers can be seen through the significant loading of this construct (Table 5.9).

Research into atmospherics in retail settings has indicated that the ambiance within a servicescape is a component that facility customers use to evaluate the image of the venue (Solomon et al., 1985). The look and feel created by color schemes, decorations, and furnishings within a facility has also been suggested to influence both consumer satisfaction (Andrus, 1986), and approach/avoidance behavior (Bateson, 1983). This is supported by the findings of this study. The Looks (aesthetics) element contributed positively to perceived servicescape quality. However, the low coefficient value of 0.30 suggests that this aspect of the facility may not be valued highly by spectators. This could be due to the fact that customers are often in the "zone of indifference" (Price et al., 1995) about the wall color, decorations, and architecture of the facility. There may be a two possible explanations for this, first, spectators are there for the competition that happens on the "field" and do not notice the looks of the facility unless something drastic happens to one of those facility elements. Secondly, some regular customers may be so used to the look of the facility that they may have stopped taking notice of those elements. Either way, the lack of customer attention to this area does not mean that it is not important. It could be a case of "if it doesn't change I don't care, but if something goes wrong with it, I will take notice". However, it can be posited that leisure-sport spectators do take notice of their surroundings; even if it is at a subconscious level. Therefore, facility management should strive to provide pleasant surroundings at all times.

Service organizations with pleasant surroundings are classified as "atmospheric dominant" by Turley & Fugate (1992). This means that pleasant surroundings increase customer perception of service quality, which in turn could have a mediating effect on customers having a favorable image of the facility. This image, when combined with satisfaction, and good service experiences with the facility, could lead to increased desire to remain in the facility, as well as desire to return. This is especially true for leisure-sport facilities. Without "atmosphere" (e.g. cheering) leisure-sport venues would only be buildings with a lot of people sitting around watching a competition. Management should therefore, strive to provide customers with pleasant surroundings in which to spend their leisure time. However, pleasant surroundings could be situation specific. For instance, patrons watching a motor race may wish to have very different surroundings to those watching a thoroughbred horse race. The motor racing enthusiast may want to be surrounded by many people as this creates "atmosphere", and be as close to the track as possible in order to smell and hear the exhaust and burning rubber. The horse racing fan on the other hand, may wish more "gentile" surroundings, with plenty of food and beverage, and to have a vantage point so as to be able to watch the proceedings.

There are some aesthetic aspects of leisure-sport servicescapes that should translate to all types of sport. In order to provide pleasant surroundings, management should ensure that they have some sort of greenery in the exterior, and if possible the interior of the facility. Well kept gardens and plants will make facilities look better. Additionally, management should ensure that facility fittings such as glassed surfaces are clean and free of streaks. Handrails should also be painted and/or polished regularly. This is very important as handrails are an item that spectators are bound to notice when they touch them. They serve as a cue for the customer when they are making service quality evaluations. As a big part of facility aesthetics is cleanliness, the facility should present a high level of cleanliness at the start of the event. Management should also implement steps to ensure that facility cleanliness is kept at an acceptable level during the event.

Facility management should pay extra attention to ensuring that entry and exit areas inside the buildings, and the entry and exit points to facility grounds are kept looking good. Keeping these areas looking good will positively influence customer perception of facility aesthetics. This is because these are the areas that the customers see first/last when they arrive at and leave the facility.

Seating and displays

The constructs for Seating and Displays were non-significant. This was different from the findings of Wakefield & Blodgett's (1996) study of casinos, baseball and American football stadiums. In that study, Wakefield & Blodgett (1996) found that seating comfort was important to the baseball and football spectators, and had a positive effect on perceived servicescape quality. The casino sample did not find that seating contributed positively to perceived quality of the servicescape. There are several possibilities why spectators in horse, dog, and motor sport venues did not find seating to be important. One of the possibilities why seating failed to show significant loadings was that some of the facilities did not have proper seats in their seating areas; with spectators sitting on concrete slabs or grassed areas. Seating could also have been less important to leisure-sport servicescapes that offered gambling (horse and dog races), as these customers are more mobile (moving to and fro from spectating to betting areas). As Wakefield & Blodgett (1996) found that patrons of casinos did not rate seating as an important element in the servicescape, the element of gambling within the servicescape could be a mediating factor in preference for seating.

The findings of this thesis seem to suggest that customers value space in the seating arrangements more than comfortable or well placed seats. Customers also put ease of access to seats and seating areas in high regard. In addition to the gambling element, the types of sporting entertainment offered at the venues of this study were also conducive to patrons moving about. For example, in motor, dog and horse racing, spectators had the opportunity to move to various vantage points around the track. They also had the opportunity to visit various outdoor food and alcohol outlets. Many patrons were also keen to visit the kennels, stables and garages that housed the star attractions.

Wakefield & Blodgett (1996) found that electronic displays had a positive influence on perceived service quality in their football and casino samples. However, in their baseball sample, electronic displays were non-significant. Moore et al. (1999) also found that electronic video screens increased customer enjoyment of American collegiate football. Therefore, it is interesting that those findings failed to be replicated in the venues of this study. The lack of adequate electronic displays (other than television sets) could have caused the failure of the Electronic Displays construct to load significantly. Electronic displays did load significantly for horse racing venues. This could be because in these venues, electronic displays carried betting information and were placed at strategic locations away from the track, thereby enabling non-trackside patrons to follow the proceedings. Another reason that horse racing patrons valued electronic displays could be due to the displays carrying betting information about other races around the country that were on at the same time. This made it possible for betting patrons to back horses that were racing elsewhere, and watch them race on-screen.

The contribution of electronic displays to perceived service quality could also be situation and context specific. This is due to the fact that in Wakefield & Blodgett's (1996) study, this facility dimension loaded positively for American Grid Iron settings and not baseball settings. It could be argued that in sports where the "action" is intense, and where scoring is low, such as rugby, Australian Rules football, Soccer, and American Football, spectators value the ability to watch instant replays. This desire to watch instant replays could also be due to the spectators being quite distant from the action on the playing field, and therefore welcome any opportunity to watch exciting moments of the game "up close and personal" through instant replays. This situation does not really exist in horse, dog, and motor sport settings as once the race is over, and the result known, the race then becomes "history" and most spectators look forward to the next race. Having stated that, observations at horse racing venues suggested that industry people such as trainers, owners, and bookies/gamblers were most interested in the replays, however, regular spectators were less interested in them. In motor sport, casual observation of spectators suggested that they were extremely interested in instant replays of accidents and crashes that happened during the course of the race. In horse, dog, and motor sport venues, the ability to get "close to the action" (e.g. close to the fence, various vantage points) could also mean that spectators are more interested in what is happening in front of them than at what is being shown on video screens.

Cleanliness

Cleanliness had a positive impact on perceived servicescape quality. Cleanliness is an important part of the servicescape, especially when patrons have to spend extended periods of time in the facility. Cleanliness also had a strong correlation with Facility

Aesthetics, suggesting that users of leisure-sport facilities viewed cleanliness as part of the atmospherics within the facility. This implies that management of leisure-sport facilities should pay extra attention to cleanliness during the time that customers are in the facility. Areas such as restrooms, floors, and garbage disposal containers must be continually maintained during the proceedings to keep an acceptable level of cleanliness. Food and beverage areas should also be kept clean, and staff should appear clean, neat and healthy. Cleanliness is especially important during events that draw capacity crowds, as it is during these types of events that customers are likely to be extra sensitive to cleanliness and more likely to become dissatisfied. This is because facility staff often find it hard to keep the venue at acceptable levels of cleanliness when the venue is functioning at capacity. The incidence of increased crowding during capacity periods also means that certain spectators may experience dissonance due to overcrowding, and therefore are extra sensitive to any disruptions in the service script.

Facility management should plan for and anticipate "problem areas" where cleanliness is concerned. These could include food and beverage, garbage disposal, washrooms, picnic areas, seating, and access/exit areas. There should be a roster for regular cleaning of these areas during the leisure-sport event. A particularly sensitive area is the garbage bins. Extra bins should be provided if a large crowd is anticipated. These bins should also be monitored constantly, and once full, should be emptied immediately. The areas around the bins should also be swept each time the bins are emptied. The sight of active cleaning during the leisure-sport event could serve as reinforcement to spectators that they are in a quality service facility, and should positively effect customer satisfaction.

Washrooms should also be cleaned regularly. Self-flushing toilets and urinals could be installed during renovations, or when the facility is being built. This should remove some of the smells associated with these areas. Toilets should also be situated some distance away from food service areas (for obvious sanitary reasons). The floors of washrooms should also be made of hard wearing, stain resistant material. This would make them easier to maintain during peak periods, and they would appear cleaner.

Management should also employ staff whose sole purpose is to keep the facility at reasonable levels of cleanliness at all times. These staff could be in the form of contracted cleaning companies hired specifically for big events. Seating areas should have adequate numbers of garbage bins so that trash does not end up on the floor. Another possibility is to build a small waste container into the seat itself; this should encourage spectators not to litter. A reduction on packaging of food items should also be explored. This does not mean eliminating food packaging altogether, but rather reduce the volume of the packaging used through better packaging design. Reduced waste volume would help in the management of waste removal from a leisure-sport facility.

Effect of Quality on Satisfaction and behavioral intentions

The main premise of this thesis is that perceived servicescape quality would affect customer satisfaction. Satisfaction, or lack of it, would then influence customer behavior (Remain and/or Return). Three of the five servicescape dimensions have been shown to influence quality perception for leisure-sport facility users. However, the low coefficient values of the measurement model (Table 5.7) suggests that the there are other factors that influence customer quality perception, and hence satisfaction with the service they receive. The other factors could be weather conditions, crowding, ambient conditions such as music or noise, service personnel, the availability and selection of food and beverage, as well as whether spectators won or lost at the races.

As the results indicated that customers do think that cleanliness, aesthetics, and layout contribute positively to servicescape quality, it can be argued that the servicescape has an influence on consumers who spend extended periods of time in a facility. It can also be argued that, depending on what the customer is doing, different areas of the facility have different levels of importance. This is a result of the way that facility users interact with, and evaluate servicescapes. For example, in a situation where the food and beverage outlets of a facility are easily accessible, painted in pleasing colors, but dirty, customers would be very dissatisfied with the outlet based on cleanliness alone. On the other hand, spectators at a horse race would not mind having discarded betting slips strewn all over the floors of the grandstand if they could easily access the grandstand for a big race. This overlap of the different servicescape areas creates a situation where the service provider must strive to achieve facility congruence. This is where the facility provider must attempt to create a "balanced" servicescape by emphasizing different aspects of the facility at different times. Each of the five servicescape aspects should be weighed and considered as facilities are designed, built and operated, with different elements emphasized over others in different functional areas of the facility. For instance, cleanliness should be emphasized in food and beverage areas, and is of less importance in betting areas. Only by building and operating balanced facilities, can management ensure that the servicescape measures up to customer expectations.

Quality has been shown to have an effect on Satisfaction, Satisfaction was then found to have a positive influence on customers' Desire to Remain in the servicescape. Interestingly, Quality had a stronger effect on Desire to Remain than on Repatronage

Intentions. This illustrates the importance of the servicescape in keeping customers in the facility. Having customers remain in the facility for as long as possible is a high priority for many leisure-sport facility operators. This is because customers who spend longer periods of time in leisure-sports venue are more likely to spend more money on items like food, beverage, souvenirs, and wagering. These items are often much more profitable than the price of the admission ticket as they normally have higher profit margins.

Another possible explanation as to why servicescape quality had a stronger influence on desire to remain than on repatronage intentions is because desire to remain is in the foreseeable future, while repatronage intentions are an abstract future state. It would be much easier for spectators to decide whether they wish to remain in the facility based on their present experience than for them to forecast what might happen as the service episode continues (where they might experience negative disconfirmation). Therefore, a question about a future intention might be very difficult for some customers to answer truthfully. One method of possibly solving this dilemma is to conduct some sort of tracking study, to see whether customers who indicate positive repatronage intentions actually go on to exhibit that behavior.

Servicescape managers also have to make sure that the quality of the servicescape is conducive to keeping customers happy. Sometimes, customers remain in the facility because they may wish to "see the end of the game". Unhappy customers are less likely to spend extra money in the facility. Recent work by Devlin, Gwynne, & Ennew (2002) pointed out that the happier the customer, the more positively disposed they are towards the organization. Johnston (1995), and Parasuraman, Berry, & Zeithaml (1991b) also suggested that happier customers tend to be less demanding in their expectations of the service provider. On the other hand, customers who are unhappy tend to demand more of the service provider. In light of this argument, leisure-sport facility management should endeavor to provide quality facilities that keep their patrons happy. This happiness and goodwill would gradually build up and result in less demanding customers who are easier to please. In practical terms however, it may be naïve and unrealistic to think that customers will become "softer" if they are happier. Once customers get used to a certain level of quality, that level becomes normal to them, and they become increasingly demanding. So it is a never ending cycle of quality improvement because customer satisfaction tolerance levels increase continually.

Customer satisfaction with the servicescape was also found to have a positive influence on repatronage intentions. Happier customers tend to come back. Repatronage is an important factor to the financial well-being, and continuation of an organization. Losing a customer means that the organization has lost the lifetime value of a customer. Leisure-sport facility management should realize that it costs five times as much to attract a new customer, compared to the cost of keeping an existing customer happy (Kotler, 1997). Customers who come back might also bring with them additional business for the facility in the form of friends and family during future visits.

Contributions and Implications

This study has made several contributions to marketing literature. First, it has filled a knowledge gap about how customers perceive different servicescape elements in leisure-sport facilities. It has also provided information about which aspects of the servicescape customers deem the most important. This is significant because by knowing which servicescape aspects affect customer satisfaction the most, facility managers are able to focus resources on those areas of the facility in order to ensure that they meet customer expectations. Knowing the impact of the different facility elements will also aid facility designers in planning and building venues that cater to the needs and wants of users.

There has been little literature of how elements in leisure-sport servicescapes affect customer satisfaction. A literature search yielded only three articles in this area that were published in the last ten years. One article was a paper about musicscapes in non-leisure based service settings (Oakes, 2000), the second was research on electronic video mega-screens at a leisure-sport venue (Moore et al., 1999), and the third was Wakefield & Blodgett's (1996) article. In view of this lack of recent research on elements in leisure-sport facilities; especially in the area of non-team based sport, this study serves to "add to the picture" of how different elements in leisure-sport venues affect customer satisfaction and ultimately customer approach-avoidance behavior.

This is also the first time that The Structural Equation Model was tested on non-team-based leisure-sport facilities. Wakefield & Blodgett (1996) tested it on team-based sport and gambling venues. A number of studies have collected data in facilities that catered to team based sports such as football (Moore et al., 1999; Wakefield & Blodgett, 1996), baseball (Wakefield & Blodgett, 1994, 1996), or where respondents were active participants in the leisure activity and not mere spectators (Taylor et al., 1993). These findings add an extra dimension to the knowledge about how customers who use non-team-based leisure-sport facilities view the venues. This added facet of the non-team-based sport spectators is important because the effects of loyalty to a team was a variable that may have influenced respondent satisfaction with servicescapes due to the "halo effect" that occurs with loyal supporters. In many cases, fans would frequent a facility because of their support for a team, and not because they felt that the facility was superior to others. This study also contributed to the existing pool of knowledge by utilizing non-team-based leisure-sport facilities where the main activity was spectating and not active participation. It can be argued that spectators have very different wants and needs, compared to facility users who are actively partaking in the leisure activity.

The main differences that have been found between team-based and non-team based leisure settings are that in team-based sports such as American Grid Iron, spectators perceived seating and electronic displays as positive contributors to service quality. In non-team based sport such as horse, dog, and motor vehicle racing, customers did not perceive seating and electronic displays as more important. Possible reasons for this were presented in an earlier section, and included increased mobility, gambling, and being able to get close to the track/field.

This study contributes to the literature by surveying customers across diverse leisure-sport settings that attract different types of users. An example is the difference between dog racing and motor racing fans. At dog racing venues, many patrons come as a family, have dinner at the venue and socialize in family groups in the food and beverage outlets. The emphasis is on a family night out while having a wager on their favorites. Motor racing fans on the other hand, usually tend to go with friends. They are there to see fast cars and motorbikes and are usually enthusiasts themselves. Therefore they spend considerable amounts of time in the pits where vehicles are serviced and stored. Food and beverage is typically of the take-away kind purchased at concession stands. By using a diverse set of facilities with different demographics, this thesis adds empirical evidence that the same framework that was used at North American baseball and football stadiums can be generalized to different types of venues, in a different country.

The results of the Structural Equation Model tested in these particular venues also help shed light on the long standing debate between Cronin & Taylor (1992) and Parasuraman et al. (1994b) about the directionality of the service quality-satisfaction relationship. The model used in this study failed to merge when Satisfaction was set to predict Quality. This lends evidence that consumers' feel that Satisfaction is dependant on Quality. Thus, Quality has been found to be a more viable construct for predicting purchase intentions (operationalized by the constructs Desire to Remain and Repatronage Intentions) as posited by Parasuraman et al. (1994b).

The practical implications raised by this study suggest that by isolating and manipulating the different aspects within the built environment of a leisure-sport facility, managers may be able to more readily achieve marketing and organizational goals. The findings suggest that customers in non-team-based leisure-sport facilities value the quality of the servicescape highly (as evidenced by the high loading on the Quality and Satisfaction constructs). Managers and designers of leisure-sport facilities should be able to tune their servicescape so as to offer a "total package" that infers a superior offering over those offered by their competitors (Solomon et al., 1985).

In order to obtain maximum marketing advantage from the servicescape, the needs of the ultimate servicescape users must be taken into account. The various functional servicescape areas examined here should be incorporated into design decisions when building or renovating a service facility. A clear indication of the results of this study is that the different areas of the servicescape should function in a symbiotic manner and "flow". Facility aesthetics, and access should complement one another, and cleanliness must be maintained at all times.

The servicescape elements of this study are easily controlled by management and have been found to influence customer satisfaction levels, desire to remain, and repatronage intentions. This means that a finely tuned servicescape has the potential to keep customers in the facility for longer periods of time, and increase the amount of money they spend. Satisfied customers are also more likely to return, bringing extra funds with each visit. This income stream is important as non-entry-fee spending at leisure-sport venues often makes up the bulk of customer expenditure. This spending has higher rates of return for management as margins for such items are often higher than the entry fee charged.

A well designed servicescape with adequate and well controlled access and egress paths to the various functional areas in the facility (e.g. washrooms, food & beverage, viewing areas) could also help in controlling the mood of the crowd, and avoid many of the problems associated with crowd unrest in stadia. A classic example of this was the design of traditional "British" soccer stadiums. These stadia had standing-only "spectator pens" which were crammed with spectators, with high fences, and only one or two small entry/exit points. Crowds in these areas often went wild and stampeded. A good example of this was the Hillsborough and Sheffield Stadium incidents (O'Sullivan & Spangler, 1998) where the crowd rioted causing several deaths. After these unfortunate events (and after a government inquiry), new standards for facility layout and design were introduced that led to abolishment of standing-only areas by introducing seating-only areas. Along with tough measures on hooliganism and anti-violence measures, the soccer grounds were turned into more attractive facilities. This encouraged the return of many fans, which resulted in an increase of attendance "which the quality of the football itself does not necessarily justify" (Wakefield & Blodgett, 1996). Similar findings were made in retail settings (Baker et al., 1994), where store image and aesthetics had a higher correlation with repatronage intentions than did merchandise quality, price level or merchandise range.

An attractive servicescape was also found to increase customer satisfaction. In particular, elements such as cleanliness, aesthetics and ease of movement in the servicescape were important to consumers. This is only natural as customers like pleasing surroundings, especially if they have to spend the better part of their day in the service facility. Who would want to sit in tatty, uncomfortable seats in an area where they are surrounded by garbage, where it is hard to see the proceedings on the "track", and where it is hard to get to the toilets and food outlets.

Managers must however, not lose sight of providing a "complete" experience. In this context, "half time" entertainment in the form of electronic scoreboards helps keep the excitement levels up and adds value to the spectating experience (Oakes, 2000). Similarly, other forms of entertainment during intermissions such as bands, dancers, mascots and contests add to the spectating experience. Provision of such attractions does not leave spectators with long periods of time in which they have nothing to do while waiting for "the action" to recommence.

Provision of children's activities at the venues that were studied would be a good idea. This recommendation was from observations made at the venues during the data collection process. Casual observation suggests that often, parents were left with the task of "entertaining" their children while the event was taking place. Having play places and outlets that cater for family entertainment would make the time spent at the venue more stress free for the parents.

Limitations and future research

As this study used only more popular leisure-sport venues around Perth, Western Australia, the findings may not be applicable to similar venues in other areas; although comparison with Wakefield & Blodgett's (1996) study revealed many similarities in the results. The use of only larger venues also meant that the findings may not hold true for smaller grounds. Future examinations of this topic could perhaps be undertaken that cover a wider geographical area and include large, metropolitan, as well as country venues.

This study was also limited to particular types of leisure-sport venues due to the need for venue choice for spectators, and the need for the events to be non-team-based spectator sport. Due to these restrictions, the results may not cover every type of spectator leisure-sport venue there is.

As this study only examined a portion of the servicescape framework proposed by Bitner (1992), there are many other dimensions that are worthy of study. These include environmental ambiance, signs and symbols, textures and quality of materials used in construction and furnishings, temperature, music, noise, smell, and artifacts.

Possible future research projects on leisure-sport facilities could include the human element; the interaction between service personnel and service users. Mediating factors such as social interactions between spectators within and outside of the servicescape and, type of event could prove to be influential drivers of customer satisfaction and behavioral intentions.

This study has focused on physiological aspects of the servicescape. Much of the influence exerted by the five servicescape dimensions studied is assumed to be subconscious, this is due to the large amount of information that must be processed by spectators during a leisure-sport event, customers are in a "zone of indifference" until something out of ordinary happens with one of the servicescape elements. Future studies could explore the cognitive responses of perceived servicescape quality and how it affects customers. For example, environmental cues in an office such as size of desk, layout, color scheme, type of material, textures, lighting and ornaments such as certificates that are displayed on walls influence the perception of how important the occupant of the office is. These could lead to customers having higher or lower expectations of the level of service that they would receive from the occupant of the office, and hence affect satisfaction levels.

Another mediating variable not often studied in services marketing is the influence of environmental factors on emotion. What factors in the environment (e.g. temperature, dust, sunlight) contribute to feelings of comfort, excitement, or relaxation in a servicescape? Which factors cause irritability and a desire to leave a servicescape? Research has suggested that environmental factors will cause respondents to view similar retail products differently depending on the type of environment they are in (Obermiller & Bitner, 1984), however, research has yet to identify many of the driving elements of the service environment that causes such feelings.

Conclusion

A lack of research on factors that influenced customer satisfaction in non-team-based leisure-sport facilities was the motivation for this study. This thesis set out to achieve three goals, the first was to provide an understanding in terms of facility elements that were important to spectators in leisure-sport customers. The purpose of this was to assist leisure-sport facility managers in identifying the elements which influenced customer satisfaction, and the relationships of these factors to perceived servicescape quality, customer satisfaction, and approach/avoidance behaviors exhibited by customers. The second goal was to examine the effects of layout accessibility, facility aesthetics, electronic displays, seating comfort, and cleanliness on perceived servicescape quality. The last goal was to examine the relationships between perceived servicescape quality, satisfaction, desire to remain, and repatronage intentions.

A thorough literature review was carried out. The literature review discussed issues that affected customer satisfaction in service facilities; focusing on place and channel issues, and facility design in services marketing. Service satisfaction models were then introduced and discussed. These were SERVQUAL (Parasuraman et al., 1985), SERVPERF (Cronin & Taylor, 1992), and various disconfirmation of expectations models that did not subscribe to either SERVQUAL or SERVPERF. An extensive discussion was presented about the current debate in services marketing theory; this included the opposing views on theoretical definitions, and the operationalization of concepts in services literature. Bitner's (1992) Servicescape Model was then presented, along with Wakefield & Blodgett's (1996) treatment of the various servicescape elements that formed the base of this study.

In Chapter 3, the conceptual framework was developed, and the hypotheses of this study presented. An in-depth discussion was presented on the five servicescape dimensions and justification for studying these elements was given. The five servicescape elements were spatial layout, seating comfort, facility aesthetics, electronic displays, and cleanliness.

This study used empirical data from a questionnaire administered at seven non-team-based leisure-sport facilities in Perth, Western Australia. These facilities were chosen because they minimized the impact of "fan loyalty" bias that was inherent in other studies of leisure-sport servicescapes (e.g. Moore et al., 1999; Wakefield & Blodgett, 1996). Chapter 4 discussed the methodological issues of this study. These included sample selection, validity, generalizability, and reliability of the survey instrument. Limitations of the methodology of this study were also presented.

This thesis used factor analysis and structural equation modeling to analyze the Structural Equation Model. Factor analysis was used to ascertain that the data did indeed exhibit the five servicescape factors proposed in the Structural Equation Model. Structural equation modeling using a bootstrapping technique was then utilized to generate the structural and measurement models. Both these models confirmed the Structural Equation Model to a certain extent. Two competing models were then estimated to serve as comparisons for the Structural Equation Model. These were not found to be superior to the originally estimated model. The Structural Equation Model was retained and was then interpreted.

This study has shown that the servicescape has a significant effect on customer satisfaction, leading to desire to remain in the servicescape and/or future return visits. The ability of servicescapes to create an image is apparent in service businesses. This image could in turn affect customer expectations, satisfaction levels and approach/avoidance behaviors. This thesis has highlighted some aspects of leisure-sport servicescapes that are important to facility customers. Implications of the findings include how managers may manipulate the servicescape as a marketing tool. It is important therefore for facility managers to understand how the different elements of the servicescape operate and how these elements contribute to customer perception of quality and customer satisfaction. Managers must also constantly monitor the servicescape during events to ensure that the facility is performing as desired. Finally, although this study only looks at leisure-sport facilities, comparisons with similar studies suggest that the findings could be transferred to other servicescape settings.

References

ABC Corp. (2003). *Olympic Games: Part of the Australian Broadcasting Corporation's radio coverage of Sydney 2000* [WWW]. Australian Broadcasting Corporation. Retrieved 18 Feb, 2003, from the World Wide Web: http://abc.net.au/olympics/venues/homebush.htm

ACIL Consulting. (1999). *Australia's Gambling Industries: A submission to the Productivity Commission's inquiry into Australia's Gambling Industries* (Government Report). Canberra: ACIL Consulting.

Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing, 58*(July), 53-66.

Andreassen, T. W., & Lindestad, B. (1998). Customer loyalty and complex services: The impact of corporate image on quality, customer satisfaction and loyalty for customers with varying degrees of service expertise. *International Journal of Service Industry Management, 9*(1), 7-19.

Andrus, D. (1986). Office atmospherics and dental service satisfaction. *Journal of Professional Services Marketing, 1*(Summer), 77-85.

Anonymous. (1999, Dec 20). London Stadium design review draws IRE of job's architects. *Engineering News Record, 243,* 23-24.

Arnould, E., & Price, L. L. (1993). River magic: Extraordinary experience and the extended service encounter. *Journal of Consumer Research, 20*(June), 22-44.

Australian Bureau of Statistics. (1993). *Australia in profile: Census, (Cat. No. 2821.0).* Canberra: ABS.

Babakus, E., & Boller, G. W. (1992). An empirical assessment of the SERVQUAL scale. *Journal of Business Research, 24,* 253-268.

Babin, B. J., Darden, W. R., & Griffin, M. (1994). Work and/or fun: Measuring hedonic and utilitarian shopping value. *Journal of Consumer Research, 20*(March), 644-656.

Bakeman, R., & Gottman, J. M. (1986). *Observing interaction: An introduction to Sequential Analysis*. Cambridge: Cambridge University Press.

Baker, J. (1987). The role of the environment in marketing services: A consumer perspective. In J. Shanahan (Ed.), *The services challenge: Integrating for competitive advantage* (pp. 79-84): American Marketing Association.

Baker, J., Berry, L. L., & Parasuraman, A. (1988). The marketing impact of branch facility design. *Journal of Retail Banking, 10*(2), 33-42.

Baker, J., & Cameron, M. (1996). The effects of the service environment on affect and consumer perception of waiting time: An integrative review and research propositions. *Journal of the Academy of Marketing Science, 24*(4), 338-349.

Baker, J., Grewal, D., & Parasuraman, A. (1994). The influence of store environment on quality inferences and store image. *Journal of the Academy of Marketing Science, 22*(4), 238-339.

Barker, R. T., & Pearce, G. C. (1990). The importance of proxemics at work. *Supervisory Management, 35*(July), 10-11.

Bateson, J. E. G. (1983). Self-service consumer: An exploratory study. *Journal of Retailing, 59*(Spring), 21-45.

Bateson, J. E. G., & Hui, M. K. (1992). The ecological validity of photographic slides and videotapes in simulating the service setting. *Journal of Consumer Research, 19*(September), 271-281.

Becker, F. D. (1981). *Workspace*. New York: Praeger Publishers.

Bell, P., Fisher, J. D., & Loomis, R. J. (1978). *Environmental psychology.* Philadelphia: W. B. Saunders Co.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246.

Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods and Research, 16*(1), 78-177.

Bernama. (2001, Mar 12). Management of sports facilities to be given special attention. *Financial Times Information Limited,* pp. 1.

Berry, W. (1998). Bank One Ballpark set to make debut in big way. *Tampa Tribune.*

Biggers, T., & Pryor, B. (1982). Attitude change: A function of the emotion eliciting qualities of environment. *Personality and Psychology Bulletin, 8*(March), 94-99.

Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. *Journal of Marketing, 54*(April), 69-82.

Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing, 56*(2), 57-72.

Bittman, M. (1991). *Juggling time: How Australian families use time.* Canberra: Office of the Status of Women.

Bolton, R. N., & Drew, J. H. (1991a). A longitudinal analysis of the impact of service changes on customer attitudes. *Journal of Marketing, 55*(Jan), 1-9.

Bolton, R. N., & Drew, J. H. (1991b). A multistage model of customers assessments of service quality and value. *Journal of Consumer Research, 17*(4), 375-384.

Booms, B. H., & Bitner, M. J. (1981a). *Marketing strategies and organization structures for service firms.* Paper presented at the Marketing of Services, Chicago.

Booms, B. H., & Bitner, M. J. (1981b). Marketing strategies and organizational structures for service firms. In W. R. George (Ed.), *Marketing of Services* (pp. 47-51). Chicago: Dreyden Press.

Bouchet, D. (1994). Rails without ties: The social imaginary and post modern culture. Can post modern consumption replace modern questioning? *International Journal of Marketing, 11*, 405-422.

Boulding, W., Staelin, R., Klara, A., & Zeithaml, V. A. (1993). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research, 30*(Feb), 7-27.

Bowen, D. E., & Schneider, B. (Eds.). (1988). *Services marketing and management: Implications for organizational behavior* (Vol. 10). Greenwich: JAI Press Inc.

Cadotte, E. R., Woodruff, R. B., & Jenkins, R. L. (1987). Expectations and norms in models of consumer satisfaction. *Journal of Marketing Research, 24*(3), 305-314.

Carman, J. M. (1990). Consumer perceptions of service quality: An assessment of the SERVQUAL dimensions. *Journal of Retailing, 66*(1), 33-41.

Chambers, D. A. (1986). The constraints of work and domestic schedules on women's leisure. *Leisure Studies, 5*, 309-325.

Churchill, G. A. J. (1995). *Marketing Research: Methodological Foundations* (6th ed. Vol. 6). Orlando: The Dreyden Press.

Churchill, G. A. J., & Suprenant, C. F. (1982). An investigation into the determinants of customer satisfaction. *Journal of Marketing Research, 19*(Nov), 491-504.

Constantini, C., Macary, M., Regembal, M., & Zublena, A. (1999). The Stade de France. *Cost Engineering, 14*(12), 16.

Cronbach, L. J. (1951). Coefficient Alpha and the internal structure of tests. *Psychometrica, 16*, 297-334.

Cronin, J. J., & Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *Journal of Marketing, 56*(3), 55-69.

Cronin, J. J., & Taylor, S. A. (1994). SERVPREF versus SERVQUAL: Reconciling performance based and perceptions minus expectations measurement of service quality. *Journal of Marketing, 58*(January), 125-131.

Darden, W. R., Erdem, O., & Darden, D. K. (1983). *A comparison and test of three causal models of patronage intentions*. New York: North-Holland.

Devlin, J. F., Gwynne, A. L., & Ennew, C. T. (2002). The effects of a change in customer disposition on the zone of tolerance: A longitudinal study. *Australasian Marketing Journal, 10*(1), 47-58.

Dillon, W., Kumar, A., & Mulani, N. (1987). Offending estimates in covariance structure analysis: Comments on the causes and solutions to Heywood Cases. *Psychological Bulletin, 101*, 126-135.

Donovan, R., & Rossiter, J. (1982). Store atmosphere: An environmental psychology approach. *Journal of Retailing, 58*(Spring), 34-57.

Efron, B., & Tibshiran, R. J. (1993). *An introduction to the bootstrap.* New York: Chapman and Hall.

Eroglu, S. A., & Machleit, K. A. (1990). An empirical study of retail crowding: Antecedents and consequences. *Journal of Retailing, 66*(2), 201-221.

Fontana, A., & Frey, J. H. (1994). Interviewing. In Y. Lincoln (Ed.), *Handbook of Qualitative Research* (pp. 361-376). Thousand Oaks: Sage Publications.

Fornell, C. (1992). A national customer satisfaction barometer: The Swedish experience. *Journal of Marketing, 56*(1), 6-25.

Fortner, B. (1999). An Olympic endeavor. *Civil Engineering, August*, 48-53.

Gary, M., & Sansolo, M. (1993). 60th annual report of the grocery industry. *Progressive Grocer, 72*(4), 88-92.

Gilmore, A., & Carson, D. (1992). Marketing intelligence and planning. *European Journal of Marketing, 10*(7), 5-7.

Gilmour, L. (Ed.). (1993). *Collins Pocket Dictionary and Thesaurus.* Glasgow: HarperCollins Publishers.

Graduate School. (2002). *Doctoral & Masters by Research Handbook: Information for candidates and supervisors 2002*. Perth: Edith Cowan University.

Gramm, W. S. (1987). Labor, work and leisure: Human well being and the optimal allocation of time. *Journal of Economic Issues, March 21*(1), 167-188.

Green, S. B., Akey, T. M., Fleming, K. K., Hershberger, S. C., & Marquis, J. G. (1997). Effect of the number of scale points on Chi-Square fit indices in confirmatory factor analysis. *Structural Equation Modeling, 4*(2), 108-120.

Gronroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing, 18*(4), 36-44.

Hair, J. F. J., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). New Jersey: Prentice Hall.

Haley, R. (1968). Benefit segmentation: A decision orientated research tool. *Journal of Marketing, 32*(July), 30-35.

Hall, E. T. (1974). *Handbook for proxemic research*. Washington D.C.: Society for the Anthropology of Visual Communication.

Hayduk, L. A. (1987). *Structural Equation Modeling with LISREL: Essentials and advances*. Baltimore: The John Hopkins University Press.

Heskett, J. L. (1987). Lessons in the private sector. *Harvard Business Review, 87*(March-April), 118-126.

Hewitt, P. (1993). *About time: The revolution in work and family life*. London: Rivers Oram Press.

Hill, D. J. (1986). Satisfaction and consumer services. *Advances in Consumer Research, 13*, 311-315.

Hirschman, E. C. (1981). Retail research and theory. In K. J. Roerong (Ed.), *Review of Marketing*. Chicago IL: American Marketing Association.

Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: Emerging concepts, methods, and propositions. *Journal of Marketing, 46*(Summer), 92-101.

Hirshman, E. C. (1981). Retail research and theory. In K. J. Roerong (Ed.), *Review of Marketing*. Chicago IL: American Marketing Association.

Hoch, S. J., & Ha, Y. (1986). Consumer learning: Advertising and the ambiguity of product experience. *Journal of Consumer Research, 13*(2), 221-233.

Holahan, C. J. (1982). *Environmental psychology.* New York: Random House.

Holbrook, M. B., & Corfman, K. P. (1985). Quality and value in the consumption experience: Phaedrus rides again. In J. C. Olson (Ed.), *Perceived Quality: How consumers view stores and merchandise.* Lexington MA: Lexington Books.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55.

Hui, M. K., & Bateson, J. E. G. (1991). Perceived control and the effects of crowding and consumer choice on the service experience. *Journal of Consumer Research, 18*(September), 174-184.

Hussey, J., & Hussey, R. (1997). *Business research: A practical guide for undergraduate and postgraduate students*. Chippenham, Wiltshire: Macmillan Press Limited.

Johnson, B. K., & Whitehead, J. C. (2000). Value of public goods from sports stadiums: The CVM approach. *Contemporary Economic Policy, 18*(1), 48-58.

Johnson, M. D., & Fornell, C. (1991). A framework for comparing customer satisfaction across individuals and product categories. *Journal of Economic Psychology, 12*, 267-286.

Johnston, R. (1995). The zone of tolerance: Exploring the relationships between service transactions and satisfaction with the overall service. *International Journal of Service Industry Management, 6*(2), 46-62.

Joreskog, K. (1970). A general method for analysis of covariance structures. *Biometrika, 57*, 239-251.

Joreskog, K., & Sorbom, D. (1993a). *Lisrel 8: Structural equation modeling with the SIMPLIS command language*. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers.

Joreskog, K., & Sorbom, D. (1993b). *Prelis 2: User's reference guide*. Hillsdale, New Jersey: Lawrence Earlbaum Associates Publishers.

Kaplan, S. (1987). Aesthetics, Affect and Cognition. *Environment and Behavior, 19*(Jan), 3-32.

Kerin, A. R., Jain, A., & Howard, D. J. (1992). Store shopping experience and consumer price quality value perceptions. *Journal of Retailing, 68*(4), 376-398.

Kline, R. B. (1998). *Principles and practice of structural equation modeling*. New York: Guilford Press.

Klopfer, R. (1987). Sympraxis- Semiotics, aesthetics, and consumer participation. In J. Umiker-Sebeok (Ed.), *Marketing and semiotics: New directions in the study of signs for sale* (pp. 123-148). Berlin: Mouton de Gruyter.

Koepp, S. (1987). Pul-eeze! Will somebody help me? *Time, Feb 2,* 28-34.

Koger, D. (2001). Expanding sports facilities. *American School and University, 73*(11), 48-50.

Kotler, P. (1997). *Marketing management: Analysis, planning, implementation and control* (9th ed.). New Jersey: Prentice Hall.

Krumholz, N. (1999). Equitable approaches to local economic development. *Policy Studies Journal, 27*(1), 83-95.

Langeard, E., Bateson, J. E. G., Lovelock, C., & Eigler, P. (1981). *Services marketing: New insights from consumers and managers* (81-104): Marketing Science Institute.

Lindquist, J. D. (1974). Meaning of image. *Journal of Retailing, 50*(Winter), 23-88.

Little, R. J. A., & Rubin, D. B. (1987). *Statistical analysis with Missing Data.* New York: Wiley.

Long, J. S. (1983). *Covariance Structure Models: An introduction to LISREL.* Newbury Park, California: Sage Publications.

Lynch, R., & Veal, A. J. (1996). *Australian Leisure*. South Melbourne, VIC: Longman.

Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness of fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin, 103*(3), 391-410.

Maslow, A. L., & Mintx, N. L. (1956). Effects of esthetic surroundings. *Journal of Psychology, 41*(April), 247-254.

Mazursky, D., & Jacoby, J. (1986). Exploring the development of store images. *Journal of Retail Banking, 62*(Summer), 145-465.

McCracken, G. (1988). *Culture and Consumption: New approaches to the symbolic character of consumer goods and activities*. Bloomington, IL: Indiana University Press.

McDonnell, I., Allen, J., & O'Toole, W. (1999). *Festival and special event management*. Milton, Qld, Australia: John Wiley & Sons Australia Ltd.

Mehrabian, A., & Russel, J. A. (1974). *An approach to environmental psychology.* Cambridge, MA: Massachusetts Institute of Technology.

Miller, C. (1993). US European shoppers seem pleased with their supermarkets. *Marketing News, 27*(June 21), 3.

Milliman, R. (1986). The effect of background music on the behavior of restaurant patrons. *Journal of Consumer Research, 13*(2), 59-67.

Mooney, C. Z., & Duval, R. D. (1993). *Bootstrapping: A Nonparametric approach to statistical inference.* Newbury Park, California: Sage.

Moore, J. N., Pickett, G. M., & Grove, S. J. (1999). The impact of a video screen and rotational-signage systems on satisfaction and advertising recognition. *The Journal of Services Marketing, 13*(6), 453-467.

Morehead, A. (1999). A question of time. *Work and Family Unit, 19*(April), 1-4.

NCCRS. (2002). *Sport and Recreation in Australia Statistics* [WWW]. National Center for Culture and Recreation Statistics. Retrieved 26 June, 2002, from the World Wide Web: http://www.sport.act.gov.au/aapart.html#table

Nelson, A. C. (2001). Prosperity or blight? A question of Major League Stadia locations. *Economic Development Quarterly, 15*(3), 255-265.

Nisbett, R., & Ross, L. (1980). *Human interface: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice Hall.

Noll, R. G., & Zimbalist, A. (Eds.). (1997). *Sports, jobs, and taxes: The economic impact of sports teams and stadiums*. Washington D.C.: Brookings Institution.

Nunnally, J. (1978). *Psychometric Theory*. New York: McGraw Hill Books.

Oakes, S. (2000). The influence of the musicscape within service environments. *The Journal of Services Marketing, 14*(7), 539-556.

Obermiller, C., & Bitner, M. J. (1984). Store atmosphere: A peripheral cue for product evaluation. In D. C. Stuart (Ed.), *American Psychological Association Annual Conference Proceedings* (pp. 52-53): American Psychological Association.

Ogilvy, J. (1986). The experience industry. *American Demographics, 8*(12), 27-31.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research, 17*(Nov), 460-469.

Oliver, R. L. (1989). Processing of the satisfaction response in consumption: A suggested framework and research propositions. *Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, 2*, 1-6.

Oliver, R. L. (Ed.). (1993). *A conceptual model of service quality and service satisfaction: Compatible goals, different concepts* (Vol. 2). Greenwich: JAI Press.

Oliver, R. L., & Linda, G. (1981). Effects of satisfaction and its antecedents on consumer preferences and intention. *Advances in Consumer Research, 8*, 88-93.

Oliver, R. L., & Winer, R. S. (1987). A framework for the formation and structure of consumer expectations: Review and propositions. *Journal of Economic Psychology, 8*(4), 466-499.

O'Neill, R. E. (1992). How consumers shop. *Progressive Grocer, 71*(Dec), 62-64.

O'Sullivan, E. L., & Spangler, K. J. (1998). *Experience marketing: Strategies for the new millennium.* Pennsylvania: Venture Publishing Inc.

Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991a). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing, 67*(4), 420-431.

Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991b). Understanding customer expectations of service. *Sloan Management Review, 32*(2).

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for further research. *Journal of Marketing, 49*(Fall), 41-50.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple scale item for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(Spring), 12-40.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994a). Alternative scales for measuring service quality: A comparative assessment based on psychometric and diagnostic criteria. *Journal of Retailing, 70*(3), 201-230.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994b). Reassessment of expectations as a comparison standard in measuring service quality: Implications for further research. *Journal of Marketing, 58*(January), 111-124.

Payne, J. W., Bettman, J. R., & Johnson, E. J. (1993). *The adaptive decision maker.* New York: Cambridge University Press.

Price, L. L., Arnould, E. J., & Tierney, P. (1995). Going to extremes: Managing service encounters and assessing provider performance. *Journal of Marketing, 59*(April), 83-97.

Quiggin, J. (2000). Shortening working hours. *Australian Options, 17*, 2-5.

Quirk, J., & Fort, R. D. (1992). *Pay dirt: The business of professional team sports.* Princeton, N.J.: Princeton University Press.

Rappaport, J., & Wilkerson, C. (2001). *What are the benefits of hosting a major league sports franchise?* (Economic Review). Kansas City: Federal Reserve Bank of Kansas City.

Recreation, M. o. S. a. (1995). *How to develop a management plan for your facility.* Perth, Western Australia: Ministry of Sport and Recreation, Government of Western Australia.

Reidenbach, R. E., & Sandifer-Smallwood, B. (1990). Exploring perceptions of hospital operations by a modified SERVQUAL approach. *Journal of Healthcare Marketing, 10*, 47-55.

Rigdon, E. E. (1995). A necessary and sufficient identification rule for structural models estimated in practice. *Multivariate Behavior Research, 30*(3), 359-383.

Rinne, H., & Swinyard, B. (1992). Discounters: A competitive study. *Stores, 74*(December), 54-57.

Roberts, K. (1978). *Contemporary society and the growth of leisure*. London: Longman.

Rook, D. (1985). The ritual dimension of consumer behavior. *Journal of Consumer Research, 12*(Dec), 251-264.

Rosentraub, M. S. (1996). *Major League losers: The real cost of sports and who is paying for it.* New York: Basic Books.

Russel, C. (1990). Everyone's gone to the moon. *American Demographics*(Feb), 2.

Russel, J. A., & Snodgrass, J. (1987). Emotion and the Environment. In I. Altman (Ed.), *Handbook of Environmental Psychology* (Vol. 1, pp. 245-281). New York: John Wiley and Sons Inc.

Rys, M. E., Fredericks, J. O., & Luery, D. (Eds.). (1987). *Value= Quality: Are service value and service quality synonymous: A decompositional approach.* Chicago: American Marketing Association.

Sanders, P. (1988). *Services Marketing.* Perth, W. A. Australia: Edith Cowan University.

Saurina, C., & Coenders, G. (2002). Predicting overall service quality: A structural equation modelling approach. In A. Mrvar (Ed.), *Developments in Social Science Methodology.* Ljubljana.

Shaw, V., & Anderson, J. (1995). The marketing of new golf developments in the UK and Ireland. *Journal of Marketing Practice: Applied Marketing Science, 1*(3), 53-67.

Shostack, L. G. (1977). Breaking free from product marketing. *Journal of Marketing, 41*(April), 73-80.

Shostack, L. G. (1984). Designing services that deliver. *Harvard Business Review, 62*(Jan-Feb), 133-139.

Shostack, L. G. (1985). Planning the service encounter. In C. F. Suprenant (Ed.), *The service encounter* (pp. 243-254). New York: Lexington Books.

Singer, M., & Tolliver, S. (2001). Recreational development. *Public Management, 83*(3), 6-10.

Smith, A., & Stewart, B. (1999). *Sports management: A guide to professional practice.* St Leonards, NSW: Allen & Unwin.

Smith, P., & Burns, D. J. (1996). Atmospherics and retail environments: The case of the "power aisle". *International Journal of Retail & Distribution Management, 24*(1), 7-16.

Snodgrass, J., Russel, J. A., & Ward, L. M. (1988). Planning, mood and space lighting. *Journal of Environmental Psychology, 8*(3), 209-222.

Solomon, M. R., Suprenant, C. F., Czepiel, J. A., & Gutman, E. G. (1985). A role theory perspective on dyadic interactions: The service encounter. *Journal of Marketing, 49*(Winter), 99-111.

Sommer, R. (1974). *Tight spaces: Hard architecture and how to humanize it.* Englewood Cliffs, New Jersey: Prentice Hall.

Sorge, G. (2000). Increased demand for recreational facilities places focus on master planning. *Public Works Journal, 131*(12), 40-44.

Spreng, R. A., MacKenzie, S. B., & Olashavsky, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *Journal of Marketing, 60*(July), 15-32.

SPSS, I. (2001). SPSS for Windows (Version 11): SPSS Inc.

Sundstrom, E., & Irwin, A. (1989). Physical environments and work-group effectiveness. *Research in Organizational Behavior, 11*, 175-209.

Sundstrom, E., & Sundstrom, M. (1986). *Work places*. Cambridge: Cambridge University Press.

Suprenant, C. F., & Solomon, M. R. (1987). Predictability and personalization in the service encounter. *Journal of Marketing, 51*(April), 73-80.

Sutton, R., & Rafeali, A. (1988). Untangling the relationship between displayed emotions and organizational sales: The case of convenience stores. *Academy of Management Journal, 31*(3), 461-487.

Tanaka, J. S. (1993). Multifaceted conceptions of fit in structural equation models. In J. S. Long (Ed.), *Testing structural equation models*. Newbury Park, CA: Sage.

Taylor, S. A., Sharland, A., Cronin, J. J. J., & Bullard, W. (1993). Recreational service quality in the international setting. *International Journal of Service Industry Management, 4*(4), 68-86.

Thwaites, D. (1999). Closing the gaps: Service quality in sport tourism. *Journal of Services Marketing, 13*(6), 500-516.

Tom, G., Barnett, T., Lew, W., & Selmants, J. (1987). Cueing the customer: The role of salient cues in consumer perception. *Journal of Marketing, 4*(Spring), 23-28.

Tucker, L. R., & Lewis, C. (1973). The multidimensional nature of services facilities: Viewpoints and recommendations. *Journal of Services Marketing, 6*(Summer), 37-45.

Turley, L. W., & Fugate, D. (1992). The multidimensional nature of service facilities: Viewpoints and recommendations. *The Journal of Services Marketing, 6*(3), 37-45.

Turner, V. (1969). *The Ritual Process*. Chicago: Aldine.

Varley, P., & Crowther, G. (1998). Performance and the service encounter: An exploration of narrative expectations and relationship management in the outdoor leisure market. *Marketing Intelligence and Planning, 16*(5), 311-317.

Wakefield, K. L., & Blodgett, J. G. (1994). The importance of servicescapes in leisure service settings. *Journal of Services Marketing, 8*(3), 66-76.

Wakefield, K. L., & Blodgett, J. G. (1996). The effect of the servicescape on customers' behavioral intentions in service settings. *Journal of Services Marketing, 10*(6), 45-61.

Walker, J. L. (1995). Service encounter satisfaction: Conceptualized. *Journal of Services Marketing, 9*(1), 5-14.

Weber, B. (2001). Facilities 2001: The latest in sports buildings and fields. *Coach and Athletic Director, 70*(7), 24-28.

Westbrook, R. A. (1987). Product/consumption-based affective responses and post purchase processes. *Journal of Marketing Research, 24*(Aug), 258-270.

Wholwill, J. F. (1976). Environmental aesthetics: The environment as a source of affect. In J. F. Wholwill (Ed.), *Human Behavior and environment* (Vol. 1). New York: Plenum Press.

Woodruff, R. B., Cadotte, E. R., & Jenkins, R. L. (1983). Modeling consumer satisfaction processes using experience based norms. *Journal of Marketing Research, 20*(Aug), 296-304.

Wortman, C. B. (1975). Some determinants of perceived control. *Journal of Personality and Social Psychology, 31*(2), 282-294.

Zeithaml, V. A. (1981). How consumer evaluation processes differ between goods and services. In W. R. George (Ed.), *Marketing of services* (pp. 196-290). Chicago: American Marketing Association.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1988). Communication and control processes in the delivery of service quality. *Journal of Marketing, 52*(April), 35-48.

Zikmund, W. G. (2000). *Exploring Market Research* (7th ed.). Fort Worth, Texas: The Dreyden Press.

Appendix 1

Survey instrument

Facility research survey cover letter

Hi there,

My name is Alvin Lee and I am currently exploring satisfaction with sports facilities around Perth as part of my Masters degree. This survey is designed to find out about your feelings towards certain aspects of this sports facility such as seating, cleanliness, electronic scoreboards, food service areas and general facility design. By assessing your attitudes towards these items as well as your desire to stay and satisfaction with the facility, we hope to identify factors that will help facility managers and designers produce and run better facilities that increase your enjoyment and satisfaction while you are here.

Please be assured that this is an anonymous questionnaire. Please ensure that you do not write your name, or any other comments that will make you identifiable, on the attached questionnaire. By completing the questionnaire you are consenting to take part in this research. As such you should first read the enclosed disclosure statement as it explains fully the intention of this project.

Thank you for filling out this survey and please drop it off in one of the bright green collection boxes when you have finished.

Yours sincerely,

Alvin Lee
School of Marketing
Faculty of Business and Public Management
Edith Cowan University (Joondalup Campus)
Email: a.lee@ecu.edu.au
Phone[redacted]

Facility survey

Hi, I am a postgraduate student from Edith Cowan University and am conducting this survey for my masters thesis, which is about how you feel towards various aspects of leisure facilities. These include seating comfort, colour scheme, electronic scoreboards, food service outlets, washrooms, walkways, lighting and the general design of the facility. It is also about your intention to remain for long periods of time in a leisure facility and your intentions to revisit the facility. It will take you roughly 10 minutes to complete this survey, and your help is greatly appreciated. Please be assured that this survey is completely anonymous. Your answers will be used for my report, and hopefully will help managers of facilities like this improve your future leisure experience.

By filling out this survey and returning it, you agree to participate in this study. Please do not write your name or any identifying mark on this survey. If you have any queries about this study you can contact **Alvin Lee, at 0418904238** or **The Research Ethics Officer, Edith Cowan University, at 9273 8170.**

Thank you for your time and please remember to return the survey. Have a good day ☺

This survey is designed to determine how happy you are with the facility you are now in. Please circle the number on the scale to show the extent to which you feel this facility meets your expectations.

		Strongly Disagree				Strongly Agree
1	The facility layout makes it easy to get the kind of food service I want	1	2	3	4	5
2	The facility layout makes it easy to get to my seat	1	2	3	4	5
3	The facility layout makes it easy to go to the restrooms	1	2	3	4	5
4	Overall, this facility's layout makes it easy to get where I want to go	1	2	3	4	5
5	This facility is painted in attractive colours	1	2	3	4	5
6	The interior wall and colour schemes are attractive	1	2	3	4	5
7	This facility's architecture gives it an attractive character	1	2	3	4	5
8	This facility is decorated in an attractive fashion	1	2	3	4	5
9	This is an attractive facility	1	2	3	4	5
10	There is plenty of knee room in the seats	1	2	3	4	5
11	There is plenty of elbow room in the seats	1	2	3	4	5
12	The seat arrangements provide plenty of space	1	2	3	4	5
13	This facility provides comfortable seats	1	2	3	4	5
14	The scoreboards are entertaining to watch	1	2	3	4	5
15	The scoreboards add excitement to the place	1	2	3	4	5
16	The scoreboards provide interesting statistics	1	2	3	4	5

Please turn over to other side → → → → → → → → → → → → → → →

		Strongly Disagree				Strongly Agree
17	This facility has high quality scoreboards	1	2	3	4	5
18	This facility has high quality rest rooms	1	2	3	4	5
19	This facility has clean restrooms	1	2	3	4	5
20	This facility maintains clean food service areas	1	2	3	4	5
21	This facility maintains clean walkways and exits	1	2	3	4	5
22	Overall, this facility is kept clean	1	2	3	4	5
23	I enjoy spending time at this facility	1	2	3	4	5
24	I would like to stay at this facility as long as possible	1	2	3	4	5

Please indicate your feelings towards the following statements by circling the appropriate dots _O__:__:__

25. The overall quality of this facility is:

Terrible	__:__:__:__:__:__:__	Great
Much worse than I expected	__:__:__:__:__:__:__	Much better than I expected
Not at all what it should be	__:__:__:__:__:__:__	Just as it should be

26. The overall feeling I get from this facility is:

Dissatisfaction	__:__:__:__:__:__:__	Satisfaction
Puts me in a bad mood	__:__:__:__:__:__:__	Puts me in a good mood

27. I intend to visit this facility again

Highly intend	__:__:__:__:__:__:__	Do not intend

28. Please state your year of birth ___________

29. Are you ☐ Female ☐ Male

30. What is your normal occupation?

☐ Retired / Pensioner	☐ Clerical	☐ Home Maker
☐ Professional	☐ Blue Collar	☐ Student
☐ Self Employed	☐ Managerial / Executive	☐ Unemployed

☐ Other : Please state ______________

Thank you for your time. Have a great day

Appendix 2

Consent forms

Disclosure / consent form for interviews / focus groups

I, ______________________________________ am willing to participate in this research concerning how I feel towards the sports facility that I am now in.

This research consists of interviews with the researcher who will ask questions regarding my thoughts and feelings related to being in a sports facility. Questions will cover how I feel towards various areas of the facility that include seating, comfort, colour scheme, electronic scoreboards, food service outlets, washrooms, walkways, lighting and the general design of the facility. I understand that I will be asked about my opinion about remaining for long periods of time in a sporting facility and the factors that will affect this. There will also be discussion about my intentions to revisit the facility.

I understand that the interviews will take approximately an hour, depending on my needs. I will have the opportunity to review what I have said, and to clarify or expand on any information that I have provided. In addition, I will be able to comment in a collaborative manner on material developed by the researcher.

My participation in this study is voluntary and I realise that there may be no direct benefit to me, although the information that I give is likely to benefit managers and designers of sports facilities. I understand that I may stop the interview at any time and decline to answer any question. All information is confidential to the researcher and his supervisor and my identity will not be revealed on any transcript or cassette tape. I am also aware that the cassettes will be stored under lock and key for five years and destroyed by erasing them at the end of that period.

I have read the information provided and any questions I have asked have answered to my satisfaction. I agree to participate in this study realising that I may withdraw at any time without penalty.

I understand that the research data gathered for the study may be published provided I am not identifiable. I will be provided with a copy of the final report should I want one.

I understand that I am entitled to a copy of this form for my purposes if I should desire one. I understand that if I have any questions about this project entitled "Impacts of sport facility design on customer satisfaction", I can call Alvin Lee of the School of Marketing, Edith Cowan University on [redacted] I also understand that if I have any concerns about the project and need to talk to an independent person, I can call K.Mizerski on [redacted]

Participant's signature: ______________________________ Date: ________

Researcher's signature: ______________________________ Date: ________