PRICING PARTICIPANT SPORT: THE PRICING DEVELOPMENT PROCESS IN LONG-DISTANCE RUNNING EVENTS

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ABSTRACT

The current research investigates pricing practices and consumer behavior in long-distance running events. Two studies address (1) current practices in pricing and registration policies for long-distance running events, and (2) factors that influence the decision-making process by which event organizers develop, adopt, and implement particular pricing policies. Study One involves a descriptive census of policies currently in use for a comprehensive list of running events in the United States that include races at the full or half marathon distance. Study Two adopts a multi-case study approach based on semi-structured interviews of running event organizers, supplemented by additional organizational documents, to investigate the pricing and registration policy development process. Collectively, these two studies examine the *what*, the *why*, and the *how* of pricing policy development in long-distance running events. Based on study findings, a conceptual model was developed incorporating major sources of influence (organizational, consumer, environmental, and event) on the pricing policy development process. This research contributes to sport management by providing deeper understanding of how participant sport, specifically long-distance running events, is priced and how pricing decisions influence consumer behaviors. Results additionally provide practical insight for running event organizers seeking to improve or enhance pricing policies and revenue management by understanding both common and atypical practices in use throughout the running event industry. Finally the current research lays a foundation for a stream of future research building on findings from two studies and data generated in the process of addressing the overarching research questions.

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We must know what the world needs first and then invest ourselves

to supply that need, and success is almost certain.

-Russell Conwell

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CHAPTER ONE:

INTRODUCTION

Large- and mid-sized running events have seen widespread growth over the past two decades. In the United States, over 28,000 events generated nearly 19 million event finishers in 2014, each figure approximately 1% below all-time record levels set in 2013 (Running USA, 2015). Marathons (26.2 miles) and half marathons (13.1 miles) account for nearly all of the reported surge in race participation (Lough, Pharr, & Owen, 2014). Unlike professional team sport events which rely on spectator appeal, the economic success of running events is driven by participant consumption (Wicker, Hallmann, & Zhang, 2012).

Yet, the explosive growth within the road race industry has led to a crowded field and competition between events to attract runners. Dan Cruz, spokesman for the Competitor Group, organizers of the Rock 'n' Roll series, observed that many markets in the U.S. are oversaturated with distance running events (McCue, 2015). This sentiment was echoed by Running USA CEO Rich Harshbarger, who suggested the number of annual races is near, if not past, the point of oversupply (McCue, 2015). As growth continues, a saturated marketplace requires increasing sophistication among sport managers (T. H. Kim, Ko, & Park, 2013). Race organizers are recognizing the importance of developing effective marketing approaches, paying greater attention to runner behaviors and demand-based event pricing.

Statement of the Problem

Pricing and registration policies for long-distance running events vary dramatically between race organizers. While some policy elements are wide-spread and

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approach de facto industry standards (e.g., registration fees are typically non-refundable and offer limited or no transferability), others are highly heterogeneous. Specifically, races differ in how they are priced, how many different prices are offered, the basis for price discrimination, and how prices are presented to potential participants. This represents a dilemma for race organizers seeking to adopt optimal pricing policies. Absent guidance regarding the effect of various possible policy decisions, an organizer is left to rely on personal intuition or merely copying approaches used in other races.

As a preliminary step in preparation for the current research, the researcher reviewed a convenience sample of 109 U.S. races which include events at the marathon or half marathon distance. In this sample, most races (73%) offer multiple price tiers (mean = 3.6). By contrast, particularly high-profile races (e.g., New York City Marathon, Boston Marathon, Chicago Marathon, and Marine Corps Marathon) are routinely over-subscribed and conduct an entry lottery at a single price. Other, smaller races that expect to sell out quickly also typically use only a single price tier (e.g., the BAA Half Marathon, which sold out 2,000 slots for the 2015 race in four minutes).

Price tiers are typically based on registration date; however, some race organizers base prices changes on the number of registrations received to date. For example, the Surf City USA Marathon in Huntington Beach, CA lists the current price, along with an indication of approximately how many registration slots remain before the price increases. The Orange Blossom Half Marathon in Haines City, FL and the Run around the Lake Half Marathon in Clermont, FL employ ten price tiers ($1 to $90) based on how many runners have registered.

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For most running events, race organizers provide the complete menu of prices, including past, current, and future prices, at all times while race registration is open. A noteworthy exception to this general rule is the Rock 'n' Roll series of races conducted by Competitor Group. Competitor Group races display only the current price with a note that prices are subject to change at any time without notice. Similarly, the Sarasota Half Marathon in Sarasota, FL lists only the current price without explicitly noting that the price is subject to change beyond the statement "register early for the best price." This is of particular interest as the Sarasota Half Marathon is owned by Lifetime Fitness, which also organizes other races (e.g., Miami Marathon, Palm Beach Marathon) following the more common model of displaying all price tiers at all times. An advantage of not posting the complete price menu is that concealed prices allow for dynamic pricing, adjusting prices based on realized demand. It is unclear to what extent race organizers currently take advantage of this additional flexibility.

Pricing and registration policy diversity raises the question of whether there is an optimal approach and, if so, what that approach entails. A single best practice may or may not exist. Greater understanding of how pricing and registration policies are developed and how consumers respond to different policies, both those currently in use and those suggested based on theory, can form a basis for improved theory and practice.

The current research builds on a foundation drawn from existing literature on revenue management, with a focus on aspects particularly relevant to the development of pricing and registration policies for long-distance running events. Specifically, running events have relatively fixed capacity, require extensive advance sales of event registrations, event registration represents perishable inventory, and additional event

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participants require incurring relatively low marginal costs. Segmenting runners into relatively homogeneous groups based on registration date may offer event organizers a mechanism for differential pricing, improving overall revenue generation while serving a greater number of runners.

Purpose of the Research

This research is guided by two overarching research questions:

(1) What is current practice in pricing and registration policies for long-distance running events? and

(2) What factors influence the decision-making process by which event organizers develop, adopt, and implement particular pricing policies?

This dissertation comprises two studies to address these research questions. More in-depth discussions of the methods for each study are provided in chapter three.

Most existing sport pricing research focuses on the impact of price on consumer attitudes and behaviors, however consumers represent only one side of the equation. Further research is necessary to improve understanding of how sellers (race organizers in the current context) set prices (Drayer & Rascher, 2013). Thus the current research begins with a focus on the running event organizer perspective. Study One is a census of running event pricing and registration policies. This study provided an overview of the policies currently in use, identified divergent industry practices, supports future running event pricing research, and provided real-world examples of pricing practices currently in use. Study Two involved interviews with running event organizers to understand the processes leading to the development and implementation of pricing and registration policies. Study One generated information regarding pricing policies currently in place,

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while Study Two explicated the processes through which event organizers develop such policies to identify factors that influence the process through which they develop, adopt, and implement particular pricing policies.

In combination, these two studies investigated the current state of running event pricing from the organizer perspective. Expanding the preliminary review of registration policies to a comprehensive census, in Study One, permitted drawing conclusions regarding the relative frequency with which running event organizers embrace different pricing policy practices. This investigation also provided examples of both common and relatively rare policy elements, suggesting potential alternatives for evaluation in future research. While a descriptive census can categorize and itemize existing policy, interviews with event organizers, in Study Two, provided deeper understanding of the pricing policy development process. Building on the review from Study One, Study Two investigated how and why race organizers develop or decide upon specific pricing policies. Contrasting responses from different organizers revealed patterns in how pricing policies are determined and offered insight into how such processes can be modified and improved.

Theoretical Contributions and Practical Significance

This research contributes to the sport management literature by investigating aspects of the pricing process for participant sport events, specifically long-distance running events. Long-distance running events, defined for the purposes of this research as those which include a full or half marathon, are appropriate both for their popularity and the planning requirements placed on participants. According to Running USA (2015), there were record numbers of finishers in marathons (550,637) and half marathons

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(2,046,600) in 2014. Half marathons represent the most favored race distance among runners (Running USA, 2015). Long-distance running events typically have higher registration fees ($50-$250) and require more planning than shorter distance events, such as a 5k. Thus, the registration decision process is more complex and runners considering participating in these events likely place more attention on event prices. This research additionally offers practical value by providing insight and understanding into pricing decisions which can aid race organizers in developing optimal policies. Finally the current research lays a foundation for a stream of future research building on the planned studies and data generated in the process of addressing the overarching research questions.

This research contributes to the growing body of sport pricing literature. Spectator team sport, generally at the professional level, dominates the available sport pricing literature. Pricing of participant sport remains understudied, despite the large number of individuals who regularly engage in sport activities. The sport industry is increasingly reliant on data-driven decision-making (Drayer & Shapiro, 2011). Understanding how pricing policies are developed and the influence of different policy decisions upon runners allows greater appreciation for how this key marketing mix element affects consumer behaviors and attitudes. The current research identified common industry practices race organizers follow (Study One) and examined factors which contribute to the development of pricing policies for participant sport events (Study Two).

From a practitioner perspective, the current research offers insight into consumer behaviors which can aid race organizers in adopting optimal pricing policies. Race organizers gain additional resources, revenue, and profitability through appropriate

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pricing decisions. In a competitive market environment, improving financial performance is crucial. Pricing errors can have substantial negative consequences in terms of revenue and participation (Drayer & Shapiro, 2011). The current research will help participant sport event managers more completely understand the actual economic value of their product and maximize their pricing efficiency. In turn, this supports increased revenue generation while maintaining customer value perception and satisfaction.

Overview of Forthcoming Chapters

The remainder of this dissertation is organized as follows. Chapter two reviews existing conceptual and empirical literature to provide context for the research. The contents of chapter two are organized in four major areas: (i) revenue management, (ii) fixed capacity and overbooking, (iii) customer segmentation, and (iii) pricing policy implementation. Previous literature on revenue management provides the primary theoretical foundation. Particular focal areas include the economic foundations of advance selling, overbooking practices, customer segmentation, fairness perceptions, and reference prices. Chapter three includes a detailed description of the methods used in two studies to address the research questions. Following a brief introduction of each study, research methods are described, including data collection and analysis. Chapter four presents results and findings from the two studies that comprise the current research. Chapter five discusses those findings, placing them into the context of extant literature, while chapter six summarizes the academic contributions and managerial implications, identifies study limitations, and suggests future research directions building on the foundation laid by this dissertation.

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CHAPTER TWO:

REVIEW OF THE LITERATURE

Relatively little is known about the process organizers follow when developing pricing policies for running events. Because consumer response depends on the structure of pricing policies, understanding how these policies are created has considerable potential significance. From an academic perspective, understanding how managers develop pricing policies is highly relevant to understanding the role pricing plays in the marketing mix and should inform future research on objective approaches to pricing. From a practitioner perspective, understanding runners' behaviors aids in developing pricing policies that best meet organizational and consumer objectives. Historically, managers have treated pricing as a low-level tactical issue (Cravens & Piercy, 2012). When developing pricing strategy, organizations frequently follow a piecemeal and fragmented approach built on ad hoc managerial decisions (Piercy, Cravens, & Lane, 2010). Greater understanding of the factors which influence pricing policy and the processes sport organizations use when developing prices will help academics develop theoretical models and guide practice.

Sport managers have traditionally made pricing decisions based on the revenue needs of their organization (Howard & Crompton, 2004). The predominant approach has been to raise prices incrementally over time, either by an arbitrary percentage or a set amount at each adjustment opportunity (Howard & Crompton, 2004). Largely based on practices in professional team sport, researchers have reported a shift in recent years toward demand-based approaches (Drayer & Shapiro, 2011). Given consumer heterogeneity, demand-based approaches ideally require differential pricing, that is,

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charging different prices to different consumers for the same services (Loomis & Walsh, 1997). The purpose of differential pricing is to capture as much of the consumer surplus as possible (Howard & Crompton, 2004). The economic return to offering multiple price tiers is higher in markets with greater heterogeneity in willingness to pay. Increased consumer diversity increases the profitability of price discrimination and the value to the organization of segmenting consumers and charging different prices to each segment (Courty, 2015).

The remainder of chapter two reviews existing pricing literature and theory to establish a foundation and provide context for the studies described in the next chapter. This review comprises five major areas. First, the chapter reviews existing literature on price discrimination, which forms the theoretical foundation for the current research. The second section focuses on revenue management, which guides the practical implementation of price discrimination and the conditions under which price discrimination is expected to be beneficial in developing pricing policies for long-distance running events. The third section reviews fixed capacity and overbooking, including subtopics related to the economic foundations of advance demand, advance selling, and overbooking practices. The fourth section reviews customer segmentation, with particular attention to segmenting runners based on how far in advance they register for running events. The fifth section addresses pricing policy implementation. Specific subtopics include fairness perceptions and reference prices. The chapter closes with a conclusion before transitioning to chapter three, which details the methods for two studies designed to address the research questions.

Price Discrimination

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Price discrimination or differential pricing is the practice of charging different consumers different prices for identical or substantially similar products or services (Phlips, 1983; Talluri & Van Ryzin, 2004; Tirole, 1988). Based on neo-classical microeconomic theory, price differentiation represents one of the most prevalent forms of marketing practice (Varian, 1989). Pigou (1932) described three tiers of price discrimination:

First-degree price discrimination consists of personalized pricing where a product is sold to each customer at a different price, representing that customer's idiosyncratic maximum willingness-to-pay. First-degree price discrimination is also called perfect price discrimination and maximizes firm revenue, however requires perfect information where the seller knows the absolute maximum price for each consumers.

Second-degree price discrimination consists of versioning, where slightly differentiated products are priced differently and consumers are permitted to self-select which product-price bundle to purchase. Examples include quantity requirements, advance-purchase requirements, or other artificial restrictions. Setting different prices for different product quality is an example of second-degree price discrimination. While all runners receive the same race experience,[1] different prices based on registration date represent a form of second-degree price discrimination that is common with long-distance running events.

Third-degree price discrimination consists of dividing or segmenting an overall market into smaller groups based on identifiable characteristics and establishing different prices for consumers in each segment. All members of the same segment face the same

[1] Ignoring *VIP* services offered to a small number of runners for a premium fee in favor of the more general case where all runners receive event entry, identical or equivalent swag bags, and other services.

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price, however prices vary between segments. Third-degree price discrimination assumes that the firm can identify the segment for each particular customer and that the divisions between segments are relatively non-porous. Examples include geographic restrictions, age-based discounts, and peak or off-peak pricing.

To be effective, price discrimination relies on three conditions, namely (i) some degree of market power, (ii) limited or no resale, and (iii) variance in consumer preferences (Talluri & Van Ryzin, 2004). That the seller has some degree of pricing power in the form of a monopolistic or oligopolistic market structure is necessary as firms lack the ability to set prices under perfect competition (Mas-Colell, Whinston, & Green, 1995; Varian, 1992). To the extent that long-distance running events are non-substitutable, event organizers have monopoly power to sell participation rights for their particular event or events. Running events are likely somewhat substitutable, however the limited number of events within a given market could still offer an oligopolistic market structure.

Price discrimination also requires the ability to prevent or restrict arbitrage, where customers who purchase at a discount can resell the product to other consumers with higher valuations, thus competing with the original seller (Talluri & Van Ryzin, 2004). Long-distance running event organizers typically restrict transfers of event registration, either outright prohibiting the practice or allowing limited transfer at some cost. While bib violations (i.e. runners participating in an event wearing a bib registered to another runner) are known, this practice is actively discouraged by event organizers and may result in sanctions against both the registered and participating runners (Chase, 2013).

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Finally, variance in consumer preferences involves differences in price sensitivity or non-price preferences between consumers (Talluri & Van Ryzin, 2004). If all runners want the same event and are willing to pay the same registration fee at all times, there is minimal scope for price discrimination to affect registration revenue. The next section illustrates how price discrimination can increase total revenue and provides graphical illustrations of approach.

Graphical Illustration of Price Discrimination

The two images in Figure 1 illustrate the effects of using a single (left image) or three (right image) different prices for the same product. The blue line in each image represents an arbitrary demand curve indicating the quantity demanded (number of event registrations that can be sold) at any particular price. Total revenue is calculated by multiplying quantity sold by price. The value p^* in the left image represents the revenue-maximizing price (the price that maximizes the shaded area). Using multiple prices (three prices in the right image) permits enclosing a greater area under the demand curve, and a corresponding increase in total revenue, than using a single price. As the number of prices tends toward infinity, the shaded area approaches the entire area under the demand curve as infinitely-fine rectangles progressively better approximate the shape of the curve.

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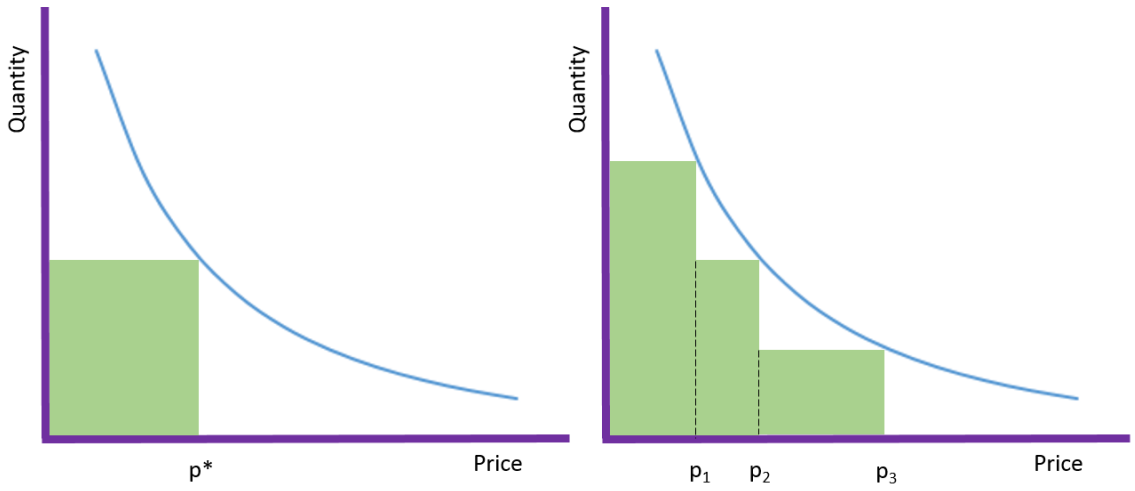

Figure 1. Revenue from (left) a single price and (right) three different prices

In the limit, with infinitely many rectangles (prices), the figure represents first-order price discrimination, where each customer pays exactly his or her maximum reservation price. In this case, total revenue is maximized and the seller (event organizer in the current context) captures the entire consumer surplus. With a finite number of prices (rectangles), somewhat less than this theoretic maximum is achievable, however each additional different price improves revenue obtained by the seller (event organizer). Third-degree price discrimination assumes that customers (runners) can be reliably identified or sorted into *n* segments with distinct prices offered to each segment. Prices (p_1, p_2, and p_3 in the right image) are set by maximizing the marginal revenue available from each customer segment (type of runner).

If segments cannot reliably be identified based on observed characteristics and runners sorted in a way that separates based on willingness-to-pay, event organizers must use second-degree price discrimination. Graphically, second-degree price discrimination looks the same as the right image in Figure 1, however the seller (event organizer) must establish incentives for consumers (runners) to self-select into their designated segment

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(price tier). This adds an additional constraint (the *incentive compatibility constraint*) such that purchasing at the (seller) preferred price provides the consumer utility at least as great as purchasing at any other price (including the conditions attached to the alternative price.

Tying running event registration fees to registration date represents an example of second-degree price discrimination. Runners who can commit to participate in an event earlier (or are more willing to incur increased risk of losing their registration fee in the case of non-participation) are offered registration fee p_3, while those who register closer to the event are charged (higher) registration fee p_2. The date of registration encourages runners to self-select into different segments (price tiers) based on their heterogeneous willingness-to-pay and risk aversion. Through offering multiple different prices, the event organizer captures greater revenue than would be available from establishing a single price for all runners. If the seller could identify runners' types and differentially charge runners of each type based on their willingness-to-pay (third-degree price discrimination), then the incentive compatibility constraint is relaxed. The additional requirement to satisfy the incentive compatibility constraint may require the event organizer to charge some runners strictly less than their maximum willingness-to-pay. To the extent that this occurs, second-degree price discrimination produces less revenue than does third-degree price discrimination. Because first-degree price discrimination perfectly extracts the entire consumer surplus, revenue is greatest with this approach; however the requirement for perfect information is not realistic in practice.

Theoretical arguments in favor of using price discrimination to maximize revenue still leave the question of how best to implement differential pricing. Empirical research

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on the effect of price discrimination in the entertainment industry has been accumulating recently for settings such as theater (Leslie, 2004), concerts (Courty & Pagliero, 2012), family entertainment (Moe & Fader, 2009), and spectator sport (Dwyer, Drayer, & Shapiro, 2013; Xu, Fader, & Veeraraghavan, 2015). However, to best of the author's knowledge, no such research has been published examining the role of price discrimination in participant sport, such as long-distance running events. Through revenue management techniques, reviewed in the next section, event organizers can apply price discrimination theory to registration policy development practice in establishing prices and other policy elements for second- or third-degree price discrimination.

Revenue Management

Revenue management is the practice of obtaining the greatest possible revenue from selling a service firm's capacity (Ng, 2007). In other words, selling the right product to the right customer at the right time for the right price (B. C. Smith, Leimkuhler, & Darrow, 1992). Essentially, revenue management is an application of price discrimination where the critical factor in establishing and separating consumer segments is date of purchase (Dana, 1999). An organization engaging in revenue management sets prices based on forecast demand patterns such that capacity sold early, perhaps at a relatively low price, does not deprive the organization of higher revenue from later sales (Ng, 2007). Kimes (1989, 2003) identifies six conditions for an organization to engage in revenue management. Namely, (i) relatively fixed capacity, (ii) consumer segmentation, (iii) perishable inventory, (iv) advance sales, (v) variable demand, and (vi) low marginal costs. Each of these conditions is reviewed in the next sections.

Relatively Fixed Capacity

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Revenue management focuses on efficient allocation of fixed capacity (Kimes, 1989). While some limited flexibility may be available, one of the core assumptions is that managers take capacity as exogenously given, at least over the short term. This assumption applies to running events as course characteristics and public safety concerns set an upper limit on the number of runners a race can accommodate. While event organizers could permit entry of more runners than the nominal capacity, physical and practical constraints impose a maximum capacity.

Consumer Segmentation

Effective revenue management requires segmenting customers into distinct partitions and tailoring marketing activities, including price, to each partition (Kimes, 1989). Marketers use many factors to create customer segmentations, including demographics, psychographics, and past behavior. For running events, runners are typically segmented based on registration lead time. Runners who register relatively early are provided discounts compared to those who register closer to race day. Runners' demographic characteristics are not generally used in price discrimination.

Perishable Inventory

One of the distinguishing features of services when compared to traditional manufactured goods is that services are perishable (Zeithaml, Parasuraman, & Berry, 1985). The day after a running event is held, a registration slot holds zero residual value. Any unsold capacity is spoiled as soon as the event takes place, representing a lost-opportunity cost to the organizer (B. C. Smith et al., 1992). Race organizers have a profit incentive to fill the race field as completely as possible without leaving any unsold and

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unutilized capacity. As discussed in a future section, overbooking beyond nominal capacity is one strategy race organizers can use to minimize spoilage.

Advance Sales

Kimes (1989) suggests that advance selling introduces uncertainty related to the decision of when to sell to an early customer rather than reserving capacity for later, potentially more profitable, customers. Based on simultaneity of production and consumption inherent to services, Ng (2007) argues all services are necessarily sold in advance. Even race day registration necessarily occurs before a runner crosses the starting line. She posits that purchase time and the ability of service providers to sell well in advance of consumption is, therefore, the basis for all revenue management.

Variable Demand

Firms use revenue management as a tool to smooth demand fluctuations by reducing prices during times of slow demand to increase utilization and increasing prices during times of high demand to capture greater revenue (Kimes, 1989). Unlike the hospitality industry, where a hotel property has the same number of rooms to sell on every night, whether in high or low season, running events occur at a single, particular time. While demand may fluctuate between different events or for events that could counter-factually be held on different dates, once scheduled, running events are held on a single date and at a single time.

Low Marginal Costs

Low marginal cost suggests that selling additional capacity adds relatively little additional cost, implying that all or nearly all of the purchase price of a marginal participant accrues to profitability. Large-scale events (such as running events) typically

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have high fixed costs and relatively low variable or marginal costs (Connolly & Krueger, 2006). Adding one additional runner to a field of hundreds or thousands of others costs the race organizer a minimal amount in comparison to the fee paid by the runner. Effectively, this means the cost side of the profit equation is irrelevant and zero marginal cost is a reasonable simplifying approximation. As a result, as long as the organizer can maintain prices for existing participants, there exists a strong incentive to add additional runners, even when their willingness-to-pay is below the overall average.

Running events feature each of Kimes's (1989) six characteristics of an industry well-suited for revenue management. Studies in the current research investigated the related issues of overbooking event registration and customer segmentation based on event registration date. These topics directly connect to revenue management; overbooking event registration is an approach for optimizing a relatively fixed capacity of perishable inventory, while date-based segmentation relates to advance sales and consumer segmentation. Both areas are essential to successful revenue management of long-distance running events and play key roles in developing appropriate event registration pricing policies. Subsequent sections of this chapter review literature related to forecasting future demand to accommodate fixed capacity through overbooking, date-based customer segmentation, and how perceived fairness and reference prices impact pricing policy implementation.

Fixed Capacity and Overbooking

The ability to accurately forecast future demand to support advance sales of a fixed capacity under unknown demand is one of the key foundations of revenue management (Kimes, 2003; Ng, 2007). Sport event organizers need to forecast future

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attendance accurately both for appropriate event planning and when establishing prices. Running event organizers market registration to runners who are uncertain they will participate in the event due to potential unforeseen changes in personal circumstances. This is further complicated by the chance that a race may reach capacity and sell out before this uncertainty is resolved. Many factors influence runners' ability and interest in participating in an event even after registration. Accurate prediction of which registered runners are likely to participate on race day is necessary for appropriate registration management, specifically with regard to overbooking. With consumption conditional on physical availability at a particular time and location, there will always be a fraction of runners unable to participate in a running event on race day (Ng, 2007).

While unforeseen scheduling conflicts can arise for any time-constrained advance purchase, participant sport events introduce a wider range of circumstances leading to non-consumption. Such factors include injury, unanticipated loss of training time, changes in personal circumstances, travel plans, inclement weather, and other unexpected scheduling conflicts. Up to 25% of those who register for a marathon ultimately do not participate in the race (Helliker, 2010). Training for a marathon is a physical ordeal that spans months, incurring substantial risk of injury and nontrivial likelihood that a registered runner will not actually participate. Compounding these risks, previous research has found consumers substantially overestimate their future ability to engage in regular fitness activities (DellaVigna & Malmendier, 2006). This aspect of participant sport exacerbates the uncertainty inherent in consumer advance purchase decisions, complicating the process for marketers seeking to develop an advance selling or overbooking strategy.

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Given an ability to predict how many runners will participate on race day, running event organizers may be able to develop a pricing policy that effectively overbooks fixed event capacity and improves profitability. Overbooking can substantially improve financial performance as the additional revenue is essentially pure profit (Lawrence, Hong, & Cherrier, 2003). Additionally, overbooking decreases the optimal registration price, stimulating additional demand and serving a greater number of runners. Understanding what factors influence participation, conditional on event registration, can aid in forecasting participant numbers and improve the accuracy of overbooking predictions. Conceptual models from the advance demand (Ng, 2007) and advance selling literature (Shugan & Xie, 2000, 2005; Xie & Shugan, 2001) provide a guiding theoretical framework for understanding how advance sales of a fixed capacity influence pricing decisions. Further insight is drawn from the overbooking literature, largely in the contexts of travel planning (Beckmann, 1958; B. C. Smith et al., 1992; Talluri & Van Ryzin, 2004; Thompson, 1961) and medical appointment scheduling (Blanco White & Pike, 1964; Harris, May, & Vargas, 2016; Huang & Hanauer, 2014; LaGanga & Lawrence, 2007, 2012). The next three sections review theory on advance demand, advance selling, and the practice of overbooking. Finally, specific hypotheses of the relationship between booking date or runner characteristics and no-show likelihood are developed and discussed.

Advance Demand

Ng (2007) presents a model of advance demand based on the opposing forces of acquisition risk and valuation risk. Consumers face acquisition risk from the risk of not attaining a desired service at time of consumption because the service either has sold out

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or the price has increased beyond the consumer's maximum willingness-to-pay. To alleviate uncertainty about availability, some runners will be willing to register for a race further in advance. Valuation risk is based on state-dependent consumption utility, whereby a consumer may not be able to consume a service purchased in advance or may otherwise have an unexpectedly low valuation for the service at time of consumption. Note that consumption utility might not drop to zero; low valuation merely requires that the state of the world renders consumption less valuable (e.g., a race during adverse weather conditions or after an interrupted training schedule). Runners facing relatively high acquisition risk prefer to register for a race earlier, while runners facing relatively high valuation risk prefer to delay registration until closer to race day. This trade-off impacts the race organizer's pricing policy as the balance between acquisition risk and valuation risk influences the optimal schedule of prices over time.

Valuation risk. Valuation risk is uncertainty in how a service will be valued at consumption; this uncertainty can arise from factors related to the runner, race organizer, or environment (Ng, 2007). Runners might be injured, ill, not in an optimal mood, or have unexpected family or work obligations on the day of a running event. An organization's poor reputation may increase valuation risk if the reputation casts doubt on the organization's ability to deliver a high-quality race experience. Environmental conditions, such as the risk of inclement weather, can also increase valuation risk.

Acquisition risk. Acquisition risk is uncertainty about future ability to register for a running event or ability to register for a running event at a particular price. Training plans targeted at a race in a certain time frame create acquisition risk leading to earlier registration. Likewise, high desirability of participating in a particular race increases

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acquisition risk for runners who see few substitutable alternatives or who place a substantially lower valuation on participating in a less-preferred alternative. Low substitutability and low capacity increase acquisition risk. Low capacity can increase perceived acquisition risk due to the possibility of sell-out. Even without high likelihood of capacity exhaustion, a race organizer that can credibly commit to increasing prices over time can heighten acquisition risk for runners who might be priced out of the market by delaying registration (Ng, 2007).

Advance Selling

The academic literature on advance selling concentrates on the travel and hospitality industries (airlines and hotels), where price discrimination and yield management strategies provide competitive advantage (Dwyer et al., 2013). This focus is motivated by wide-spread practitioner use of intertemporal customer segmentation, where early arrivals (i.e., leisure travelers) are relatively more price sensitive than late arrivals (i.e., business travelers). Offering price discounts based on arrival time supports profit maximization through optimally pricing tickets for both customer segments. Shugan and Xie (2000, 2005; Xie & Shugan, 2001) established capacity constraints and heterogeneous consumers are unnecessary for advance selling to improve profits. Their conclusion suggests the necessary conditions under which advance selling is optimal are broader than previously assumed.

Shugan and Xie (2000) demonstrate advance selling improves profits over selling exclusively in the spot market (i.e. at the time of consumption) when buyers are uncertain about their future consumption states and marginal costs are minimal. These two conditions are commonly fulfilled in service industries generally and participant sport

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specifically. Buyer uncertainty is expected when services are purchased in advance of consumption as the buyer's future state cannot be known with certainty (Shugan & Xie, 2000). Personal factors, idiosyncratic to the individual, affect consumption utility and, therefore, consumer valuation of a product or service. Some of these factors, such as health, mood, work, scheduling conflicts and family situation, vary unpredictably over time. For example, during the registration process a runner may consider the likelihood of being healthy, expected training opportunities in the lead-up to the race, and unforeseen obligations which might arise and prevent participation entirely.

At the time of consumption, these factors are generally known to the consumer but are unobserved by the seller. One implication is that sellers are at an information disadvantage at the time of consumption. Yet, when consumers make a purchase decision for future consumption, they too are uncertain about their future valuation (Shugan & Xie, 2000). With long registration lead times (up to a year in advance for marathons), runners face substantial uncertainty about their future consumption state at the time of registration. Advance selling shifts purchase decisions from the time of consumption, when sellers are at an informational disadvantage, to an earlier time when the seller and buyers share a common level of uncertainty. By allowing the seller to transact with buyers before the buyers realize their state at time of consumption, advance selling removes the seller's informational disadvantage (Shugan & Xie, 2000, 2005; Xie & Shugan, 2001).

Given long advance lead times for registration, vagaries of training schedules, and high incidence of overuse injuries, runners face substantial uncertainty and risk of not being able to participate when registering for a long-distance race. When registering

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months prior to an event, as is typical in this context, there is a substantial likelihood that a runner will not be able to participate. Because race registrations are usually non-transferable and non-refundable, an inability to participate in the event reduces the value of the registration to zero. To compensate, event organizers typically offer advance purchase discounts. Pricing tier design ought to account for how registration lead time impacts registrants' ability to participate successfully and the likelihood that runners will end up in favorable (able to participate) or unfavorable (non-participation) states.

Overbooking

Overbooking offers an alternative rationale for advance selling discounts that are increasing with registration lead time that does not rely on advance selling's homogenization of otherwise heterogeneous consumers. Runners who no-show a race (i.e., do not participate despite having registered and paid) lead to underutilized resources in terms of event capacity. Overbooking is the practice of intentionally selling more registration slots than the maximum capacity of a running event. Race organizers use overbooking to offset the impact of runners who no-show on race day. By properly setting registration levels higher than nominal event capacity, organizers compensate for no-shows, resulting in more efficient resource utilization. This practice increases profitability for the organizers while lowering average costs for runners and improving aggregate consumer surplus for those who participate.

Much of the overbooking research occurs in one of two contexts: travel planning (Beckmann, 1958; B. C. Smith et al., 1992; Talluri & Van Ryzin, 2004; Thompson, 1961) or medical appointment scheduling (Blanco White & Pike, 1964; Harris et al., 2016; Huang & Hanauer, 2014; LaGanga & Lawrence, 2007, 2012). The fundamental

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problem remains the same across contexts, namely maximizing service delivery efficiency through ensuring full resource utilization. In both settings, no-shows from those who have booked in advance lead to underutilized resources that can be reallocated to other customers if the service provider overbooks initially.

Ng (2009) suggests one rationale for advance selling discounts in services is the ability to resell non-consumed capacity. In many service contexts, including race registrations, resale in the spot market (i.e. on race day) is impractical. That said, much of Ng's core argument applies to overbooking in the advance market. Race organizers with the capability to predict how many runners will participate on race day may be able to manipulate advance prices to effectively overbook the fixed race capacity, improving profitability. Overbooking race registrations can substantially improve financial performance as this additional revenue is essentially pure profit (Lawrence et al., 2003). One approach to overbooking is using a *virtual capacity*, representing actual capacity plus an additional allowance for the expected number of no-shows (Morales & Wang, 2010; Talluri & Van Ryzin, 2004).

Accurate forecasts of no-show rates are an essential component of overbooking strategies. Underestimating the number of no-shows results in setting an unnecessarily low virtual capacity and foregoing revenue. Overestimating no-show rates results in more runners on race day than event capacity. If earlier registrants are less likely to actually participate, then there is a greater incentive for race organizers to overbook further out from the day of the event (Ng, 2007). Organizers can afford deeper discounts for runners who are more likely to no-show the race and should offer greater discounts to capture additional marginal demand.

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Such discounts are conditional on organizers' ability to accurately predict the number of no-shows to minimize the risk of ending up over event capacity. While overbooking generates additional revenue due to fewer runners turned away from sold-out races and through capturing additional customers, the practice also introduces new costs. Overbooking beyond event capacity incurs the risk that too many runners will show up on race day, degrading runners' experience and event satisfaction to an unacceptable level. Overbooking requires defining a policy for what happens when a running event is overcapacity (a result of overestimating no-show rates) on race day. Airlines ask for volunteers willing to be *bumped* from their scheduled flight to a later option in exchange for compensation. Hotels establish relationships with comparable neighboring properties which can accommodate displaced guests, a process referred to as *walking*. Unlike airlines and hotels, race organizers cannot bump or walk runners from their registered event and accommodate event participants at a later time.

An overcapacity race leads to overcrowding on the course, with associated increased potential for injury, decreased participant safety, decreased event satisfaction, and risks insufficient stocks of memorabilia such as event shirts and finishers' medals. While race organizers blamed a missing shipment rather than inaccurate predictions, 1,400 participants in the 2014 Miami Marathon and Half Marathon were denied finishers' medals on race day (Degnan, 2014). Such organizational failures lead to participant dissatisfaction, additional administrative costs, and negative media attention. Runners not receiving expected event mementoes leads to a loss of customer goodwill, negative word of mouth behavior, and decreases customer retention. Overbooking costs are non-linear with a positive and increasing slope as overbooking increases (B. C. Smith et al., 1992).

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By implication, there is an optimal level of overbooking where the marginal gain from additional registration revenue equal the marginal costs from decreased event satisfaction.

Accurate forecasts of the expected number of race day no-shows increases race organizers' profitability by allowing a greater number of overbooked registrations while minimizing unused event capacity. Developing organizational capability in support of overbooking requires greater understanding of the variables that can predict race day attendance of registered runners. Ideally, such predictions are based on variables known well in advance of race day. In a dynamic price setting, this allows race organizers to adjust prices more accurately throughout the registration period. Even in a static price setting, accurate estimates of no-show rates inform the decision of when to stop accepting additional new registrations without prematurely cutting of the last, most profitable, participants.

One of the key tasks in building an accurate no-show model is identifying contributing factors associated with no-show rates (Huang & Hanauer, 2014). Conventional no-show forecasting methods average no-show rates of historically similar events without using customer-specific information (Lawrence et al., 2003). Yet, using average no-show rates for all runners discards data which provide insight into runner heterogeneity and can improve forecasting (Harris et al., 2016). Registration lead time, runner characteristics (e.g., gender, prior experience), and event characteristics (e.g., race distance) can all influence likelihood of no-show behavior among registered runners.

Customer Segmentation

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Customer segmentation involves dividing a heterogeneous set of customers into smaller, more homogeneous groups (Kotler, Bowen, & Makens, 2013). The objective of customer segmentation analysis is identifying groups of individuals who respond to marketing messages in similar fashion (Simester, Sun, & Tsitsiklis, 2006). Effective revenue management requires segmenting customers into distinct partitions and tailoring marketing activities, including price, promotions, and marketing communications, to each partition (Kimes, 1989). Segmentation is particularly helpful in improving profitability when demand is relatively weak and selling the full race capacity would require greatly reducing prices (Courty, 2015). Through segmenting runners and differentially pricing across segments, a race organizer can induce runners who would not otherwise participate in the race to register while sustaining higher prices for those runners with greater willingness-to-pay. Where segments are defined by observable runner characteristics (e.g., gender or age), event organizers can engage in third-degree price discrimination. Second-degree price discrimination is necessary when then basis for segmentation is unobservable (e.g., risk aversion).

While researchers have used many demographic, psychographic, and behavioral factors to segment sport consumers, running event organizers typically rely on only registration date as a basis for price discrimination. Other consumer characteristics commonly used for price discrimination in other contexts, such as age (e.g., senior or youth discounts), versioning (i.e., vertical differentiation by quality), and purchase volume, are rare with running events. Segmentation based on factors other than registration date may play a role in non-price-related marketing strategy, however current running event industry practice precludes a role in determining pricing policy. Customer

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segments must be accessible, measurable, actionable, and substantial for managerial relevance (Kotler et al., 2013). To support development of appropriate pricing policies for running events, additional research directly examining the role of registration date is necessary. Specifically, further exploration of the characteristics of early versus late registrants could form the basis for a meaningful customer segmentation and inform pricing policy development.

Pricing Policy Implementation

Pricing management involves developing the optimal set of prices for various customer segments, determining rules that determine who pays what price when, and the perceived fairness of the resulting policy (Kimes, 2003). Research on perceived fairness has shown that most customers believe they are entitled to a reasonable price and firms are entitled to a reasonable profit (Kahneman, Knetsch, & Thaler, 1986a, 1986b). Maintaining consistency with policies adopted by other organizations helps managers reduce uncertainty when faced with the task of how to develop the best possible pricing policy. Consumers who are familiar with a given pricing practice view the practice as more fair than do those who are unfamiliar with the practice (Wirtz & Kimes, 2007).

One of the areas where race organizers differ in pricing policy implementation is when and how much price information they provide to runners interested in registering for their events. For most running events, race organizers provide the complete menu of registration fees, including past, current, and future prices, at all times while race registration is open. Other events present only the then-current price, typically accompanied with an indication that the price is subject to change. This discrepancy raises questions as to which policy maximizes revenue and how potential race

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participants respond to the decision adopted by race organizers. One advantage of not posting the complete price menu is the ability to engage in dynamic pricing, adjusting prices based on realized demand.

Presenting more than one price also provides an external reference price to a potential customer. Providing information about unavailable prices could be viewed unfavorably as this practice highlights disparity between those who register at the present moment and those who were able to register previously at a lower price. At the same time, concealing the pricing structure may be viewed unfavorably as the practice increases uncertainty and runners may consider the practice deceptive. Frequent price adjustments can lead to consumer confusion or perceived unfairness (Drayer, Shapiro, & Lee, 2012). Understanding how runners respond to each display option can aid race organizers in selecting the optimal approach.

Race organizers following a *posted-price* approach announce a set of prices at the beginning of the registration period. By contrast, under a contingent or *revealed-over-time* approach, price evolution depends on demand realization. Dasu and Tong (2010) find neither posted-price nor contingent-pricing is dominant and the difference in expected revenue between the two schemes is small. Numerical examples suggest two or three price changes in a posted-price approach is sufficient to approach the upper bound of revenue generation (Dasu & Tong, 2010). This is noteworthy, given that in practice, race organizers typically use either a single price or four or more different prices for running events.

Posted price policies require static solutions to the pricing problem as all prices are pre-announced and thus fixed; revealed-over-time policies allow for but do not

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require dynamic solutions. Static solutions solve the pricing problem once and pricing policies are not later updated when additional information becomes available, whereas dynamic pricing involves revising prices to reflect revealed demand (Kimes, 1989). Static pricing is more reliant on accurate forecasting as it lacks dynamic pricing's ability to adjust over the course of the selling period. That said, accurate forecasting is an essential component of any successful revenue management system (Kimes, 2003). Most race organizers solve the static pricing problem and pre-announce the full price menu at the start of the initial selling period. In practice, many dynamic pricing strategies merely involve computing an updated static solution at periodic intervals (Kimes, 1989).

One notable exception to the general practice among race organizers of pre-announcing the full menu of prices over time at the start of the initial selling period is Competitor Group. For the Rock 'n' Roll series of races, Competitor Group displays only the current registration fee along with the note "price is subject to increase at any time without notice." This provides Competitor Group the flexibility to engage in dynamic pricing, unlike most other race organizers. As evidence that they do so, in early February, 2016, registration for the Rock 'n' Roll Dallas Half Marathon (held March 20, 2016) was $114. Approximately one month later, two weeks prior to the race, the registration fee had dropped to $109. This suggests that Competitor Group actively manages registration fees in response to realized demand. A price drop is particularly noteworthy as event registration fees typically increase as race day approaches. Dynamic pricing also incurs risk that participants will feel they have been taken advantage of by a race organizer if and when they discover later registrants paid a lower price. In a study of golfers, Kimes and Wirtz (2003) found offering lower fees to later customers who booked later was

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unacceptable to consumers. This result could help explain why price paths for participant sport events typically monotonically increase as the event date approaches.

Static pricing policies are much easier to implement than dynamic prices, which typically require frequent, small adjustments (Gallego & Van Ryzin, 1994). A policy of fixed prices incurs lower administrative and publicity costs than does a dynamic pricing policy, however lacks responsiveness to unanticipated demand fluctuations (Anjos, Cheng, & Currie, 2005). Specifically, flexible pricing policies allow race organizers to actively manage prices, respond to consumer value, and engage in price discrimination to differentiate pricing based on runners' individual price sensitivity (Shapiro & Drayer, 2014). Committing to a sequence of prices is the simplest policy, although only slightly more complexity is required for a pre-determined series of prices where the timing of price changes depends on sales history (Dasu & Tong, 2010). This last approach blends posted and revealed-over-time prices as the pricing levels and their triggers are pre-determined, however the precise timing depends on when, and how many, runners register for the event.

The remainder of the current section reviews existing literature related to consumers' pricing-related fairness perceptions and use of internal and external reference prices. These topics are combined to develop a set of six testable hypotheses related to implementation of pricing policies, addressing the impact of adopting either a posted-price or revealed-over-time approach on registration likelihood and perceived fairness of a running event's pricing policy. Posted prices are more transparent to runners, however they also provide external reference prices likely both above and below the current price.

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Each of these features can influence runners' perception of the fairness of the pricing policy and likelihood to register for the running event.

Perceived Fairness

Consumer purchase decisions are not based exclusively on comparisons between consumer valuation and price, but also what Thaler (1985) describes as transaction utility. Transaction utility represents the perceived fairness of the transaction (Hinterhuber, 2004). Willingness to buy and the overall utility from a purchase are functions of both acquisition utility and transaction utility. Acquisition utility is a function of the consumer's product valuation and price paid, while transaction utility is a function of the price paid and a (possibly idiosyncratic) reference price (Thaler, 1985). The perceived fairness of a transaction is based on whether the consumer views the price as reasonable and just (Bolton, Warlop, & Alba, 2003).

All price evaluations, including perceived fairness, are comparative in nature (Xia, Monroe, & Cox, 2004). Widely-used conceptual frameworks relevant to fairness perceptions include the principle of dual entitlement, the concept of reference prices, and social exchange theory. The principle of dual entitlement states that most consumers recognize both that they are entitled to a reasonable price and that sellers are entitled to a reasonable profit (Kahneman et al., 1986a, 1986b). Reasonableness, in this context, is evaluated in relation to a reference transaction. Reference prices are based on the last price paid, the price most frequently paid, typical market prices, or prices which are present in the purchase environment (Kahneman et al., 1986a, 1986b). Social exchange theory (Homans, 1958) suggests that individuals will continue to engage in transactions which involve equitable exchange. Perceived inequity, or unfairness, threatens

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relationship stability and is likely to lead to withdrawal from future transactions (Howard & Crompton, 2004).

Perceived fairness is strongly associated with consumer satisfaction and consumer loyalty, while pricing policies that are perceived as unfair lead to negative consumer responses (Bei & Chiao, 2001; Oliver & Swan, 1989a, 1989b). Negative responses to perceived unfairness include decreased purchase intentions (Campbell, 1999; Huppertz, Arenson, & Evans, 1978), negative word of mouth intentions (Blodgett, Granbois, & Walters, 1994; Blodgett, Hill, & Tax, 1997), heighted price consciousness (Xia et al., 2004), and negative emotions such as disappointment, anger, and outrage (Austin, McGinn, & Susmilch, 1980). Consumers punish firms perceived as unfair, even when such punishment comes at some cost to themselves (Kahneman et al., 1986a, 1986b).

Consumers feel entitled to prices that are consistent with their previous transactions and other reference prices such as what others pay for a similar product or service. Violation of such expectations leads to unfairness perception and may result in consumers declining to participate (Bolton et al., 2003; Kahneman et al., 1986a, 1986b). Prices should follow a rational price development process and reflect a coherent and consistent strategy, as this increases the likelihood of consumer acceptance and perceived fairness (Calabuig, Núñez-Pomar, Prado-Gascó, & Añó, 2014; Martín-Consuegra, Molina, & Esteban, 2007). Because perceived unfairness antagonizes consumers, running event organizers may desire to appear fair for strategic reasons (Courty, 2015).

Internal and External Reference Prices

According to prospect theory, people perceive outcomes as gains or losses relative to a reference point (Kahneman & Tversky, 1979). Reference points for pricing are based

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on either internal reference prices drawn from memory or external reference prices present in the purchase environment (Mayhew & Winer, 1992). Consumers respond poorly to substantial shifts from established reference prices without a clear and compelling rationale for why the change is necessary and warranted. Specifically, divergence outside of a zone of acceptable prices triggers unfairness perceptions with the result that consumers will withdraw from transacting with an organization (Kyle, Kerstetter, & Guadagnolo, 2003). As historical prices (last price paid or a weighted average of past prices) are the most common source of internal reference prices (Mayhew & Winer, 1992), registration policies used in the past constrain available options for future races.

In a spectator sport context, Drayer and Shapiro (2011) found ticket face values provide influential external reference prices, leading to higher willingness to pay levels. When an explicit face value was not present, consumers relied upon an alternative reference price based on their previous experience or perceived value of the event. These internal reference prices were lower than the external reference price provided by the ticket face value (Drayer & Shapiro, 2011).

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Conclusion

The predominant approach in sport pricing has been to raise prices incrementally over time, either by an arbitrary percentage or a set amount at each adjustment opportunity (Howard & Crompton, 2004). Yet, researchers have reported a shift in recent years toward demand-based approaches (Drayer & Shapiro, 2011). Demand-based approaches ideally require differential pricing, charging different prices to different consumers for the same service (Loomis & Walsh, 1997). Adjusting running event registration fees to more closely approach each individual runner's maximum willingness-to-pay could improve revenue generation and expand the number of runners served by each event. This suggests running event organizers and sport pricing researchers could benefit from adopting a revenue management perspective.

Revenue management is the practice of obtaining the greatest possible revenue from selling a service firm's capacity (Ng, 2007). Kimes (1989, 2003) identifies six conditions for an organization to engage in revenue management. Namely, (i) relatively fixed capacity, (ii) consumer segmentation, (iii) perishable inventory, (iv) advance sales, (v) variable demand, and (vi) low marginal costs. Each of these conditions applies to running events, making this an ideal theoretical framework when considering running event pricing. Previous sections of chapter two review the literature on revenue management. A specific focus is provided on running events' fixed capacity, in the context of advance selling and overbooking, and date-based segmentation of runners.

Additional literature related to fairness perceptions and the influence of reference prices is reviewed. This review supports discussion of the impact of running event organizers providing either a complete menu of date-specific prices throughout the event

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registration period or only the current fee. Presentation of additional, unavailable, prices provides external reference prices in addition to the internal reference price held by each individual runner. The choice of which approach to adopt has implications for runners' fairness perceptions and registration behavior and organizers' ability to engage in more sophisticated pricing techniques, such as dynamic pricing.

Pricing and registration policies for long-distance running events vary dramatically between events and event organizers. Greater understanding of how pricing and registration policies are developed and how consumers respond to different policies, both those currently in use and those suggested based on theory, can form a basis for refined theory and practice. Chapter three builds on the general review provided in the current chapter and describes two studies in detail. Following a brief introduction of each study, research methods are described, including data collection and analysis.

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CHAPTER THREE:

STUDY DESCRIPTIONS AND METHODS

This chapter provides detailed descriptions of two studies that comprise the current research. Each study description includes an introduction to the specific problem or research area the study addresses, reviews additional background literature as necessary, and outlines the specific data and analysis. Study One was a census of running event pricing and registration policies. This study provided an overview of the policies currently in use, identified divergent industry practices, and provided examples of pricing practices currently in use. Study Two involved interviews with running event organizers to understand the processes leading to the development and implementation of pricing and registration policies. Study One generated information regarding pricing policies currently in place, while Study Two explicated the processes through which event organizers develop such policies. The two studies represent a mixed methods approach (Creswell, 2013), where a quantitative study is followed by a qualitative study in an explanatory sequential research design (Creswell & Clark, 2011).

In combination, these two studies investigated running event pricing from the organizer perspective. While a descriptive census categorized and itemized existing policy, interviews with event organizers, in Study Two, provided deeper understanding of the pricing policy development process. Building on the review from Study One, Study Two investigated how race organizers develop or decide upon specific pricing policies. Contrasting responses from different organizers revealed patterns in how pricing policies are determined and offered insight into how such processes can be modified and improved.

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Study One: Race Census

The primary objective of Study One was to gather data about the pricing policies for long-distance running events in the United States and provide illustrative examples of both typical and atypical pricing policies particular race organizers have developed or adopted. The approach was to consolidate as much information as possible from running events to provide a sense of common industry practices and identify specific examples of less-common pricing practices. To achieve this, the researcher conducted a descriptive census of all known races. The census was designed to generate a comprehensive overview of the state of industry practices. Data were generated on 1,530 long-distance running events in the United States which include races at the full or half marathon distance (26.2 or 13.1 miles, respectively). Included events represent races ranging from a few hundred to tens of thousands of participants. The study was designed to capture data common to most running events to concisely describe key elements of each event's registration policy and fee structure.

Understanding industry characteristics is useful when beginning exploratory study. Observing current actions represents an initial step in recognizing why decisions are made and identifying the major forces that shape managerial and consumer choices. Examining pricing practices in common use in running events provides guidance on the types of policies runners frequently encounter and thus the types of policies which are likely to be viewed as more acceptable. This also suggests that organizers should evaluate how common a particular practice is among other running events when considering whether or not to apply the approach themselves. Examining a phenomenon in practice

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provides examples of the range of variation within an industry, as well as a sense of both typical and uncommon pricing policy components.

Race Population

The population for the census was based on two data sources: Athlinks.com and USA Track & Field (USATF). Athlinks.com is a website which hosts a database of race results from a variety of competitive endurance sports including running races, triathlons, swimming, cycling, and mountain biking. With over 300,000 events covering over 150 million race results and over 400,000 unique athletes, Athlinks claims to be "the largest results database for competitive endurance athletes in the world" (Athlinks, 2016). USATF is the national governing body for track & field, long-distance running, and race walking in the United States. USATF sanctions competitive events and maintains an online calendar of events conducted under its aegis.

The researcher developed custom-written web scrapers to generate lists of running events based on data collected from the Athlinks.com and USATF websites. Data from Athlinks.com include 1,279 running events with the word "marathon" in the event name. USATF explicitly includes race distance(s) in event descriptions; 884 USATF events include a marathon or half marathon. The lists of races from Athlinks.com and USATF were merged to form the final list of events to be included in the race census. Care was taken during this process to minimize duplication of event listings. Specifically, the researcher hand-checked the merged list and removed apparent duplicates based on race name, race location, and other data. International running events were also removed during this stage. Further checks were conducted during the course of the census to remove any remaining duplications. Running events that had ceased operation with no

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sign of expected renewal were also dropped during the course of data collection. The full list contains 1,530 distinct running events.

Data Description

Data for the census were generated by hand-checking the website for each running event included in the sample. For each event, the researcher recorded the following information: race name, location, approximate date[2], number of event finishers in the most recent year, number of different price tiers, three dummy variables for event composition (marathon, half marathon, and other distance), title or presenting sponsor (if any), and event-specific notes for available prices, event management company (if any), and any noteworthy race characteristics or event market positioning. Prices recorded reflected the primary distance that was part of the event. For events that included a full marathon, prices reflected the fee to register for the full marathon, while fees for other distances (e.g. half marathon) were not recorded. For running events that did not include a full marathon, prices reflected the fee to register for the half marathon.

When running events use multiple date-based price tiers, information regarding the full set of prices and dates is typically available at all times. Some running events provide more limited information, such as only presenting the current registration fee. For events where the full calendar of prices was available at all times, information on all price tiers was recorded. For events where only incomplete information was available, all available information was recorded.

Data Analysis

[2] Running events are typically held annually in approximately the same part of the calendar. The descriptive census recorded the date of the next planned race unless no date had been announced. In this latter case, the descriptive census recorded the date of the most recent instance of the race.

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The researcher calculated descriptive statistics including means, standard deviations, and frequency counts. Given the lack of an existing comprehensive database of races, it is expected some number of races which qualify for the census were nonetheless omitted. While different in nature to non-response bias in survey research, many of the criticisms and solutions may be applicable. In survey research, non-response may introduce a source of error if people who respond to surveys are substantially different from those who do not in a dimension relevant to the research question (Armstrong & Overton, 1977). The preferred strategy for limiting non-response error involves obtaining as complete response from the sample as possible (L. E. Miller & Smith, 1983). To address this potential concern, the researcher merged lists of running events from two separate databases: (i) Athlinks.com, an endurance events results database, and (ii) USATF, the national governing body for track & field, long distance running, and race walking in the United States. Combining data from two sources, each containing information on a substantial number of running events, is designed to obtain as nearly complete coverage of marathons and half marathons in the U.S. as possible.

In addition to overall statistical analysis assessing the race population as a whole, the race census provided examples of atypical or exceptional race policies. Uncommon and unique pricing structures or registration policies were noted and described to provide a sense of the diversity in practices. This supports the use of the race census to provide illustrative examples of policies adopted by race organizers. The goal was identifying both the most typical cases and alternatives which, while rare, provide insight into the array of possible choices available to event organizers.

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Study Two: Pricing Policy Development Process

Study Two used key informant interviews to identify the forces that impact the running event pricing policy development process and probe the steps race organizers take when developing pricing policies for running events. The two primary objectives were examining the policy development processes that race organizers follow and investigating the organizational, consumer, environmental, and event characteristics that influence pricing policy decisions. The approach was examining multiple cases to develop understanding regarding informal theories-in-use and espoused practical theories that guide managerial behaviors. The purpose of examining multiple cases was analytical rather than statistical generalization (Yin, 2013). Cases included both typical examples and critical cases chosen because they represent extreme examples.

Theories-in-use are those that can be inferred from actions individuals take. A theory-in-use uses everyday concepts from the practitioner perspective as opposed to academically-grounded scientific theory. Both types of theory support testing and refinement as evidence refutes expectations (Argyris & Schön, 1978). As described by Argyris (1993), "although [theories-in-use] are not theories about some objective truth, they do make claims about how to act effectively – indeed what is effective in the first place for a particular individual or group" (p. 250). Zaltman, LeMasters, and Heffring (1982) illustrate the fundamental theory-in-use approach:

> Practitioners [. . .] are generally more concerned with informal theory based on everyday observations (versus controlled experiments), having less than precise concepts (versus explicit empirical referents), and being related to one another intuitively (versus in rigorous testable relationships). The informal theory built and maintained by practitioners in their everyday activities represent an important source of insight for the researcher concerned with formal theory. By mapping these informal theories and applying their own creativity, a researcher may gain

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> insights into marketing phenomenon which might not otherwise be obtained. (p. 113)

Mapping informal theories-in-use and linking the revealed knowledge with existing academic literature can lead to developing a greater understanding of real-world phenomena (Ng, Wirtz, & Sheang Lee, 1999). Such understanding is driven and guided by the everyday experience and actions of practitioners who are typically much more intimately aware of intricate relationships involved with phenomena of interest. The purpose is to document, formalize, and understand practitioners' pricing strategies. This understanding subsequently contributes to the academic literature by providing a foundation for scientific theory-building using formal theoretical concepts.

While case study research includes deductive approaches informed by prior theory, the predominant focus is on inductive theory building (Perry, 1998). Prior theory helps guide the research direction, however the specific areas addressed are not phrased as precise, testable propositions or hypotheses, but rather as broad, open research issues (Yin, 2013). Study Two focuses on a *how do?* problem, rather than a *how should?* problem. As such, the intent is to describe real world phenomena, rather than develop a normative model.

Most of the case data was generated based upon in-depth interviews with event organizers, while additional data came from event websites and other organizational documents to assist in triangulating findings. Cross-case comparison permitted establishing a more complete theory of how running event organizers develop pricing and registration policies and identifies major sources of influence on each stage in that process. Study Two concentrated on why things happen rather than merely describing events.

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For the purpose of Study Two, the researcher examined how race organizers develop pricing policies, what factors influence the pricing policy development process, and the role expected consumer behaviors have in policy design. Factors incorporated into the study include economic factors, organizational revenue needs, competitor actions, runners' willingness-to-pay, course features and event capacity. Constant comparison connected described actions and theories-in-use with theories in the academic literature. The goal was theory-building, rather than testing application of theory to the population of race organizers or races.

Data Collection

Data were collected through interviewing running event organizers who are involved in pricing decisions as part of their job duties. Interview participants were purposefully selected on the basis of theoretical sampling. Theoretical sampling is a method where the researcher collects data from sources based on themes that emerge as other data are collected and analyzed (Corbin & Strauss, 2008; Glaser, 1978). While theoretical sampling is generally associated with grounded theory (Glaser & Strauss, 1967), in the present study these methods build on an existing theoretical framework. The purpose was seeking to verify, negate, clarify, and elaborate on relationships between concepts both previously-known and those that emerged during the data collection and analysis process (Soulliere, Britt, & Maines, 2001). Thus, existing theoretical knowledge informed the investigation while the researcher remained open to new insights and constant theoretical revision. This approach builds bridges between existing ideas and emergent themes, integrating novel findings to generate new theory.

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A sample of interviewees or key informants were sought from different organizations through the researcher's personal network, snowball techniques, and cold-calling targeted individuals and organizations. Ideal key informants are those who fulfill five criteria: (i) occupy a formal role within the community that leads to exposure to information being sought, (ii) extensive knowledge, (iii) willingness to participate, (iv) ability to communicate effectively, and (v) freedom from bias or partiality (Tremblay, 1957). While many of these criteria are difficult or impossible to judge in advance of an interview, the researcher sought to identify informants with extensive experience in the running event pricing development process and leveraged personal connections to gain access.

Targeted organizations were identified based on an expectation either that their pricing processes represent those typical in the industry or that they differ substantially in a particular manner, thus representing a critical case. Critical cases are those likely to "yield the most information and have the greatest impact on the development of knowledge" (Patton, 2002, p. 236). For example, *run*Disney is an atypical race organizer in several dimensions and represents an extreme case. For the purposes of the current research, *run*Disney would be an ideal critical case due to their position as one of the largest organizers of running events in the world and indications that they engage in sophisticated pricing policies.

Each potential informant was contacted via email to establish their willingness to participate in the study. Upon agreement to participate, each informant was given a brief outline of the study and goals for the interview. This outline included broad discussion questions to provide a general understanding of the scope of the project, while remaining

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sufficiently brief to allow the dialogue between the researchers and informant to guide the interview. All interviews were conducted telephonically and audio-recorded for later transcription. Although in-person interviews are generally preferable, telephone interviews are a suitable alternative (A. C. Marcus & Crane, 1986). Telephone interviews facilitate access to research participants who are geographically distributed.

Interviews were conducted with race directors and other event personnel involved with the development of running event pricing policies. Questions revolved around how pricing and registration policies are developed and what factors influence the policy development process. Further questions probed areas of specific interest, such as event participant no-shows and overbooking, date-based runner segmentation, and implementation of pricing policies. Data from interviews were integrated with secondary information from the organizations' websites, organization-specific documentation, on- and off-line running-related media reports, and secondary data from industry observers and advocacy groups including Running USA. This triangulation contributes to both reliability and validity of the research findings. Findings are more dependable when supported by information from multiple independent sources (Miles, Huberman, & Saldaña, 2014).

The initial question after interview preliminaries invited the research participant to tell the story of his or her experience in developing pricing policies for long-distance running events. This starting point represented a question that is largely content-free to avoid steering the response based on the researcher's pre-conceptions (Dick, 1990). Follow-up questions probed specific planned topics and opportunistically pursued directions inspired during the course of the interview. The researcher reviewed and

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updated the interview protocol following each session to integrate any modifications suggested by the discussion.

Data collection and concurrent analysis continued until theoretical saturation was reached. Theoretical saturation is the point at which new themes or variations on existing themes cease to emerge from additional data (Soulliere et al., 2001). Corbin and Strauss (2008) note that while saturation is usually explained in terms of no new emergent themes, more properly it should denote complete understanding of how each concept operates under different conditions and all possible inter-concept relationships. While noting that total saturation is likely never achieved, the goal is considerable depth and breadth of understanding, sufficient for the purposes of a particular study (Corbin & Strauss, 2008).

Data Analysis

Interview data were transcribed verbatim and analyzed in a multistep process consisting of five stages (Edwards & Skinner, 2009; Miles et al., 2014). The five analytic stages (see Table 1) are (i) familiarization, (ii) identifying thematic framework, (iii) indexing, (iv) charting, and (v) interpretation. This process aids in converting raw interview data to usable theoretical conclusions. Following a set protocol also supports later auditing or replication of the analysis, lending credence and trustworthiness to findings (Edwards & Skinner, 2009).

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Table 1. Analytic Framework

Analytic Stages	Description
Familiarization	Immersion in raw data; transcription of interview data; reviewing notes, transcripts, and other data; getting a feel for materials
Identifying thematic framework	Identification of themes in transcript data; line-by-line analysis for identifiable concepts; development of a comprehensive coding index
Indexing	Application of thematic codes to transcript text; Annotation of transcript text with codes
Charting	Organization of index text segments; mapping thematically-related quotations
Interpretation	Categorization of charted data to create typologies, identify inter-theme associations and interactions, and develop and verify explanatory conclusions

Familiarization involves immersion in the raw data, including interview transcripts, contemporaneous notes, and secondary data from media and trade sources. The purpose is gaining a deeper sense of what the data contains and how disparate pieces might fit together. The more the researcher works with raw data, the more likely sudden insights about the data will appear (Corbin & Strauss, 2008). The second step involves identifying themes in the interview data based on a line-by-line review and analysis of transcripts. Developing the thematic framework is an iterative process and the researcher continually returned to previously-analyzed material. Having identified themes in the

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interview data, the researcher indexed interview segments with the corresponding themes. The indexing process pulls data apart and associates each smaller piece with a theme.

The fourth and fifth stages focus on reassembling the fractured data to provide an outline for writing and allow for understanding to emerge. Charting involves organizing indexed text segments and mapping thematically-related quotations extracted from interview transcripts and secondary sources. This provides structure to the collected data through axial coding as first-order concepts combine to form second-order themes and third-order dimensions (Corbin & Strauss, 2008). Based on those charts, the researcher interpreted the data, identifying relationships and associations between the themes to develop and verify explanatory conclusions.

An emergent coding scheme was developed based on the pre-existing theoretical framework and themes mentioned most often by interview participants. As further data were evaluated, they were coded and categorized as well. The researcher inductively analyzed the data, iteratively moving among interviews, relevant documentary evidence, existing academic literature, and an emergent theoretical framework. Constant comparison (Glaser, 1978) between data and evolving theoretical structure allows emerging concepts to be shaped and informed by the data, resulting in a close fit between the two (Soulliere et al., 2001). Eisenhardt (1989) argues that a close fit between theory and data "is important to building good theory because it takes advantage of the new insights possible from the data and yields an empirically valid theory" (p. 541). A strong connection with empirically-observable reality is necessary for building testable, relevant, and valid theory (Eisenhardt, 1989; Glaser & Strauss, 1967).

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Summaries of the report generated for each event organizer will be returned to each informant for comment, elaboration, and correction. This will help improve the validity of the process (Creswell, 2012). Finally, findings from all cases will be discussed with experts both within academia and the running event industry. This stage will help improve the validity of the findings (Creswell, 2012; Healy & Perry, 2000). Cases will be analyzed through both within-case and cross-case analysis (Eisenhardt, 1989). Through this process, the researcher will develop theory that can be confirmed or disconfirmed by newly-collected data (Miles et al., 2014). As data were collected, the initial theory was continually tested and revised. At the conclusion of this process, the final iteration of the theory is presented in a form suitable for further testing and the generation of novel propositions and hypotheses.

Conclusion

The current research incorporated two studies to address two overarching research questions related to the pricing of participant sport events, specifically long-distance running events. Namely, what is current practice in pricing policies for long-distance runner events, and what factors influence the process through which event organizers develop and implement such policies? Study One involved a descriptive census of policies currently in use for a comprehensive list of running events that include races at the full or half marathon distance. Study Two adopted a multi-case study approach based on semi-structured interviews of running event organizers, supplemented by additional organizational documents, to investigate the pricing and registration policy development process. The two studies represent a mixed methods approach (Creswell, 2013), where a

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quantitative study is followed by a qualitative study in an explanatory sequential research design (Creswell & Clark, 2011).

The current research contributes to sport management by providing deeper understanding of how participant sport, specifically long-distance running events, is priced. The results additionally provide practical implications for running event organizers seeking to improve or enhance pricing policies for running events. Finally the current research lays a foundation for a stream of future research building on the results and findings. The following chapter summarizes major study findings, while chapter five discusses how those findings contribute to on-going conversation in the academic literature, highlighting points of agreement and discrepancies with existing understanding.

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CHAPTER FOUR:

RESULTS AND FINDINGS

This chapter provides a summary of the results and findings from the two studies comprising the current dissertation. Study One was a comprehensive census of long-distance running events in the United States that included at least one of a full or half marathon. The focus of Study One was describing existing pricing and registration policies currently in use among long-distance running events, along with key characteristics of the organizations that conduct such events. Study Two was a qualitative examination of the pricing policy development process followed by long-distance running event managers. Data for Study Two were derived from a series of semi-structured interviews with race directors and other event personnel conducted between November, 2016 and January, 2017. Triangulation between these two studies offered the opportunity to develop a holistic and nuanced view of current practices in pricing long-distance running events and understanding of how such policies are developed. Collectively, these two studies examined the *what*, the *why*, and the *how* of pricing policy development in long-distance running events.

Study One Results

Study One was a comprehensive census of 1,530 long-distance running events in the United States that included at least one of a full or half marathon. The focus of Study One was capturing a set of variables related to pricing and registration policies. For each running event, the researcher recorded the following information, when available: race name, location, approximate date, number of event finishers in the most recent year, number of different price tiers, three dummy variables for event composition (marathon,

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half marathon, and other distance), and event-specific notes on available prices, event management company, and any noteworthy race characteristics or event market positioning.

In addition to overall statistical analyses assessing the race population as a whole, the race census provided examples of atypical or exceptional race policies. Uncommon and unique pricing structures or registration policies were noted and described to provide a sense of the diversity in practices. This supports the use of the race census to provide illustrative examples of policies adopted by race organizers. The goal was identifying both the most typical cases and alternatives which, while less common, provide insight into the array of possible choices available to event organizers.

Geographic Distribution

Study One data were generated on 1,530 long-distance running events in the United States which include races at the full or half marathon distance. The race census included running events in all 50 states. Events conducted outside of the United States were excluded to remove a potential source of variation. The *Bay of Fundy International Marathon*, which begins and ends in Lubec, Maine, involves two border crossings at the Lubec Narrows and most of the course is on Campobello Island in New Brunswick, Canada. This event was included in the census, due to the starting and ending point. A choropleth map plotting the geographic distribution of long-distance running events included in the census[3] is provided in Figure 2.

[3] Due to space considerations, Figure 2 is limited to the contiguous 48 states and does not display events in Alaska or Hawaii.

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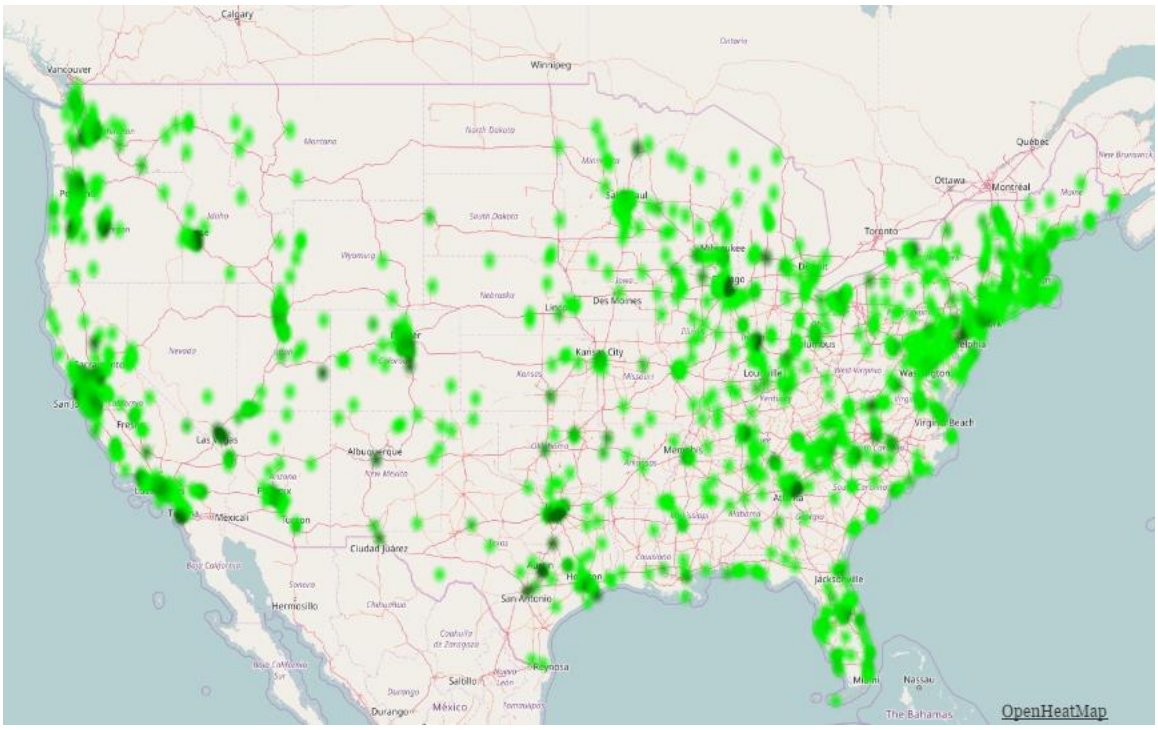

Figure 2. Geographic Distribution of Long-Distance Running Events

Event Distances

Long-distance running events typically comprise multiple races contested at a range of distances to accommodate heterogeneous preferences among runners and better serve a broader customer base. Offering at least one of a full marathon (26.2 miles) or half marathon (13.1 miles) was a delimiting requirement for an event to be included in the Study One race census. The vast majority of running events in the census included a half marathon (n = 1,449, 94.8%), while full marathons were included in a minority of events (n = 550, 36.0%). Most events also included additional events at other distances (n = 1,148, 75.1%), typically shorter than a half marathon (e.g., 5k or 10k events).

Number of Price Tiers

One of the key dimensions on which running events differ in their registration and pricing policies is how many different registration prices are offered to runners. In the

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Study One census, the total number of different prices offered for the full marathon (if included) or half marathon (if the event did not include a full marathon) was recorded for each running event. A common, albeit, minority approach in pricing running events is to display only the then-current price and not offer any information about prices available on other dates. Where possible, alternative sources (e.g. archived mail-in registration forms) were used to capture data on how many different prices were used for a particular event. In many cases, it was not possible to determine the quantity of different prices that were offered for events electing not to provide complete information to potential registrants. Additionally, while running events may accept registrations up to a full year in advance of event day, others may have a dead period following an event before registration information for the following year is made publicly available. In this case, data on the number of price tiers may not always be available. Overall, the Study One census includes data on how many price tiers were offered for 1,263 running events (82.5% of the total).

Running events offered between one and 11 different price tiers, typically determined by registration date, although alternatives, such as basing price on the number of runners registered so far[4], were observed. On average, running events used 3.51 (s.d. 1.62) price tiers. The median running event used three prices, while the modal event used four. A histogram of how many events used a given number of price tiers is presented in Figure 3.

[4] For example, the *Best Damn Race* series offers up to nine prices ranging from $1 for the first 10 runners to register to $85 for the 1,001st runner (and beyond).

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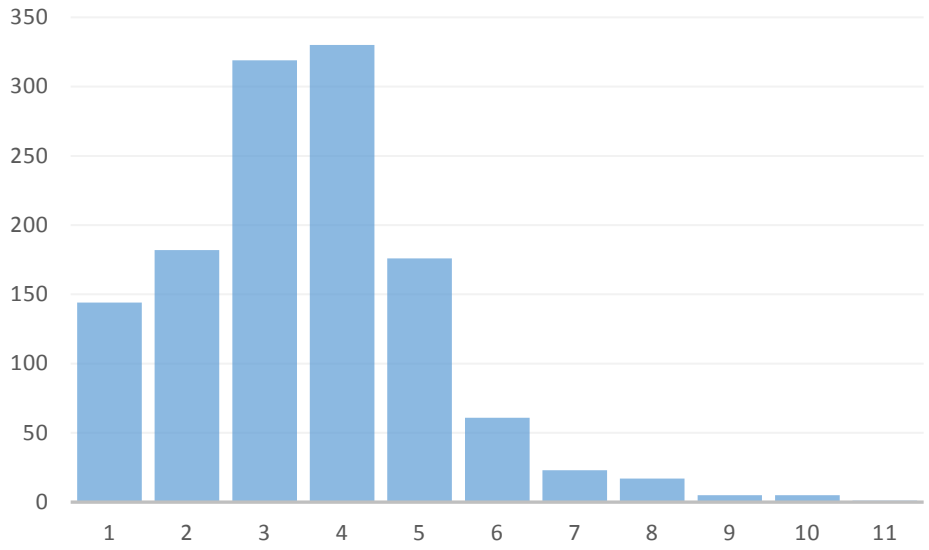

Figure 3. Number of Events Offering Each Number of Price Tiers

Prices

Full Marathon Prices. A total of 550 running events in the census included a full marathon. Running events typically offer registration at a range of prices and examining the lowest and highest fees provides a sense of the range of prices paid by runners who register for the event. Absent event-specific registration data, it is not possible to determine an average registration fee actually paid. On average, the lowest registration fee offered was $80.13 (s.d. $26.41) and the highest fee was $111.16 (s.d. $33.43). The median lowest ($80.00) and highest ($110.00) fees were similar to the respective mean fees, indicating only a slight right skew. As can be seen in Figure 4, the highest registration fee for full marathons followed a bimodal distribution and was most often around either $100 or $150, with relatively few events exceeding the latter threshold.

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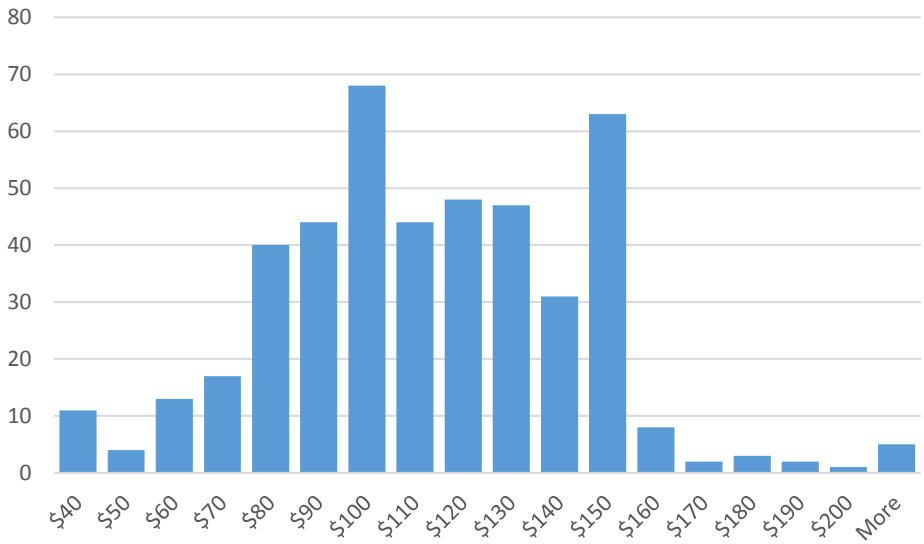

Figure 4. Histogram of Full Marathon Maximum Registration Fees

Half Marathon Prices. A total of 980 running events in the census included a half marathon, but did not include a full marathon. For these events, all prices reflect those charged for registering for the half marathon. Among half marathons, on average the lowest registration fee was $57.51 (s.d. $20.35) and the highest fee was $78.65 (s.d. $25.70). The median lowest ($55.00) and highest ($75.00) fees were again similar to the respective mean fees, indicating a slight right skew. The highest registration fee for half marathons was most often between $70 and $80 (Figure 5).

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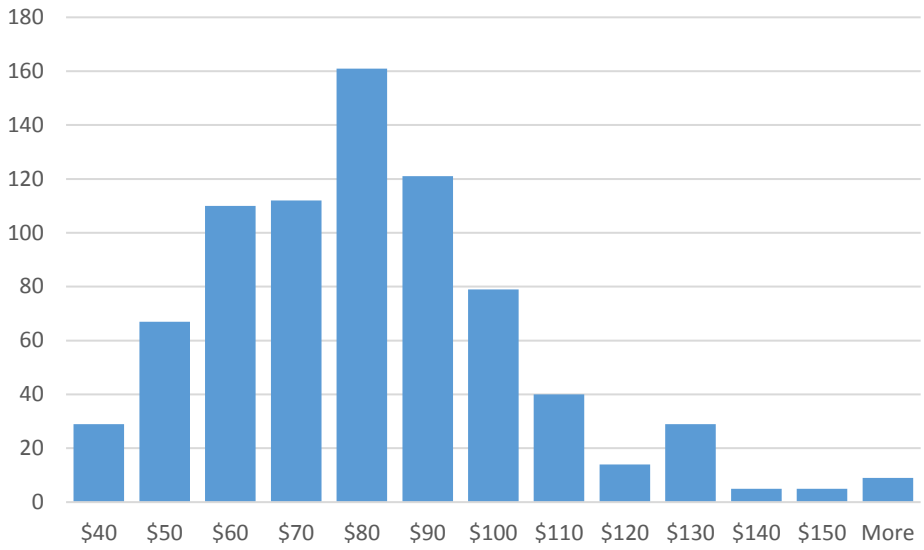

Figure 5. Histogram of Half Marathon Maximum Registration Fees

Least and Most Expensive Events. Long-distance running events exhibit wide variation in registration fees. At the low-price end of the spectrum are completely free events (e.g. the Green River Marathon in Kent, WA) that are entirely volunteer- and donation-supported. Other events offer low initial prices to the earliest registrants before increasing to more typical levels (e.g., the Fayetteville Half Marathon, which starts at $1 and gradually increases through 10 price tiers to $90). The highest priced running event in the census is the TCS New York City Marathon ($265). Some events that peak at the high end of the spectrum (e.g., $250 for the Aspen Valley Marathon or the Brooklyn Marathon) also offer more moderate entry points ($110 and $95, respectively). Other events are always premium priced (e.g., the Kauai Marathon at $185-$225, depending on registration date; *run*Disney's half marathons at $185).

Organization Types

Long-distance running events are conducted by a variety of different organization types, including for-profit firms, not-for-profit organizations, and governmental or

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municipal entities. Of the running events in the race census, 1,098 (75.6%) were held by for-profit firms, 333 (22.9%) by not-for-profit organizations, and 21 (1.4%) by governmental entities, typically the host city (e.g., Philadelphia Marathon, OCNJ Half Marathon). The formal legal structure of the organizing group was not readily apparent for 78 of the running events in the census.

Refunds and Transfers

Typical industry practice involves non-refundable and non-transferable registration fees. While not captured in the data collection, many running event organizers offer a mechanism for runners to defer registration to a future event. Refund and between-runner transfer policies were frequently difficult to locate on running event websites, which led to a substantial amount of missing data. Overall, data on refund policies were available for 1,135 running events and data on transfer policies were available for 1,102 running events. Nearly all running events which included a refund policy on their website or alongside registration materials did not allow refunds (n = 1,066, 94.0%). Allowing transfer of registration to another runner was more common, although still atypical (n = 232, 21.1%).

Event Sell Out

Of the 1,530 running events in the race census, 130 (8.5%) indicated that they had reached capacity and sold out in the current or most recent year (2015 or 2016, depending on event). This is likely an underestimate of the true number of sell outs as some, especially past, sell outs may not be readily apparent. During the registration process, if an event is sold out, it is likely that the event organizers will note that fact on the website and alongside registration materials. Organizers of running events that routinely sell out

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or have recently sold out may highlight that fact to encourage runners to register for the current year's event. It is difficult to know, however, how many event organizers do not provide information regarding past sold out races. A lack of notice regarding a previous sell out is insufficient to infer that the event did not sell out. While the census data thus represents a floor, rather than true estimate, of sell out frequency, it appears highly likely that registration for the vast majority of long-distance running events is not limited by event capacity.

Event Sponsorship

Registration fees do not represent the sole source of revenue for most running events. Nearly all event websites list the names of organizations that sponsor the event, although the scope of the commitment made by sponsors is not typically readily apparent. It is likely that sponsorships range from relatively minor in-kind support to substantial financial contributions necessary for successful event operations. Running events commonly distinguish between different tiers of sponsor with greater prominence in marketing and sponsorship activation offered to sponsors that provide relatively higher levels of support.

To distinguish significant sponsorships from those that might be immaterial, Study One census data included whether each running event had a designated *title sponsor* or *presenting sponsor*. Overall, 366 events (23.9%) listed either a title sponsor or a presenting sponsor on their website or registration materials. The list of title or presenting sponsors was further content analyzed to examine frequency with which sponsors were drawn from various industries. The most common industries represented

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among title sponsors were medical/health care and insurance/financial firms. Frequency counts by industry and representative examples are provided in Table 2.

Table 2. Title Sponsor Industries

Industry	Example Firms	Count	Frequency
Medical / Health Care	Advocate Drayer Memorial Sloan Kettering Cancer Center Trapnell Orthodontics	104	28.0%
Insurance / Financial	BMO Harris Bank Kaiser Permanente Merrill Lynch	52	14.0%
Charity	Georgia National Guard Foundation Make-a-Wish Vermont Pacific Whale Foundation	47	12.6%
Sport Apparel / Footwear (inc. retail)	Adidas Dick's Sporting Goods Fleet Feet Sports	29	7.8%
Retail (exc. sporting goods)	Bon Ton Pandora Jewelry Publix	24	6.5%
Beverage	Michelob ULTRA Smuttynose Brewing Company UCC Coffee	20	5.4%
Fitness	BodyFirst Rem-fit XL Health Club	18	4.8%
Auto	BMW Les Schwab Tire Tonkin Subaru	15	4.0%
Food / Restaurants	Carrabba's Italian Grill PF Changs Snickers	13	3.5%
Professional Services	Burns & McDonnell Faxon Law Group Redfin	12	3.2%
Energy	Chevron Eversource XTO Energy	10	2.7%
Hospitality / Lodging	Airbnb Hoover Dam Lodge Messina Hof Winery & Resort	6	1.6%
Higher Education	Augusta University Rutgers University Southern New Hampshire University	5	1.3%
Media	Deseret News	5	1.3%

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Industry	Example Firms	Count	Frequency
	Detroit Free Press		
	WDHA		
Manufacturing / Heavy Industry	Dalco Nonwovens	5	1.3%
	Houchens Industries		
	NXP		
Telecommunication / IT Services	CenturyLink	4	1.1%
	Orion		
	Verizon		
Airlines	Alaska Airlines	3	0.8%
	JetBlue		
	United Airlines		

Note: Some events listed multiple *title* or *presenting* sponsors; total does not sum to 366.

Study One Conclusion

Study One was a comprehensive census of 1,530 long-distance running events focusing on variables related to pricing and registration policies. In addition to overall statistical analyses assessing the race population as a whole, the race census provided examples of atypical pricing policies. Uncommon and unique pricing structures or registration policies provided a sense of the diversity in pricing practices. This supports the use of the race census to provide illustrative examples of policies adopted by event organizers. The goal was identifying both the most typical cases and alternatives which, while less common, provide insight into the array of possible choices available to event organizers.

Long-distance running events take place across the country, in all 50 states. Event locations broadly mirror the population distribution, with heavy concentrations on both coasts and scattered presence elsewhere, primarily in or near cities and metropolitan areas. Typically, long-distance running events comprise races at a variety of distances, with half marathons included in 94.8% of studied running events[5], are conducted by for-

[5] Note that the study inclusion criteria required an event include at least one of a full marathon or half marathon.

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profit firms (75.6%), offer non-refundable registration fees (94.0%), and do not fully sell out event capacity (91.5%). Event organizers most often offer three or four prices, based on when runners register, although the number of different prices ranged from one to 11. Registration fees varied between events (see Figure 4 and Figure 5), with the average marathon registration fee starting at $80.13 and increasing to $111.16, while the average half marathon registration fee started at $57.71 and increased to $78.65. The distribution of registration fees was right skewed for both distances. The highest fee for a marathon was most often around $100, with a second peak around $150, while the highest fee for a half marathon was most often between $70 and $80. A minority (23.9%) of long distance running events have a designated title or presenting sponsor, with the medical/health care and insurance/financial industries most frequently represented.

Overall, Study One provided a snapshot of pricing practices in the long-distance running event industry. Results from the associated analyses offer a depiction of what event organizers are doing and of the registration policies currently in place. The research question addressed in Study One was *what is current practice in pricing and registration policies for long-distance running events?* The primary objective of the study was to identify common industry practices, while a secondary objective was to identify atypical alternatives that are used less commonly. Results from Study One thus provide an indication of what long-distance running event organizers do. Additional research is necessary to extend that perspective to understanding why and how event organizers develop and implement pricing policies. To provide deeper understanding of the processes that lead to the registration policies identified and described in Study One,

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Study Two involved qualitative inquiry into event organizers' perceptions of how and why pricing policies are developed.

Study Two Findings

Study Two used key informant interviews to identify the factors that organizers consider when developing pricing and registration policies for long-distance running events. The two primary objectives were examining the policy development processes and investigating the organizational, consumer, environmental, and event characteristics that influence pricing policy decisions. The approach entailed examining multiple cases to develop understanding regarding managerial behaviors and decision-making. The purpose of examining multiple cases is analytical rather than statistical generalization (Yin, 2013). Cases included both typical examples and critical cases chosen because they represent extreme examples. Interview participants were purposefully selected to include a range of organization and event types. Specifically, interview participants represent both for-profit and not-for-profit firms, small and large races, events offered at a single price or up to 10 separate price tiers, events that sell out as well as those that never approach capacity, organizers of single (typically annual) events and those who manage an event series or national event portfolio. This diversity along multiple dimensions offered numerous distinct perspectives, organizational objectives, and managerial backgrounds, enhancing the breadth of the data collected. Pseudonyms for each interview participant were selected from the list of most popular baby names in the United States over the last 100 years (US Social Security Administration, 2016). A list of interview participants with a brief summary of their role within the running event industry and characteristics of their associated event or events is provided in Table 3.

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Table 3. Study Two Participants

Pseudonym	Organization Type	Single Event vs. Series	# Tiers	Role Description
Mary	Various	Various	Various	Independent contractor with a variety of events.
James	Not-for-profit	Event series	Many	Full-time staff member of a not-for-profit organization that produces a series of running events.
John	Not-for-profit	Single event	Many	Part-time race director for an annual running event.
Robert	For-profit	Event company	Few	Full-time employee of a running event company.
Michael	For-profit	Event company	Few	Full-time employee of a running event company.
William	For-profit	Single event	Medium	Part-time race director for an annual running event.
David	For-profit	Single event	Few	Part-time race director for two annual running events, one for-profit and one not-for-profit. Also founder of a for-profit running event series.
	Not-for-profit	Single event	Few	
	For-profit	Event series	Few	
Richard	Not-for-profit	Single event	Few	Part-time race director for an annual running event.
Joseph	For-profit	Event series	One	Full-time organization head
	Not-for-profit	Single event	Many	

Note: Some interview participants are or have been involved with organizing multiple distinct events or event series.

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Qualitative data analysis can be driven by either data, as in grounded theory approaches (Glaser & Strauss, 1967), or existing theory (Krippendorff, 2013; Weber, 1990). In data-driven analysis, a researcher repeatedly goes through raw data identifying keywords, themes, and ideas prior to conducting any formal analysis (Namey, Guest, Thairu, & Johnson, 2008). Identified themes then form the building blocks for subsequent analyses. By contrast, a theory-driven approach takes guidance from existing theoretical understanding that shapes the initial concepts and thematic categories which are then applied to the data (Namey et al., 2008). While data-driven approaches are more flexible and open to discovery of the unknown, theory-driven approaches benefit from greater structure and fewer concerns regarding findings that are idiosyncratic to a particular researcher's interpretation (Namey et al., 2008).

Analysis of Study Two data drew upon both approaches. As data were generated, they were inductively (open coded) and deductively (based on the theoretical framework) analyzed following guidelines described by Miles et al. (2014) and Glaser and Strauss (1967). This approach facilitated the content analysis by clarifying themes, allowing new themes to emerge from the data and identifying existing themes related to revenue management theory (Kimes, 1989, 2003) and pricing methods (Avlonitis & Indounas, 2006). Inductive techniques are well-suited not only to creation of new theory, but also to expanding existing theory where understanding of a phenomenon is deficient (Glaser & Strauss, 1967).

Constant comparison (Glaser & Strauss, 1965) during data collection also supported minor modifications to the interview protocol, allowing later interviews to better reflect a developing understanding of the pricing policy development process. For

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example, a recent industry trend to offer third-party insurance of registration fees to runners during the registration process was identified during the first interview. This trend was confirmed in later interviews and incorporated into the interview protocol. Data on whether or not events offered third-party insurance during the registration process was not captured in the Study One census. While remaining a peripheral topic, offering such insurance is increasingly common and was clearly an active issue event organizers consider when developing or updating registration policies.

Two major thematic areas emerged during data analysis: core pricing approaches and peripheral considerations. Each area comprised multiple related sub-themes that factored into the registration and pricing policy development process. Core pricing included the commercial orientation, pricing method (cost-based, competition-based, or value-based; Avlonitis & Indounas, 2006), and number of price tiers offered. Peripheral considerations included registration timing, capacity planning, sell outs, price discounting, and refunds or insurance. Findings from each area and theme are summarized in the following sections.

Core Pricing

Although interview participants discussed a number of topics related to the development of registration and pricing policies, core pricing themes were those discussed in all interviews that appeared central to the pricing policy development process. Three themes directly related to pricing that were discussed in all or nearly all interviews included commercial orientation, pricing method, and number of price tiers offered. Each of these themes included heterogeneity across interviewees. While some systematic patterns were evident (e.g., for-profit firms were more likely to exhibit high

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commercial orientation and were more likely to use competition-based or value-based pricing methods), there was substantial variation between organizations and overlap between dissimilar organizational structures. Findings related to each of these core pricing themes and representative quotes illustrating participants' comments related to each concept are reviewed in turn.

Commercial Orientation.

Running event organizations in general, and those included in interviews for the current study in specific, vary in commercial orientation. As noted in the results from Study One, running events are conducted by organizations with a variety of structures, including for-profit firms, not-for-profits organizations, and governmental or municipal entities. While the nominal reason for existence of a traditional for-profit firm is profit maximization for the benefit of the firm's owners (Milton Friedman, 1962), even not-for-profit organizations may engage in activities with a chief objective of generating a revenue surplus that can be redeployed in support of other mission-related activities (Maier, Meyer, & Steinbereithner, 2016; V. R. Wood, Bhuian, & Kiecker, 2000). Within both the for-profit and not-for-profit realm, the degree to which firms actively pursue profits can and does vary. Based on the content of interviews in the current study, running event organizers were classified along a commercial orientation continuum from low to high.

Running event organizers with low commercial orientation sought minimal, if any, operational surpluses or profits from their events. For example, John explicitly noted that he operates his event with as close to a zero-surplus target as his board of directors

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would allow. He indicated that his goal was to produce the best possible event at breakeven, to provide participants a "big race feel" at a relatively moderate price point.

Other interview participants, such as William and Richard, also made comments indicating low commercial orientation for their events. William openly acknowledged that he was not inclined to maximize profits. He also allowed that long-established ties to the local running community hold back price increases for his event, reflecting social norms within the community. In recent years, he has considered trying to gradually increase prices, as he feels the relatively lower price charged may negatively impact perceived value of his event among runners. Similarly, Richard described a sense among long-time members of the running event community that events should not make substantial amounts of money, but rather should, in a normative sense, be designed to just cover their costs. He expressed disagreement with what he described as this *purist* perspective. He does not see any problem with turning a profit so long as events are done well and offer appropriate value to runners. At the same time, he indicated that he does not seek to maximize revenue or financial surplus with his event.

Other interviewees described a moderate commercial orientation. James organizes a series of running events on behalf of a not-for-profit organization within the recreational sport and fitness industry. He sees his events as designed to generate surplus revenue that can financially support other programming. Running events are a mission-aligned activity that offer additional benefit through being revenue-positive. He described running events as a way to expand programmatic offerings and generate revenue, while reaching and serving a population not addressed by other activities his organization undertakes.

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Michael organizes a large series of relatively small (approximately 150 runners on average) marathons and half marathons. His firm is for-profit, but nothing in his interview suggested that maximizing profitability or commercial success, beyond continued survival, was an overarching concern. His event series relies predominantly on attracting runners from a pool of dedicated repeat participants who will enter multiple events each year.

David operates events at different points of the commercial orientation spectrum. At the low-to-moderate range, he conducts an annual charity event. While the purpose of the event is fundraising for a specific not-for-profit partner, most of the revenue generated comes from donations, rather than directly from event fees. The event is designed to produce a minimal surplus, but serves as a vehicle to create relationships that can lead to successful philanthropic appeals. He also organizes a stand-alone race created for the purpose of generating a modest surplus, built in to the registration fee structure, without any attempt to maximize profitability. Finally, he created, operated, and has since sold off, a series of races designed as a money-generating for-profit entity.

This last series of events organized by David is an example of a high commercial orientation. His purpose in creating the series was to establish a national series of profitable events. Having succeeded, he then sold off the series to an investor group interested in further expanding the event series. High levels of commercial orientation were also indicated by Robert and Joseph. Like David, Robert operates a national series of running events on behalf of a for-profit firm. Consistent with the traditional for-profit model (Milton Friedman, 1962), Robert's firm seeks to maximize profitability from each event and the overall series. Joseph has recently moved from a multi-national for-profit

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firm, where he oversaw a sport event portfolio that included a series of running events, to a not-for-profit dedicated to a single annual running event. In his former position, his firm was decided highly focused on generating profits. As one of the largest firms in the industry, through aggressive pricing and highly-successful, well-attended events, they generate approximately $50 million in annual profits from their running event portfolio.

Commercial orientation is clearly related to organization type. Running events conducted by for-profit organizations tended to exhibit moderate or high commercial orientation, while not-for-profit organizations were generally low to moderate. There was some overlap between the two categories. James and Michael represent not-for-profit and for-profit organizations, respectively, yet appeared relatively similar in terms of commercial orientation (between moderate and high). Beyond commercial orientation, running event organizers also differ in the method or approach they use to establish prices.

Pricing Method.

Pricing methods fall into three broad categories: cost-based, competition-based, and customer value-based (Avlonitis & Indounas, 2006). Researchers have reported a shift in recent years toward customer value-based (demand) pricing in sport and entertainment ticketing (Drayer & Shapiro, 2011). While all three approaches were discussed in each interview, research participants primarily reported focusing on cost-based perspectives when pricing their events.

Cost-based pricing methods were described by Richard, John, and David. Richard indicated that registration fees were set based on anticipated event costs, but noted that it can be difficult to accurately predict those costs a year or more in advance. Prices for his

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race are based on covering costs, with the hope that there will be a surplus at the end which can support other local philanthropic organizations. John described his approach as a revenue-driven model, designed to generate ever-increasing gross revenue, while also indicating that he seeks to finish each year as close to breakeven as his (not-for-profit) board of directors will allow. He has taken an experimental "try and see" approach to pricing, self-described as non-scientific, where he has increased registration fees and phased out discounts since taking over management of his event. Through this approach, he has increased gross revenue approximately 18% annually for the past three years, but has concurrently increased event costs in the form of improvements to event amenities.

David described slightly different approaches to pricing for the three distinct event types he has managed. For the for-profit event, he starts with determining expected event costs and a pre-determined profit goal. From that, his event has a set gross revenue target; based on the revenue target and anticipated participant numbers, he derives a registration fee. Because his costs are slightly lower with a longer planning horizon, he can pass along the savings in the form of an early-registration discount. Otherwise, all participants pay the same fee, based on the operational costs and planned profit. As noted previously, revenue for his charity event comes primarily from voluntary donations, so the registration fee is intentionally kept low, set at a level to minimally cover event costs.

By contrast, Michael and William both adopted competition-based models for pricing, looking at what other, similar running events charged. Michael based event prices on relatively expensive national events (e.g., the Rock 'n' Roll Marathon Series). William compared his prices to geographically proximate events in similar (urban) settings, and consciously sets prices slightly below the prevailing market standard. He

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indicated that the relatively modest price for his event might hurt the perceived value among participants, but credits the decision to strong connections with the local running community and historically-low prices holding back further increases.

The series of events Joseph used to conduct and David's event series, both for-profit endeavors, were examples of the value-based pricing model. David took a data-driven approach across multiple events in an attempt to systematically determine price elasticity among event participants to jointly maximize profitability and field size. Through experimenting with different prices in different locations, he developed what he felt was an accurate predictive model which he then used to determine prices and the timing of price changes.

Joseph described leading his organization from a competition-based pricing method, which he inherited, to a value-based model. His firm originally had a single running event that was positioned as an international, world-class destination event. As such, it was priced based on comparisons to other top-tier running events (e.g., Boston Marathon, New York City Marathon, London Marathon). When Joseph took over operations, his firm shifted to a value-based pricing model. The impetus behind this change was the realization that his firm had a unique brand focused primarily on delivering entertainment and that, in many respects, there were no comparable events in the running industry.

Awareness of supply and demand considerations also resulted in modifying the relative pricing of half and full marathon events. Half marathons had been priced at a considerable discount to full marathons and consistently sold out faster. This triggered greater price increases in the half marathon until the two distances ultimately achieved

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price parity. Distances shorter than the half marathon continue to be offered at a lower price point, reflecting their relative popularity.

Running event organizers differ in the pricing method they use when establishing prices. Another source of variation arises in implementing prices, once revenue targets are established. One of the primary ways in which event organizers differ is in the number of distinct price tiers offered and the size of the jumps between prices.

Number of Price Tiers.

Even once the total amount of registration fee revenue or the average per-runner revenue target is established, there remains a wide degree of latitude in how to present prices and how many different prices are offered for the same event. As described in Study One, running events range from offering a single price to all runners to up to 11 different prices based on when a particular runner registers for an event[6]. Interviewees for Study Two provided a wide range of perspectives on the best approach, reflected by their events ranging from using only one or two prices up to as many as 10.

James's events use a relatively high number of price tiers (10 tiers for the marathon and eight tiers for the half marathon). Price tiers are scheduled such that registration fees jump by a $5 increment each month. This creates a sense of urgency at frequent intervals, as evidenced by a spike in registrations received at the end of each month. While the size of each jump is modest, over the registration window the increments add up. James also serves as race director for other events at shorter distances (5k and 4-miler), where he has experimented with using multiple price tiers and found no

[6] Registration date is the most common basis for differentiated pricing, while other approaches such as increases after a pre-determined number of runners have registered are also used.

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effect on registration behavior. Long-distance runners appear to be more influenced by the pricing structure, perhaps due to longer planning horizons and higher fees.

John's event also uses 10 price tiers, having switched from five, three years ago. While they also observe a spike in registrations before each price jump, they attribute the effect to marketing activities (email and social media), rather than runners responding to anticipated price changes. More price tiers offers more frequent content for marketing messages, but the strategy was primarily driven by the goal of extracting a bit more revenue from early registrants, who may have missed one deadline, but would likely make the next.

Robert's firm uses relatively few price tiers with their events. Their signature race sells out nearly immediately (17 minutes to sell out in 2016), so has only a single price. Other events use four price tiers with increases at two-month intervals. These intervals are based on race distance-specific training cycles and trial and error through experimentation over several years with multiple events around the country. While runners in the past would develop calendars to track registration deadlines and plan a season, such an approach appears to be less common now. As with John's event, Robert indicated runners now respond more to receiving marketing appeals than planned dates. While John responded to this trend by increasing the number of price tiers to create more marketing appeals, Robert did not, feeling price jumps are not a necessary pretext for marketing. Robert did suggest that a greater number of price tiers benefits event marketing through reducing the length of *dead periods* over the registration window.

David indicated that he feels multiple price tiers create too much confusion for runners, outweighing the benefits of extracting slightly higher registration fees from later

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registrants. Given the relatively high socio-economic status of event participants, small increments of $5 or $10 are not sufficiently meaningful to drive behavioral change, but increase complexity. This observation was echoed by Joseph. The event series Joseph oversaw in his former position uses a single price for all registrants, while his current event uses many. Joseph acknowledged that price increases provide noise in the marketplace and can drive behavior, but questioned the efficacy of small jumps. Beyond the lack of impact from small price increases, he suggested that too many increments can numb runners to changes, diminishing the impact. He plans to reduce the number of price tiers he inherited with his current event.

Moving in the opposite direction, William moved from using three or four tiers to using six to create more deadlines as calls to action for runners. He observed a recent trend among runners exhibiting greater willingness to pay more to register later – closer to race day – to reduce their risk of non-participation. He believes that early registrations are largely driven by fear of the event hitting capacity and selling out, something that has happened for his event in each of the past few years, although not in 2016.

Mary commented that the appropriate number of price tiers is influenced by a number of factors, including how far in advance of the event registrations open, coordination with other running events, and a desire to encourage early registration without creating undue pressure or stress on prospective participants. According to her, the earliest registrants tend to be first-time runners who want all planning related to participation set well in advance. Late registrants tend to be highly-experienced runners who select particular events to join friends who have already registered. These highly-experienced late registrants frequently seek discount codes to reduce overall cost, yet

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event organizers who offer such discounts risk alienating their existing customers who become disadvantaged.

The ideal number of price tiers provided the least consensus among interview participants of any topic. Interviewees ranged from using a single price to 10 different prices for their events. Reinforcing these divergent opinions, some events have recently gone to more frequent, smaller price changes, while others have moved in the opposite direction. None of the participants indicated any attempt to systematically assess the impact of number of price tiers, appearing to rely instead on intuition and trial-and-error observations. Agreement emerged that price changes drive registration behavior, however there was a lack of accord regarding how large a price increment is sufficient. The following section summarizes key findings related to core pricing before transitioning to peripheral considerations that influence the development of pricing policies.

Theme Summary.

Interview participants represented a wide range of organizations conducting long-distance running events. This heterogeneity was reflected in how they described the pricing-related objectives, commercial orientation, pricing method, and number of price tiers employed by their organizations. Generally, for-profit organizations held higher levels of commercial orientation and were more likely to use value-based pricing methods. Even within organization type there was substantial variation in orientation and pricing method. Further, there was not a distinct break between for-profit and not-for-profit organizations along either dimension, as the ranges for each overlapped.

There was not an observable systematic trend in which organizations were likely to use relatively many or relative few price tiers. While many of the interview

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participants expressed clear rationales in favor of their particular approach, the arguments for more versus fewer tiers ultimately were similar, despite the opposing conclusions. Specifically, proponents of both approaches indicated that price jumps serve as a call to action to potential event registrants. Those in favor of additional price changes sought more opportunities to market their event. Those in favor of fewer price changes sought jumps that were sufficiently large to create a meaningful signal to the market.

While commercial orientation, pricing method, and number of price tiers represented key, core pricing themes, interview participants addressed a number of other topics as well. These peripheral considerations were less universally discussed during interviews and event organizers appeared to provide less attention to these topics. Yet, these themes and their impact on the pricing policy development process were sufficiently present in the interviews to warrant attention.

Peripheral Considerations

In addition to the themes directly related to the development of registration and pricing policies, a number of additional topics were discussed by some or all interview participants. These peripheral considerations impacted specifics of pricing policies or the implementation of such policies, while taking a distinctly subordinate role relative to themes reviewed in the previous section. A number of such considerations were referenced, but the most frequently-discussed included the impact of registration timing, capacity planning, event sell outs, discounting, and refunds or insurance. Findings related to each of these themes are discussed in turn.

Registration Timing.

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There was a lack of consensus among interviewees on which types of runners register for running events at different times. Mary indicated that first-time runners who want to make sure all plans related to participation are set well in advance are those most inclined to register early for an event. According to her, experienced runners, especially those who are joining already-registered friends, typically register relative close to the day of the event. Her observation that later registrations reflect social groups was mirrored by Richard, who noted that late registrations typically come from groups of running partners who decide jointly to enter an event. In contrast to Mary's suggestion that novice runners register relatively early, Richard indicated that early registrants are typically older and hard-core runners.

While not using the hard-core label, equivalent observations were made in several other interviews. Joseph proposed that early registrants are predominantly serious runners who develop an event and training calendar well in advance. Robert, Michael, and William all noted that repeat or regular participants tend to be the earliest registrants. William further described early registrants as *Type A* runners. Michael remarked that later runners, while still typically highly-experienced, were more likely new to participating in his event series.

All interviewees who discussed registration time-based differences[7] observed that early registration behavior reflects a greater need or desire for advance planning among runners. The attributed origin for this motive varied, between a need for inexperienced runners to have greater certainty, greater planning requirements for high-volume runners, and personality type. Repeat participants were repeatedly mentioned as among the

[7] John and David both explicitly indicated that they've never looked for or seen differences between runners based on registration date.

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earliest event registrants, suggesting that this represents a targetable market segment early in the registration cycle. That said, Joseph noted that this group, especially local repeat participants, do not require extensive marketing effort as the event already has high awareness and an established brand position among these runners. He suggested that marketing activities instead be oriented toward attracting new runners who had not previously participated in the event.

Notably absent from any of the interviews was that early registrants are runners seeking lower fees. Given the extensive discounts offered to runners who register relatively early (registration fees as much as 50% lower for the earliest registrants relative to the latest registrants), that price sensitivity is not perceived as a driving force behind early registration is counter-intuitive. Instead, interviewees indicated that encouraging early registrations helped improve logistical planning and capacity management, lowering costs and improving service delivery. Relatively lower registration fees reflected passing along of those savings (David) and better ability for capacity planning (James, Mary).

Capacity Planning.

Nearly all interviewees indicated that one of their crucial tasks as event organizers was accurately forecasting how many registered runners would actually participate in their event. Race directors need to be able to project how many registered participants will actually show up in order to plan for the appropriate amount of supplies such as drinks, food, event memorabilia (e.g. shirts and finishers' medals), and portable toilets. Estimates for typical no-show rates ranged from 10% to 30%. Planning for too many event participants results in wasted resources, while running out of supplies can impair

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participant safety or satisfaction. Different event organizers have adopted different solutions to this problem.

The typical approach involves estimating a no-show rate, deriving an expected number of participants, calculating a cushion above the minimum expected requirements, and providing supplies accordingly. Mary highlighted this approach, indicating that the ideal outcome is for the last event participants to finish the race just as the event organizers open the final box of finishers' medals. Robert suggested that the size of the cushion depended on the particular item. For his event, he intentionally stocks more than the required number of shirts, to allow for size changes, while cutting inventory much closer on finishers' medals. While he expects an approximately 10% no-show rate for his event, he factors a 5-15% waste cost into his budgeting process in setting registration fees.

By contrast, Michael makes a point of absolutely guaranteeing that every registered participant will receive all items. Rather than attempt to estimate a no-show rate to allow for buying less supplies, his firm has adopted reusable designs that allow excess inventory to be carried over to the next event. Because he organizes more than sixty long-distance running events annually, inventory carrying costs are relatively low.

Capacity planning extends beyond the logistics of ensuring the optimal level of supplies are on hand the day of the event. Absolute course capacity places an upper limit on the number of registration slots available. James indicated that maximum capacity could sometimes be altered, through arranging additional lane or road closures, but that doing so was difficult and expensive. Generally, interview participants indicated that events have a set maximum capacity dictated by course chokepoints and ensuring

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participant safety and the quality of the participation experience mandates a limit beyond which and event must be sold out and no further registrations accepted.

Sell Outs.

Results from Study One indicated that sell outs are relatively rare among long-distance running events. Only 8.5% of events in the Study One census included an explicit indication of a sell out on their website. Interview participants were purposefully selected to represent both events that routinely reach capacity and those that do not to understand any differences in pricing approaches. The signature event produced by Robert's firm sells out quickly (in 17 minutes for the 2016 event). Other events in their series have sold out in the past, but have struggled to reach capacity in the last two years. Similar patterns were noted by William and Richard, who each manage events that consistently sell out, although failing to reach capacity in 2016. By contrast, James, John, and Michael's events never sell out.

Among interviewees who manage events that approach or reach capacity, a common refrain was that reaching full capacity and selling out has become more difficult recently. As noted, after consistent sell outs, William's most recent event saw a participation decline in 2016. Joseph indicated that after reliable sell outs for his series of 10 annual events between 2008 and 2014, the last two years have seen some events fail to reach capacity limits.

Recent attendance declines observed by interviewees reflect broader industry reports of decreasing running event participation (Running USA, 2016). Joseph specifically attributed the decline to increased running event inventory (i.e. more events nationally) expanding overall supply beyond demand, an observation echoed by David.

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Richard, whose event includes only the full marathon distance, suggested that declines faced by races similar to his reflect changes in the runner population. While runners in the Baby Boom generation are starting to die off, Generation X runners are aging and dropping from participating in full marathons to shorter distances (i.e. half marathons). At the same time, Millennial runners are less willing to put in the training mileage required for completing a full marathon and are instead gravitating toward half marathon events.

At the same time many events are facing pressure to draw fields comparable to those of recent years, others continue to thrive. As previously noted, Robert's signature event sold out in a record 17 minutes in 2016. Joseph's current event saw participation increase 7% in the half and full marathon between 2015 and 2016. He suggested that having the right product and the right marketing allows event organizers to buck the overall industry trend of declining participation. Drawing on knowledge from his former position, his current event is shifting away from a focus on the race and competition and toward marketing the event experience and creating *wow moments* on the course.

For events at risk of falling short of reaching full capacity, there is an economic incentive to stimulate additional demand through offering price discounts. Running events have relatively fixed capacity, high fixed costs, and relatively low marginal costs. Thus, fees from incremental event participants represent nearly pure profit, almost regardless of how little revenue each provides. As a result, running event organizers face incentives to offer registration fee discounts, if and when such discounting is unlikely to negatively impact revenue from other runners.

Discounting.

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As noted by Mary in the core pricing section, highly-experienced runners frequently look for discount codes when registering for events close to race day. Using discounts or coupons also came up during interviews with James, John, Robert, and Joseph. Robert has found benefits from using discounts in a limited, selective fashion. Specifically, he offers discount codes to encourage previous participants to register early. James noted that price changes to spur behavior – both jumps and discounts – are common practice in industries other than running events. The purpose remains the same – to move product.

John and Joseph both spoke against offering discount codes or coupons with running events. When John took over management of his race, he inherited a history of offering discounts. He maintained that approach his first year, before phasing it out over the next two seasons. Runners in his event routinely complained when they discovered others registering later had paid less, which created a problem for him as race director. He also found that discounts led to strategic waiting by runners, who would defer registering until a discount code was available. Thus, discounts introduced customer service issues while also being counter-productive in driving hoped-for registration behaviors.

Joseph strongly argued against offering price discounts, indicating that they merely decrease the perceived value of a running event. Instead, he suggested that event organizers seek to offer additional highly-valued perks when seeking to spur behavior and prop up lagging registration numbers. While acknowledging that financial costs are more important to runners than incremental amenities, he stressed the importance of maintaining reference prices in the minds of runners as an overriding consideration.

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Refunds or Insurance.

Registration fees for the vast majority of long-distance running events are non-refundable (per Study One, 6% of running events offer refundable registration fees). Reflecting typical industry practice, all Study Two interview participants' events include policies that registration fees are non-refundable. The availability of case-by-case special exceptions to the blanket policy was noted by both David and Robert, however. Michael mentioned an unadvertised policy where he proactively reaches out to runners who miss multiple events within his series to offer credit toward future event registration. High advance costs and planning requirements were typically cited as the primary rationale for adopting a no-refund policy, although consistency with industry practice was also repeatedly mentioned. The potential for mass refund requests in the case of inclement weather was specifically mentioned as a concern and argument against changing the no-refund policy by Mary, John, and Richard.

Mary noted a trend within the past five to seven years of running event organizers offering third-party registration fee insurance as an add-on option to runners. She credited the rise in this phenomenon to Active.com, an industry leader in event registration management, offering the option to event organizers. John indicated that his event started offering the option last year, spurred by the 10% commission he receives from the insurance company. He has seen many runners opting in to the insurance, although did not have specific numbers available at-hand. David observed that while none of his events offer third party insurance, he feels it is a great idea that provides fairness and value to both event organizers and runners. William's event also doesn't offer insurance. While he has considered the option, he does not believe there is much take-up when

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insurance is available. He expressed concern that either the cost of the insurance or highlighting the possibility that insurance might be necessary could serve as a barrier to event registration.

Theme Summary.

Interview participants discussed a number of peripheral considerations that clearly influence event pricing policies. These peripheral considerations impacted specifics of pricing policies or the implementation of such policies, while taking a distinctly subordinate role relative to core pricing themes reviewed in the previous section. The most frequently-discussed peripheral considerations included registration timing, capacity planning, sell outs, discounting, and refunds or insurance.

Interview participants held divergent opinions regarding which runners tend to register relatively early versus late. Early registrants were widely credited with exhibiting a desire or need for advance planning. However a need for advance planning was variously credited to novice runners, highly-experienced or serious runners, and Type-A runners. Implications for how to manage an event depend on which rationale best explains early registration or whether a combination of reasons drive runners' behavior. A fear of event sell-out was also suggested as a motivational force driving earlier registration behavior.

Capacity planning encompassed establishing maximum registration field sizes, logistical planning related to providing sufficient supplies on the day of the event, and how pricing policies helped create helpful checkpoints throughout the event registration period. While some events routinely approach or hit maximum capacity and sell out (e.g., events conducted by Robert, William, Richard, and Joseph), others never do (e.g. events

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conducted by James, John, Michael, and David). With the exception of Joseph, no organizer involved with a sell-out event indicated any inclination to raise registration fees in response to the demonstrated mismatched supply and demand inherent to an over-subscribed event. For his event series, David estimated price elasticities to optimize revenue at a point below course capacity.

While acknowledged as a common industry practice, discounting registration fees was criticized by interview participants. Customer complaints from runners who paid more than those who registered after them were noted by several event organizers (Mary, John, and William) as an argument against offering discounts. Other organizers were more concerned about discounts impairing perceived value (David and Joseph) or triggering strategic behavior among runners who learn to wait for discounts (John). Despite his concerns, David indicated willingness to use discounts limited to tightly-targeted segments to avoid cheapening the brand or creating a perception that the event is always on sale.

A growing industry trend identified initially in the first interview and reinforced by subsequent study participants is the availability of third-party insurance to alleviate runners' risks related to non-refundable event registration fees. Event organizers differed on whether or not their events offered such insurance, however the practice was generally well-received. Offering insurance to runners as an option was seen as valuable to both event organizers and event participants, although William expressed some reservations.

Core pricing themes (commercial orientation, pricing method, number of price tiers) and peripheral considerations (registration timing, capacity planning, sell outs, discounts, and refunds or insurance) combine to influence the process running event

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organizers follow in developing pricing policies. Interviews conducted in Study Two provided data regarding how event organizers perceive each of these themes and the impact on their management activities. Connections between findings based on those interviews and existing and developing academic understanding are discussed in the next chapter of this dissertation.

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CHAPTER FIVE:

DISCUSSION

The purpose of this research was to explore the processes through which organizers of long-distance running events develop and implement pricing and registration policies. Specifically, the focus was on pricing policies in running events that included a full or half marathon, typically along with races at additional distances. This was accomplished through two studies. Study One used a comprehensive race census to develop quantitative data on existing pricing policies used in long-distance running events in the United States. Study Two used semi-structured interviews with race directors and other event personnel to understand the process through which such policies are formulated and implemented.

The current research identified common industry practices race organizers follow (Study One) and examined factors contributing to the development of pricing policies for participant sport events (Study Two). Study One was a census of running event pricing and registration policies. This study provided an overview of the policies currently in use, identified divergent industry practices, supports future running event pricing research, and provided examples of pricing practices currently in use. Study Two involved interviews with running event organizers to understand the processes leading to the development and implementation of pricing and registration policies. Study One generated information regarding pricing policies currently in place, while Study Two explicated the processes through which event organizers develop such policies.

This chapter presents a discussion of key findings reviewed in the previous chapter, positioning those results against existing sport management and pricing

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literature. The chapter consists of three sections. The first two sections focus on discussion of findings from Study One and Study Two, respectively, with cross-comparison between the two studies where appropriate. The third section presents a conceptual model of the registration and pricing policy development process, building on existing literature and findings from the current research. The chapter finishes with a conclusion summarizing the discussion before transitioning to the subsequent chapter, which describes future research building on the foundation established by this dissertation.

Study One Discussion

The objective of Study One was to identify common industry practices currently in-use among long-distance running event organizations. A secondary objective was to identify atypical alternatives that are used less often. These objectives were met through conducting a comprehensive census of 1,530 long-distance running events that include a marathon or half marathon. Analyses assessed the frequency of event characteristics, while the census also provided examples of atypical practices in registration and pricing policies to highlight potentially fruitful areas for further research. Study One identified both typical pricing practices and alternatives that provide insight into the array of possible options available to event organizers. The remainder of this section draws upon results from Study One to discuss three elements essential to the development of event pricing policies, namely the impact of event distance, event prices, and event sponsors.

Event Distance

Reflecting the half marathon's position as runners' favorite distance (Hamilton, 2012), nearly all (94.8%) events in the census offered a half marathon while full

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marathons were part of a minority (36.0%) of long-distance running events. The growth in popularity of the half marathon has been attributed to a rise in training programs, destination races, growth in participation by women, and changes in runners' preferred distances (Lough et al., 2014). While Study One confirmed that most long-distance running events include half marathons, Study Two reinforced some of the underlying reasons for this phenomenon, including changes in runners' event distance preferences and the rise of destination races. In his interview, Richard noted that older runners are dropping from participating in full marathons to the half marathon distance, while younger runners are "too smart to run 26.2 miles" and instead seek to "run half that and party afterward." Joseph focused on the demand for half marathons, which consistently exceeds that for the full distance, even with pricing parity. While the number of running event finishers has declined each year since 2013, the decrease has been least pronounced for the half marathon, which saw a 3% year-over-year drop between 2014 and 2015 compared to a 9% drop across all distances (Running USA, 2016).

Event Prices

Full marathon prices[8] (average $111.16, median $110.00) were higher than half marathon prices (average $79.65, median $75.00). This may reflect perceived value among runners exhibiting a higher willingness to pay for a longer race, higher costs of conducting an event over a longer course, or differences in the customer segments targeted by marathons and half marathons. Training requirements for a full marathon are greater than those for a half marathon (Lysholm & Wiklander, 1987), which may be associated with greater behavioral and psychological involvement with running.

[8] All prices in this section represent the highest registration fee charged for participation in an event.

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Choosing to engage in running as a leisure activity suggests that an individual derives pleasure and symbolic value from running (Beaton, Funk, Ridinger, & Jordan, 2011). Previous literature has linked running involvement with event participation (Beaton et al., 2011; Funk, Toohey, & Bruun, 2007), running commitment (Ridinger, Funk, Jordan, & Kaplanidou, 2012), and running-related travel (McGehee, Yoon, & Cardenas, 2003).

Greater willingness-to-pay among participants in full marathons compared to half marathons may reflect higher levels of enduring psychological involvement with running and thus explain the higher average prices charged for longer distance events. Arguing against this supposition are the observations made by Joseph during his interview in Study Two. Joseph indicated that his firm adjusted prices annually to reflect observed demand, starting with a substantial price difference between half and full marathons but ultimately reaching parity. In his experience, half marathoners demonstrated willingness-to-pay at least as high as that of full marathoners. Current practice among running event organizers involves charging lower registration fees for half marathons than full marathons, yet findings from Study Two call this approach into question.

Considerable variation was observed in the number of price tiers offered for an event. Event organizers used between one and 11 price tiers (average 3.51, median 3, mode 4). Using multiple price tiers is consistent with even organizers engaging in second-degree or third-degree price discrimination. In nearly all cases, price differences were based exclusively or primarily on registration date. Date of registration is an observable characteristic, supporting third-degree price discrimination, however it may also serve as a proxy for unobservable characteristics (e.g., risk aversion) in second-degree price discrimination (Talluri & Van Ryzin, 2004; Tirole, 1988).

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While most organizers provided information on all prices at all times, others chose to limit the information available to participants and potential participants. Typically, in this case, organizers presented only the then-current price. Less commonly, organizers would present a limited portion of the prices, with examples observed both listing only past (no longer available) prices and listing only future (soon to be available) prices. There were no immediately obvious event or organizer characteristics associated with the choice of presentation style.

Presenting non-current prices, either lower prices that are no longer available or higher prices if a runner delays registration, provides potential registrants external reference prices and could influence perceptions of the current fee. In a spectator sport context, Drayer and Shapiro (2011) found ticket face values provide influential external reference prices, leading to higher willingness-to-pay levels. When an explicit face value was not present, consumers relied upon an alternative reference price based on their previous experience or their perceived value of the event. These internal reference prices were lower than the external reference price provided by the ticket face value and the presence of external reference prices provided an anchor for buyers, increasing willingness-to-pay (Drayer & Shapiro, 2011).

Further, providing a range of external reference prices spanning the current price may expand the zone of price acceptability (Lichtenstein, Bloch, & Black, 1988) to include the current price. However, runners' attitude toward multiple prices might depend on whether alternative prices are predominantly higher or lower than the current price. Due to self-focused bias, consumers in a price-advanced condition (i.e., paying less than

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others) perceive differential pricing as more fair than those in a price-disadvantaged condition (Wirtz & Kimes, 2007).

Event Sponsors

While the majority of revenue from most long-distance running events comes from the registration fees paid by runners, event sponsors can represent a crucial source of additional revenue (Eagleman & Krohn, 2012). Long-distance runners are typically highly-educated and affluent (Zorn, Flanagin, & Shoham, 2011), representing a desirable market segment for potential event sponsors. Furthermore, participants in grassroots sport may place greater meaning on their events than do typical sport consumers, thus may be more likely to support event sponsors (Miloch & Lambrecht, 2006). Greater interest or attachment to a participant sporting event has been associated with increased intentions to purchase from sponsors (Filo, Funk, & O'Brien, 2010; Miloch & Lambrecht, 2006), as has gratitude toward event sponsors (Y. K. Kim, Smith, & James, 2010). Highly-identified runners demonstrate greater sponsor recall and purchase intention (Lough et al., 2014).

To distinguish significant sponsorships from those that might be relatively financially immaterial, Study One examined running events' *title* or *presenting sponsors*. Title sponsorships are considered the *crown jewels* of sport sponsorship and prized for their ability to build brand image and generate awareness (J. M. Clark, Cornwell, & Pruitt, 2009). Medical or health care providers were the most common sponsor category, followed by the insurance and financial industry, charities, and sport apparel or footwear companies. These four categories captured 63% of title or presenting sponsors of running events in Study One. Each of these industries offers a strong fit with long-distance

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running events or is particularly targeted at consumer segments over-represented among long-distance runners compared to the overall population. Previous research has identified perceived sponsor-event fit as a necessary condition to maximize sponsorship impact (Mazodier & Merunka, 2012; Olson, 2010; Simmons & Becker-Olsen, 2006; Speed & Thompson, 2000). Lucrative event sponsorships offer a potential source of revenue for running event organizers, providing financial stability, and could subsidize registration fees. However, in Study One, only a minority (23.9%) of events listed a title or presenting sponsor on the event website. This suggests that there is considerable room for improvement among running event organizers.

Study Two Discussion

The objective of Study Two was to examine factors that influence the process through which long-distance running event organizers develop and implement registration and pricing policies for their events. The following sections on pricing methods, commercial orientation, registration timing, and capacity planning draw connections between findings reviewed in Chapter Four and existing literature. These topics represent the major findings from Study Two and the discussion elaborates on the processes employed by long-distance running event organizers.

Pricing Methods

Avlonitis and Indounas (2006) described three broad pricing strategies: cost-based, competition-based, and customer value-based. Cost-based methods (e.g., cost-plus, target return, break-even analysis, marginal pricing) are generally the least complex and most widely used, especially among small firms (Avlonitis & Indounas, 2006). Appropriately allocating fixed costs can be difficult and cost-based pricing disregards

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market conditions (Zeithaml, Bitner, & Gremler, 2013). Competition-based methods (e.g., pricing relative to competitors or market average) respond to market conditions, however these approaches lead to ceding pricing discretion and control to other firms. This deficiency is especially salient for small firms that are effectively forced to follow pricing decisions made by larger rivals (Heil & Helsen, 2001). Finally, customer value-based methods (e.g., perceived-value pricing, pricing according to customer needs) base prices on consumers' willingness-to-pay. Researchers suggest customer value-based pricing is superior to the alternatives (Cannon & Morgan, 1990; Ingenbleek, Debruyne, Frambach, & Verhallen, 2003), yet over 80% of firms primarily use either cost- or competition-based approaches (Hinterhuber, 2008). Researchers have reported a shift in recent years toward customer value-based pricing in sport and entertainment ticketing (Drayer & Shapiro, 2011).

The frequency with which Study Two interview participants[9] described using customer value-based pricing strategies was consistent with broad, cross-industry estimates (e.g., Hinterhuber, 2008). Contrary to Heil and Helsen's (2001) suggestion, there was no indication in any interview that small event organizers felt pressure to follow pricing decisions made by the market leaders. For example, during his interview, Richard discussed the impact on the industry from Competitor Group (CGI), the industry leader. He indicated that other event organizers were forced to improve the customer experience for runners, but not that CGI had influenced registration fees or the pricing process. Moreover, he suggested that CGI's premium pricing model and high profit orientation were detrimental to CGI and created substantial performance pressure on CGI

[9] Note that Study Two used a purposeful, rather than random, sampling technique, thus caution is warranted in generalizing frequency estimations.

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staff to meet goals that might not be achievable. CGI was described more as a cautionary tale than as a leader reducing discretionary control over prices among smaller event organizers. James speculated that high-profile running events might be impacted by pricing decisions made by the market leaders, however he also indicated a minimal to zero effect on the mid-sized regional events, such as his own, representing the bulk of the running events in the country.

Customer value-based pricing may be superior when the sole criterion is net profit (Avlonitis & Indounas, 2006; Hinterhuber, 2008, 2015). However, as found in Study Two, firms within the long-distance running event industry exhibit a wide range of commercial orientations and profitability is not always the dominant objective. As such, event organizers may be justified in using a variety of different pricing strategies.

Commercial Orientation

Organizations vary in commercial orientation, and even not-for-profit organizations may engage in activities designed to generate a revenue surplus used to support other mission-related activities (Maier et al., 2016; V. R. Wood et al., 2000). The degree to which running event organizers investigated in Study Two actively pursue positive financial objectives can and did vary. Running events conducted by for-profit organizations typically demonstrated higher commercial orientation than those conducted by not-for-profits. The categories overlapped, as for-profit and not-for-profit firms could exhibit similar levels of commercial orientation.

Pricing method and commercial orientation appeared related as customer value-based approaches to pricing were only present among event organizers with high commercial orientation. Running events that were less focused on generating revenue

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surpluses used cost-based or competition-based pricing strategies. While past research has suggested that customer value-based pricing is superior to the alternatives (Cannon & Morgan, 1990; Ingenbleek et al., 2003), this assumes profit maximization is the primary objective. For running event organizers with a different objective or that jointly optimize over a variety of objectives including those beyond profit maximization, other pricing methods may be more appropriate.

At the same time, both Richard and William provided indications of a shift within the running event industry from a traditional approach, where events should be financially self-sustaining but no more, to a business orientation, focused on profits. This change is present more broadly across sport and recreation industries, where sport organizations are under increasing pressure to modernize and professionalize (Kikulis, 2000; Ruoranen et al., 2016). Similar trends are also present in professional sport, where Drayer and Shapiro (2011) reported a shift toward customer value-based pricing in sport and entertainment ticketing. As the running industry professionalizes, higher commercial orientation and customer value-based pricing methods may become more prevalent.

Registration Timing

Segmenting runners based on registration timing (registration date) and differentially charging registration fees based on when runners register is an example of price discrimination (Talluri & Van Ryzin, 2004; Tirole, 1988). The actual product purchased (the right to participate in a given long-distance running event on a particular date) is the same for all runners who register, yet the fee charged differs between runners. This is consistent with price discrimination theory if registration date is associated with differences in willingness-to-pay and offering multiple price points allows event

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organizers to extract a greater portion of the consumer surplus from participants. At the same time, a greater degree of price discrimination should result in greater overall participation and a reduction in dead weight loss from runners who are willing to pay more than the marginal cost of participation, but less than the profit-maximizing fee under a single price paradigm (Tirole, 1988). Assessing runners' willingness-to-pay or the dispersion of willingness-to-pay across runners registering at different times was beyond the scope of the current research.

Summers, Sargent, Levey, and Murray (1982) and Courty (2015) suggested that some consumers prefer to commit to advance event attendance relatively early, securing their place, while others prefer to delay. Plausibly, a running event participant might derive a level of comfort from knowing he or she is registered for the race and no longer needs to remember to do so at a future date, potentially after a price increase. Many race preparation training plans, especially those targeted at relatively less experienced runners, recommend registering for a race as a commitment mechanism. This rationale is consistent with Mary's observation that novice runners are more likely to register relatively early. Comfort from obtaining a secured place in an event is also consistent with serious (Joseph) or highly-experienced (Richard) runners registering early. William described early registrants as *Type A* runners (Meyer Friedman & Rosenman, 1959). Individuals with a Type A personality manifest "an intense, sustained drive for achievement and [are] continually involved in competition and deadlines" (Friedman & Rosenman, 1959, p. 96), which is consistent with runners who elect to register for events well in advance.

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Relatively late registration was associated with registering as a group (Richard) or to join friends who had previously registered (Mary). *Socializers* (along with *holidayers* and *marathoners*) were one of three customer profiles of runners at marathon events identified by Hallmann and Wicker (2012). They categorized socializers as "more joggers than runners" (p. 181), contrasting the group with real runners (S. L. Smith, 1998) and serious runners (Stebbins, 1982). This is inconsistent with descriptions provided in Study Two interviews, where those registering for social reasons were described as highly-experienced, serious runners. Masters and Ogles (1995) also found a high level of social motivation was more prevalent among highly-experienced marathoners than mid-level or novice runners.

In combination, this set of findings suggests multiple elements influence when runners register for long-distance running events. Marketing appeals around price changes can drive registration behaviors (James, John) if the change in price increase is sufficiently large to be meaningful (Joseph). Beyond the immediate, tactical impact of price changes, relatively earlier registration may be driven by a desire or need for advance planning (Mary, Joseph) or concern for event sell out (William). Relatively late registration may be driven by social motives and a desire to participate in an event with friends (Mary, Richard). Understanding what drives runners to register at different times should be incorporated into the development of appropriate registration and pricing policies for long-distance running events.

Capacity Planning

Results from Study One indicated that sell outs are relatively rare among long-distance running events (8.5% of events in the Study One census). Yet even when an

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event is below maximum capacity, organizers must still plan appropriately for the number of participants. Interviewees in Study Two indicated that they estimate a no-show rate for registered participants and account for pre-event drop-out when estimating the optimal quantities of supplies (e.g., event shirts, food, and drinks) necessary for event operations. Michael differed from other interview participants in that he was the only organizer who does not understock supplies relative to the number of registered runners. His events are targeted at relatively small fields (150-250) of highly-experienced runners, most of whom are regular participants in his event series, which may result in lower no-show rates. Due to the high frequency of his events, his costs of excess inventory are also lower than for the typical organizer.

All organizers who discussed estimating no-show rates indicated that they do so based on historical numbers. While some organizers (e.g., David and William) referred to no-show rates across the running event industry, most remained focused on their direct, personal experience as a guide to future expectations. Estimates were discussed in broad terms, typically with a relatively wide range (e.g., "10 to 20 percent") and there was no indication that organizers attempt to develop precise models. A lack of precision in how no-show rates are estimated is at odds with comments made during interviews that event organizers would prefer to closely match supplies with the number of runners. For example, Mary suggested that an ideal outcome is for an event to conclude with less than a single full box of unclaimed finishers' medals (i.e. ordering within 50 of the number of participating runners).

One of the key tasks in building an accurate no-show model is identifying contributing factors associated with no-show rates (Huang & Hanauer, 2014).

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Conventional no-show forecasting methods average no-show rates of historically similar events without using customer-specific information (Lawrence et al., 2003), which is the approach described during interviews. However, using average no-show rates for all runners discards individual-level data that can improve forecasting (Harris et al., 2016). Registration date, runner characteristics (e.g., gender, prior experience, geographic proximity), and event characteristics (e.g., event distance, event prestige, event location) likely all influence likelihood of no-show behavior among registered runners. Accounting for interpersonal variation among registered runners could improve capacity planning outcomes for event organizers. Better no-show models could also inform pricing practices and price discrimination as organizers can afford deeper discounts for runners who are more likely to no-show the race.

Conclusion

Having reviewed key findings from Study One and Study Two, the next section discusses the development of a conceptual model that integrates the policy development process and factors that influence that process. The model incorporates the actions of running event organizers as well as external influences that impact the process through which event organizers develop a registration and pricing policy for their event. The purpose is to provide a holistic overview of the factors that lead to adoption of a particular policy both to support understanding of the process and serve as a foundation for a stream of future research.

Conceptual Model

Pricing and registration policies for long-distance running events vary dramatically between event organizers. While some policy elements are wide-spread and

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approach de facto industry standards (e.g., non-refundable registration fees), others are highly idiosyncratic. Specifically, organizers differ in their desire to maximize revenue, methods they use in setting prices, how many different prices are offered, how prices are presented, and, ultimately, how much they charge event participants. Explaining sources of heterogeneity in management approaches adopted by different firms is a crucial research problem in need of greater understanding (Powell, Lovallo, & Fox, 2011). Persistent differences between event organizers represent a dilemma for both event organizers seeking to adopt optimal pricing policies and academics seeking to understand the pricing process. Absent guidance regarding the effect of various possible policy decisions, an organizer is left to rely on personal intuition or merely copying approaches used by other races. Academics require a conceptual model of the pricing process to serve as a foundation for empirical investigation to identify and explicate factors that impact pricing policies.

Few Study Two interviewees mentioned a systematic approach toward estimating runner demand for their events. David indicated a shift from a trial and error approach to methodically estimating price elasticity of demand among his events' participants using multiple linear regression techniques. Joseph described an incremental approach of annual price increases based on how quickly events at different distances sold out to asymptotically determine an optimal price point. Even those organizers who did not describe estimating demand presumably follow a similar approach less formally, as the results of each year's event are incorporated into price setting for subsequent years. This is consistent with previous research indicating managers follow a piecemeal and fragmented approach built on ad hoc decisions (Piercy et al., 2010) and base pricing

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decisions primarily on the revenue needs of their organization, rather than systematic market analysis (Howard & Crompton, 2004).

Microeconomic theory indicates that prices reflect balancing forces of supply and demand. In an environment where at least some event organizers are not maximizing profit, as suggested in Study Two interviews, the pricing calculus is more complicated. For-profit organizers should make decisions that at least approximate profit maximization. Even organizers that have additional competing motives likely set prices at least partially in response to expected or realized demand. Understanding the aggregate demand for a particular race and what factors impact demand is essential for determining the optimal pricing policy. Event-specific characteristics, the competitive environment, and participants' expectations for event pricing all impact how events are priced and pricing policy implementation.

A model incorporating the diverse influences on the development of pricing and registration policies for long-distance running events identified in the current research would be beneficial in organizing findings and can serve as a basis for formulating and positioning future research questions. Greater understanding of the factors influencing pricing policies and the processes event organizers use when developing prices will help academics develop theoretical models and guide practice. Future research can investigate specific model components or relationships between elements. Development of such a model also responds to calls for further research to improve understanding of how sport organizations set prices (Drayer & Rascher, 2013) and rationales underlying firm heterogeneity (Powell et al., 2011).

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This section merges the findings from Study One and Study Two with existing literature to establish a conceptual model of the pricing policy development process for long-distance running events. As shown in Figure 6, at the center of the model are the core pricing elements and peripheral considerations identified by interview participants in Study Two. The model further incorporates four major factors influencing the process through which running event organizers develop pricing and registration policies, represented by the four arcs in the outer circle of Figure 6. Namely, the organizational perspective, the consumer perspective, the environmental perspective, and the event perspective. Each perspective impacts the development or adoption of an appropriate pricing policy for a particular long-distance running event.

The foundation of this model is recognition of the major sources of influence on the process running event organizers follow when establishing and implementing a specific pricing policy. Organizational factors most directly tie to the core pricing decisions (i.e., commercial orientation, pricing method, and number of price tiers) shaping registration policies. Those core pricing decisions and the other three factors (consumer, environmental, and event characteristics) primarily influence peripheral considerations (i.e., registration timing, capacity planning, sell outs, discounting, and refunds) in pricing. Subsequent sections review each of the major sources of influence and introduce areas where additional research is necessary to generate insight into how the pricing policy development process unfolds in running event organizations.

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Figure 6. Conceptual Model of the Long-Distance Running Event Pricing Policy Development Process

Core Pricing and Peripheral Considerations

At the center of the model are core pricing and peripheral considerations that represent major features of a registration and pricing policy or how such a policy is implemented by an event organizer. Core pricing includes the commercial orientation, pricing method, and number of price tiers associated with a particular event. Peripheral considerations are relatively minor aspects or elements focused on implementation details of how a policy is put into place and presented to event participants and potential

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participants. Peripheral considerations identified in Study Two include the impact of registration timing, capacity planning, event sell outs, discounting, and refunds or insurance. These peripheral considerations impacted specifics of pricing policies or the implementation of such policies, while taking a distinctly subordinate role relative to core pricing topics. As suggested by the arrows between core pricing and peripheral considerations in Figure 6, decisions regarding core pricing topics typical precede and influence peripheral considerations. As core pricing and peripheral considerations have already been discussed previously in this chapter, remaining sections focus on elaborating the remaining portion of the model, namely the organizational, consumer, environmental, and event perspectives represented by the outer circle in Figure 6.

Organizational Perspective

Idiosyncratic characteristics of an organization influence how that organization develops and implements a running event pricing policy. Different organizations seek to achieve different objectives from conducting events, target different goals, and are led by different people with different backgrounds. Each of these factors sway the approaches taken and, ultimately, the final policy the organization fashions. The organization type, other organizational characteristics, and managerial background each affect the process by which the organization develops a pricing policy. These elements are directly tied to core pricing decisions, such as the commercial orientation of the event, pricing method, and number of price tiers included in the final pricing policy. As such, the organizational perspective, represented by the top-most arc in Figure 6, connects directly to the central, core pricing, portion of the model.

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The starting point for the pricing policy development process is defining organizational strategy and thus pricing objectives (Hinterhuber, 2004; Shipley & Jobber, 2001). These objectives should be consistent with the organization's overall strategy, which may be driven by organization type (i.e., for-profit versus not-for-profit). Previous research has identified dozens of potential pricing objectives (Oxenfeldt, 1973). Common objectives include achieving specific profit targets, market share growth, ensuring organizational survival, and establishing prices that are perceived as fair to both the organization and its customers (Shipley & Jobber, 2001), however most of these objectives appear applicable primarily to for-profit firms.

Organization Type

Organization type can influence the decisions made by organizational members, organizational goals and objectives, and enacted policies. Running events are conducted by a variety of different types of organizations, including for-profit firms (e.g., Competitor Group, Life Time Fitness, Walt Disney Company), not-for-profit organizations (e.g., Boston Athletic Association, New York Road Runners, YMCA), and local municipalities or governmental agencies (e.g., City of Philadelphia, City of Pittsburgh Department of Parks and Recreation). In turn, organization type and purpose influences organizational objectives and the rationale for conducting a running event. Competitor Group is a privately-held for-profit sports marketing and management company. The primary purpose of the company is to generate profit to the benefit of corporate owners, Calera Capital. By contrast, New York Road Runners (NYRR) is a non-profit organization that has grown from a local running club to an advocate for running more generally (New York Road Runners, n.d.). NYRR's mission is to "help and

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inspire people through running" (para. 1). Organizing the New York City Marathon, among other long-distance running events, contributes to the NYRR mission both through direct effects as a high-profile running event and indirectly as a revenue source to subsidize other organizational activities.

Organizational Characteristics

Additional organizational characteristics likely relevant to development of running event pricing policies include the organization's geographic scope, number of running events the organization conducts, and the organization's size. Event organizers which draw runners from a larger geographic area need to appeal to a greater diversity of potential participants. Beyond merely the registration fee, runners who come from outside the immediate vicinity need to account for additional costs, both financial (e.g., travel, lodging) and non-financial (e.g., greater time requirement, more difficult scheduling). This complicates decisions regarding the optimal pricing policy, as different runners have different non-event costs which may not be visible to or controllable by race organizers. Richard and Joseph each discussed how event registration fees make up only a portion of the total cost to runners, while other interviewees remained focused solely on event fees. Joseph's events are primarily destination races that draw predominantly from outside the local area and take place in a resort location, which likely increases the salience and importance of overall package costs relative to merely event fees.

Organizations that conduct many, frequent events receive greater benefits from increasing pricing sophistication than those that conduct only one or a few. While event-specific characteristics influence optimal policies, organizers that conduct a relatively high quantity of running events can amortize transferable learning costs across many

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events. On a per-event basis, such organizations generate a greater return from investing in policy development. Thus, organizations that conduct relatively more events are likely to adopt more complex pricing policies, where complexity refers to multiple price tiers, greater customer segmentation, greater responsiveness to external factors (competitor or consumer actions), and more dynamic pricing. This was reflected in the relatively sophisticated approach to methodical analysis discussed during interviews with David and Joseph. Both David and Joseph described systematic approaches to analyzing demand functions and price elasticities. By contrast, Michael oversees a for-profit firm that organizes dozens of running events annual and has adopted a very basic pricing model, with a few price tiers and consistent pricing between events that does not reflect local market conditions. Having developed a model that is successful for a particular, narrow customer segment, his firm is focused on reproducing the same service in a cost-efficient manner. In his case, knowledge transfer between events manifests predominantly on the operations and service delivery side, rather than in complex pricing strategies.

Larger firms also benefit from positive returns from greater individual specialization, sharing information between staff members, and generally greater complexity. As such, there should be a positive relationship between organization size – in terms of number of events, number of event participants, revenue, or staff headcount – and pricing sophistication or complexity. Organization size was not specifically addressed during Study Two interviews, however the organizations that employed more complex pricing strategies (e.g. Joseph, David) were also generally the largest in terms of number of event participants.

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Managerial Background

Organizations do not make decisions; only people do (March & Simon, 1958). Organizations are conceptual structures and those structures impact how constituent individuals make decisions, but any decision is ultimately made by a person. Who the people making decisions are and their previous experiences shape the decisions they make. The personal and professional background of key management therefore affects the development of pricing policies.

Experience with previous events, whether at the same organization or a previous employer, is likely to influence a manager's perspective. Pricing policies that have worked well are likely to be repeated, while those associated with poor outcomes should be discarded or altered. Higgins and Stangor (1988) suggest that it is easier to recall a judgment (e.g., what pricing decision was made) than the context surrounding that judgment (why the pricing decision was made). The more time has elapsed since the original judgment, the more difficult it is to recall the context. Further, the sophistication or complexity of a pricing police likely depends on managerial experience. Based on research on the role of expertise in consumer behavior, experience is an important determinant of categorical scheme complexity (Wakefield & Blodgett, 1996). Experience is a result of both managers' job responsibilities and tenure in the job and industry. Research in social cognition suggests that the most accessible data, that which is most easily brought to consciousness, are called upon when making judgments, not necessarily the most diagnostic data (Sherman, Judd, & Park, 1989).

As described during his interview, Joseph is bringing insight from his former position overseeing a series of highly-profitable running events to his new role in charge

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of a single event produced by a not-for-profit organization. Having recently joined the latter organization, he is currently in the process of adjusting pricing and marketing approaches to reflect the knowledge and experience he possesses from his previous position. He expects to modify the registration and pricing policies for his current event to use fewer, but larger price increments, adopt more transparent pricing, and seek to market the event to untapped customer segments.

Consumer Perspective

Pricing policies must account for the consumer perspective, represented by the left-most arc in Figure 6. While organizations develop policies and consumers merely respond to them, failing to consider the consumer perspective results in policies which fail. Consumer attributes include demographic, psychographic, social, and behavioral characteristics. These elements combine across a range of consumers to generate aggregate demand for services, such as running events. Accounting for the consumer perspective primarily impacts peripheral pricing considerations, such as how prices are displayed, customer segmentation based on registration timing or other factors, capacity planning, price discounting, and refund or insurance policies.

Demographic

Consumers' demographic characteristics describe who they are and long-distance running event participants share a number of typical demographic characteristics. Most event participants are between 25 and 44 years old (Running USA, 2015). Marathon participants are predominantly male, while a majority of participants at shorter distances are female (Running USA, 2015). Competitive distance runners are typically highly-educated and affluent (Zorn et al., 2011).

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Relatively high socio-economic status reduces the importance of financial constraints to participation in running events (Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991). Members of high-income households, such as those typical of long-distance running event participants, can more easily afford to absorb registration fee increases than can the average individual. Opportunity costs associated with participation increase with socio-economic status and income while financial constraints decrease. This is reflected in how event organizers price events. Richard specifically cited the cost of a round of golf in suggesting that running events such as his ($130 to $165, depending of registration date) are relatively modestly priced. Given median annual household income in the United States of $56,516 (U.S. Census Bureau, 2016), the costs of marathon participation can be considered modest only for those with substantially above-average means. Organizers of most long-distance running events, of necessity, target the upper portion of the socio-economic spectrum. Of note, however, some running events adopt a different approach and remain financially accessible (e.g., the Green River Marathon, which is donation-funded and does not charge a registration fee).

Psychographic and Social

Psychographic characteristics describe consumers' interests, attitudes, and opinions, while social characteristics relate to how they behave within a social environment. Several Study Two interviewees discussed the influence of changes in the make-up of event participants on pricing. Joseph noted a shift from an emphasis on the sport of running and competition toward entertainment and the event experience, consistent with recent calls for a focus on Sport Experience Design and how sport consumers *use* sport experiences (Funk, 2017). Running event organizers should seek to

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improve use and pleasure of events through managing service interactions with their runners (Funk, 2017).

Both Joseph and Richard tied changes in who was running and the attitudes of runners to generational shifts from Baby Boomers through Generation X and to Millennials. Previous research indicates that Millennials (roughly, those born between 1980 and 1999) demonstrate greater levels of individualism than previous generations (Twenge, 2014). G. Bennett and Lachowetz (2004) argued that individual sports are particularly attractive to Millennials, noting that connecting to this generation requires sport events to integrate into an overall lifestyle and culture by incorporating aspects such as live music and interactivity. Such observations are consistent with what Joseph and Richard reported during their interviews. While the individual nature of running might offer attraction to Millennials, the relatively high training demands may discourage participation in the sport and long-distance running events. Reflecting Richard's contention that Millennial runners are less willing to put in the required mileage during training for long-distance running events than their predecessors, the Millennial generation has been described as self-focused and lacking in self-control (Twenge, 2010, 2014; Twenge & Campbell, 2001; Twenge, Campbell, & Freeman, 2012). Generational shifts in psychographic characteristics of runners, viewed collectively, could alter how long-distance running events are positioned, marketed, and priced and may be associated with the rise in non-traditional running events such as Tough Mudder, Zombie Runs, and Color Runs.

Environmental Perspective

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Development of running event pricing policies must account for the external environment in which the event exists, represented by the right-most arc in Figure 6. The event-runner relationship does not take place in isolation. Runners select from among a wide variety of running (and other participant sporting) events when choosing which races to enter. Prices for each event help shape consumers' expectations for all other events. Competitive pressure from other long-distance running events, and which events should be considered competitors, should inform pricing decisions. Beyond desire to price competitively, pressure to mimic pricing decisions of other running events can arise as a response to event organizers seeking to handle environmental uncertainty. This section discusses findings from the current research related to competitive pressure faced by event organizers and how organizational isomorphism influences development of industry standard practices in pricing.

Competitive Pressure

Runners have many options when choosing where to allocate their time and spending. Even within a relatively restricted domain (e.g., races of a specific distance that fit criteria for location and timing within the calendar), there are typically multiple competing events. Pricing well above the going rate risks losing participants to other races, even when the alternatives may otherwise be inferior in non-price attributes. Pricing well below the going rate both incurs opportunity cost in the form of decreased revenue and can lower consumers' perceptions of quality (cf. comments by William in Study Two). The quality signaling function of price is especially relevant for services, where other tangible cues are not present (Parasuraman, Zeithaml, & Berry, 1985).

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Identifying competitors is necessarily antecedent to any competitor analysis (Aaker, 2011), yet previous research suggests that managers consider an overly-restricted and possibly poorly-chosen set of competitors (B. H. Clark & Montgomery, 1999). Specifically, managers predominantly focus on competitors that share similar firm characteristics with their own, whereas B. H. Clark and Montgomery (1999) suggest consumer-defined competitors as a more appropriate metric. Divergence between who event organizers view as competitors and who runners do risks ineffective market positioning as organizers may make competitive responses against races that their target participants are unlikely to consider (de Chernatony, Daniels, & Johnson, 1994).

This may be evident in who event organizers listed when discussing competition-based pricing in Study Two. Even organizers who primarily rely on cost- or customer value-based pricing typically indicated which other events they consider competition. Consistent with B. H. Clark and Montgomery (1999), event organizers frequently mentioned industry leaders, such as Competitor Group (Rock 'n' Roll Series) and *run*Disney. One or both were explicitly suggested as influencing pricing decisions by event organizers (e.g., Robert and Michael), while other organizers explicitly indicated that do *not* take those events into consideration (e.g., James, Richard). The frequency with which those two firms were brought up is indicative of their salience to event organizers when developing registration and pricing policies. That top-of-mind presence likely leads to overweight influence on the pricing decisions of events across the entire industry (de Chernatony et al., 1994).

Better definition of the competitor set, as defined by consumer actions rather than managerial intuition, could be beneficial to developing appropriate pricing policies. Most

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runners participate in many events across their careers. Capturing how events share participants would permit establishing a connected competition network. Evaluation of the cross-connections between events in that network can identify runner-defined competitive sets. This approach classifies events on the basis of runner behaviors and derives competitor sets from the participation patterns of runners. Event organizers should account for this objective market structure in preference to their own intuition. Further research is necessary to develop an understanding of the structure between long-distance running events and help inform managerial decision-making.

Organizational Isomorphism and Industry Standards

DiMaggio and Powell (1983) identify three processes which separately and together work to make organizations within a field similar to each other. Coercive, mimetic, and normative pressures all influence organizations to adopt similar policies and increasingly resemble each other over time. Coercive isomorphism arises from a need for legitimacy, mimetic isomorphism from responses to uncertainty, and normative isomorphism from increasing professionalism. As a field becomes more established, organizations become more homogeneous (DiMaggio & Powell, 1983).

Of the three sources of homogenization, mimetic isomorphism is likely the most relevant to running event pricing policies. DiMaggio and Powell (1983) attribute mimetic isomorphism to a response to environmental uncertainty. High levels of uncertainty lead to increased information-seeking behavior (Berger & Calabrese, 1975). Running event organizers faced with uncertainty (e.g., what pricing policy best accomplishes my organizational objectives?) may elect to model their decisions on those made by other organizers. The pricing problem is ambiguous and lacks an obviously preferred solution;

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mimicking approaches embraced by other organizations offers a potential resolution. This type of copying behavior is especially prevalent in a directed fashion with relatively newer organizations mimicking older organizations and those with greater perceived legitimacy or past success (DiMaggio & Powell, 1983).

Pricing and registration policies for long-distance running events are generally transparent and organizers can easily observe the practices adopted by other events. In this situation, one would expect reduction in idiosyncratic pricing decisions as innovations are replicated throughout the industry (Courty, 2015). Findings from Study One and Study Two indicate that this does not seem to be occurring. Far from the homogenization DiMaggio and Powell (1983) suggest should arise from organizational isomorphism, running event organizers still exhibit considerable variation in registration and pricing approaches. This could indicate a limit to the influence of organizational isomorphism. Alternatively, observed differences could result from either (a) organizers of nominally similar events seeking vastly different objectives or (b) multiple divergent solutions that result in a lack of a unique optimal way to set event prices. Further study incorporating both pricing approaches and outcomes (financial and non-financial) is necessary to better determine whether observed heterogeneity is leading to sub-optimal organizational outcomes or is warranted. This could also be a fertile research area in identifying limits to the effects of organizational isomorphism.

Event Perspective

Finally, even after accounting for organizational, consumer, and environmental characteristics, events may still differ in how they are priced. The event perspective, represented by the bottom arc in Figure 6, incorporates how factors idiosyncratic to a

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particular event influence pricing policy development into the conceptual model. Many organizers conduct multiple running events across the calendar that may appeal to the same or similar runners. Yet, pricing policies can and do differ based on event-specific factors. Event location, event size, and historical pricing policies each influence the pricing policy development process.

Location

While many event characteristics impact the attractiveness of races to runners, location appears to play a particularly important role. Large running events can draw a substantial portion (approximately 60-65%) of their field from among non-local runners, while Alexandris and Kaplanidou (2014) describe sport tourism as "one of the fastest growing forms of special tourism" (p. 125). As a result, runners consider the destination as well as the event itself when choosing to register for a race. This leads to calls to bundle sport event elements with destination attractions in a comprehensive and strategic approach (Chalip & McGuirty, 2004). Getz and Page (2016) provide a recent review of sport event tourism research, noting extensive and growing academic attention to areas of overlapping interest between the sport management and tourism management disciplines.

The influence of event location on event attractiveness and thus runners' willingness-to-pay was discussed by several participants in Study Two (e.g., Mary, John, Robert). Robert's firm develops event-specific pricing for each race in their series to account for local conditions in each geographically-defined market. By contrast, Michael's firm prices all events the same way, regardless of geography.[10] Michael's customers are drawn from a single, national pool of high-volume runners, while Robert's

[10] With the exception of a recently-launched event in Hawaii.

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customers are primarily either local runners or those interested in traveling to a specific location for a particular event. John highlighted the impact of location as a *hook* for runners and how location attractiveness could serve as a differentiator for event organizers seeking to attract runners. Appeal arising from an event's location draws interest from a broader set of potential participants and supports higher registration fees. Event location can play a meaningful role on runners' event selection and therefore is an important element to consider when developing pricing policies designed to encourage registration from non-local participants.

Event Size

Event size can exert a substantial influence on pricing policy. Smaller events tend to have less pricing complexity and organizers may merely set a single price. This is particularly common in races which expect to hit capacity fairly quickly. For example, the BAA Half Marathon sold out the 2015 race (2,000 registrants) in four minutes and the Covered Bridges Half Marathon sold out the 2016 race (2,300 registrants) in eight minutes (J. Marcus, 2016). Among interview participants, the signature event conducted by Robert's organization sold out in 17 minutes in 2016 (3,000 registrants). Pricing policy decisions in such cases do not require high levels of sophistication. Yet, clearly race organizers that quickly sell out are currently pricing registration below the market clearing price and are foregoing potential profits. A modest increase in price is unlikely to reduce participation below capacity. As such, race organizers must have motives other than or in addition to profit maximization when establishing the race's registration policy.

While small races may hit capacity limits quickly and do not require intricate pricing decision, a similar effect is also present with the largest and most high-profile

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races. For races such as the New York City Marathon and Boston Marathon, demand is sufficiently high that organizers conduct a lottery to determine which runners will be entitled to purchase race registration. As with the small races described in the previous paragraph, pricing complexity is low (typically a single price) and organizers are clearly responding to motives other than profit maximization. The New York City Marathon charges $11 to enter the lottery and an additional $255 (U.S. residents; $347 for Non-U.S.) entry fee for those selected. This makes it one of the most expensive marathons in the world, yet the race remains the world's largest marathon (50,235 participants in 2015). In the 2015 lottery, 14,326 of 80,080 applicants[11] were selected (Hetzel, 2015), suggesting considerable unmet demand at the current price.

Historical Policies and Prices

The history of pricing policies for a particular event creates a path dependency that influences the realm of possible policies and prices available in the future. For running events repeated annually, the obvious starting point for developing a pricing policy is the previous year's policy. The predominant approach has been to raise prices incrementally over time, either by an arbitrary percentage or a set amount at each adjustment opportunity (Howard & Crompton, 2004). This approach is eminently reasonable if the initial policy was well-chosen and conditions remain relatively stable.

Even if the current policy is a poor fit for organizational needs, runners' event valuations, and the competitive environment, radical change may be difficult. According to prospect theory, people perceive outcomes as gains or losses relative to a reference

[11] The New York City Marathon offers multiple entry paths including the lottery and limited numbers of guaranteed entries for members of the New York Road Runners, runners meeting time-qualifying standards, and those fundraising on behalf of select charity partners.

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point (Kahneman & Tversky, 1979). Reference points for pricing are based on either internal reference prices drawn from memory or external reference prices present in the purchase environment (Mayhew & Winer, 1992). Consumers respond poorly to substantial shifts from established reference prices without a clear and compelling rationale for why the change is necessary or warranted. Specifically, divergence outside of a zone of acceptable prices triggers unfairness perceptions with the result that consumers will withdraw from transacting with an organization (Kyle et al., 2003). As historical prices (last price paid or a weighted average of past prices) are the most common source of internal reference prices (Mayhew & Winer, 1992), registration policies used in the past constrain available options for future races.

Courty (2003) suggested sport consumers value fair and consistent pricing. For strategic reasons, event organizers might chose not to fully exploit pricing power if they harbor concerns that runners might be antagonized (Courty, 2015). There is mixed empirical evidence that firms are reluctant to aggressively exploit the ability to adjust prices to reflect excess demand (Courty & Pagliero, 2010; Zbaracki, Ritson, Levy, Dutta, & Bergen, 2004). Comments made during Study Two interviews regarding running event organizers' concern for runners' responses to aggressive price changes are consistent with theoretical models that assume consumers respond negatively to pricing practices viewed as unfair or exploitive (Kahneman et al., 1986a, 1986b; Rotemberg, 2011).

Historical prices paid can limit an event's ability to implement large price increases. Joseph, in particular, highlighted the challenges inherent to retaining runners in light of price increases, having overseen an event with a history of aggressive pricing, which is starting to experience pushback among runners as demand softens. William and

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Richard made similar comments, indicating that they each felt constrained from increasing fees to the extent that they would prefer by the expectations of established participants. In light of these comments, it is likely running events that cater to reaching a new audience each time might have a greater ability to implement price changes than those that rely to a greater extent on participant retention. This is a testable proposition that could be assessed in a future study to inform how past participant experience influences the impact of price changes on demand (i.e., price elasticity).

Conclusion

Running event organizers now face a saturated marketplace. Runners have ever increasing options when it comes to events, both traditional road races and non-traditional novelty runs. Events must compete for the limited time and financial resources of a stagnant or shrinking pool of participants (Running USA, 2016). Finding ways to reach new runners and retain existing participants in a cluttered marketplace necessitates strategic understanding of the factors that influence development of appropriate pricing and registration policies.

This research has developed a conceptual model of the pricing process and four major factors that influence decisions made by long-distance running event organizers. Each of the four perspectives (organizational, consumer, environmental, and event) influence the pricing policy development process and the prices ultimately adopted. At the heart of the model are core pricing elements (commercial orientation, pricing method, number of prices) that represent a foundation for running event registration and pricing policies. Organizational attributes (organization type, other organizational characteristics, and managerial background) are the greatest influence on core pricing decisions, as

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denoted by the arrow directly connecting the environmental and core pricing portions of the model in Figure 6. Peripheral considerations with more limited impact on overall policy development (registration timing, capacity planning, sell outs, price discounting, and refunds or insurance) are represented by the second circle in Figure 6. Peripheral considerations predominantly focus on pricing policy implementation (e.g., how event organizers present prices to potential participants) or event management (e.g., logistical planning or customer segmentation of runners for management and marketing purposes). Core pricing decisions and other factors (consumer, environmental, and event) influence decisions related to peripheral considerations and policy implementation. This model provides a foundation for future research to further understand each element and support optimizing revenue from participant registrations in running events.

The conceptual model developed in this chapter brings together the diverse sources of influence on running event organizers when developing and implementing registration and pricing policies. Academics require a coherent conceptual model of the pricing process to serve as a foundation for empirical investigation to identify and explicate factors that impact pricing policies. Running event organizers exhibit substantial variation in pricing; understanding why firms within the same industry develop idiosyncratic solutions to similar problems is a crucial research topic (Powell et al., 2011). Future research can investigate specific model components or relationships between elements to gain better understanding of how each aspect affects pricing policies. Development of such a model also responds to calls for further research to improve understanding of how sport organizations set prices (Drayer & Rascher, 2013).

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Findings from the two studies in the current research help inform theoretical and practical understanding of the processes by which organizers of long-distance running events develop registration and pricing policies. These two studies identified pricing policies, both common and atypical, currently in use in the running event industry and examined factors that contribute to the developing of pricing policies for running events. Based on this review of the outcome of the pricing development process and interviews with event organizers to probe the process, a conceptual model of the registration and pricing policy development process was developed. This model and the associated discussion provide a foundation for future research and suggest a number of research questions. Empirical study to address each of these questions will contribute to both the academic and practitioner literature. The next chapter provides a summary of the key conclusions developed from this research, identifying limitations, new research questions developed as a result of the current studies, and lays out future directions for a stream of related research studies.

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CHAPTER SIX:

CONTRIBUTIONS, IMPLICATIONS,

LIMITATIONS, & FUTURE DIRECTIONS

This final chapter concludes this dissertation, summarizing the academic contributions, managerial implications, and limitations of the current research, followed by presentation of nine future research directions. This dissertation provides a foundation for a well-defined stream of future studies representing a coherent research agenda, providing greater understanding of topics related to pricing participant sport events. Collectively, these projects will expand theoretical and practical understanding regarding the management and marketing of participant sport events.

Academic Contributions

The current research responds to calls for further research to improve understanding of how sport organizations, running event organizers in the current context, set prices (Drayer & Rascher, 2013). Grounded in existing literature on price discrimination (Phlips, 1983; Pigou, 1932; Talluri & Van Ryzin, 2004; Tirole, 1988), revenue management (Kimes, 1989, 2003; B. C. Smith et al., 1992) and advance selling models (Ng, 2007; Shugan & Xie, 2000, 2005; Xie & Shugan, 2001), the current research improves theoretical understanding of the pricing process for long-distance running events. Historically, managers have treated pricing as a low-level tactical issue (Cravens & Piercy, 2012) leading organizations to follow a piecemeal and fragmented approach built on ad hoc managerial decisions (Piercy et al., 2010). Similarly, sport managers have traditionally made pricing decisions based primarily on the revenue needs of their organization, rather than systematic market analysis (Howard & Crompton, 2004).

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Greater understanding of the factors influencing pricing policies and the processes event organizers use when developing prices will help academics develop theoretical models and guide practice. Additionally, findings from the current research will help practitioners develop more effective pricing policies to better serve runners and improve the financial sustainability of running events. Identifying forces driving pricing policy design may be a necessary step in nurturing and maintaining successful running events in a time of increasing competitive pressure. Greater understanding of where the industry should focus crucial planning resources will help enable successful future strategic development.

Based on a comprehensive census of long-distance running events in the United States and a series of interviews with event directors, the current research identified current pricing practices, both typical and uncommon, as well as supported development of a conceptual model of the factors that influence the decision-making process leading to pricing policy creation. The model established in the current research provides a foundation to motivate and position a series of future studies for a consistent and coherent stream of research. This should permit an overall programmatic approach to understanding pricing in participant sport events, rather than relying on loosely-connected, one-off or ad hoc research studies.

Researchers continue to debate the optimal approaches to service pricing (Avlonitis & Indounas, 2006; Heil & Helsen, 2001; Hinterhuber, 2008, 2015; Ingenbleek et al., 2003; Zeithaml et al., 2013). Empirical study highlights extensive and common inconsistencies between theory and practice (Hinterhuber, 2008, 2015). The current research helps address this academic-practice gap, identifying areas where common

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academic assumptions (e.g., profit maximization as the primary objective) may not be as universal as commonly assumed. Managerial uncertainty and a common, shared environment among event organizers (DiMaggio & Powell, 1983) and diffusion of innovations through the industry (Courty, 2015) theoretically should lead to a high level of homogeneity in pricing policies. Findings from two studies in the current research indicate that this does not seem to be occurring. Running event organizers still exhibit considerable variation in registration and pricing approaches; this could indicate a limit to the influence of organizational isomorphism. Explaining sources of heterogeneity in management approaches adopted by different firms is a crucial research problem in need of greater understanding (Powell et al., 2011). Meanwhile, macro-environmental forces pressuring sport organizations to modernize and professionalize (Kikulis, 2000; Ruoranen et al., 2016) may lead to greater adoption of customer value-based pricing methods, mirroring a trend reported in professional spectator sport (Drayer & Shapiro, 2011). Based on findings in the current research, there is no evidence of such a trend in the running event industry, thus far.

In a sport industry increasingly reliant on data-driven decision-making (Drayer & Shapiro, 2011), greater understanding of how pricing policies are developed and what factors influence that process allows greater appreciation how best to manage a key element in the marketing mix. Pricing errors can have substantial negative consequences in terms of revenue and participation (Drayer & Shapiro, 2011). The current research and suggested future studies will help participant sport event managers more completely understand the actual economic value of their product to improve price discrimination and maximize pricing efficiency (Phlips, 1983; Pigou, 1932). In turn, this supports

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increased revenue generation while maintaining customer value perception and satisfaction, leading to a successful and sustainable long-distance running event industry.

Managerial Implications

Rapid, wide-spread growth in the long-distance running event industry (Running USA, 2015) has been fueled by a boom in marathons and half marathon participation (Lough et al., 2014). Unlike professional team sport events, which rely on spectator appeal, the economic success of running events is driven by participant consumption (Wicker et al., 2012). Yet, accompanying the explosive growth in participants has been even more rapid growth in the number of events offered, leading to a crowded field and an oversaturated market (McCue, 2015). An increasingly competitive marketplace places financial strain on sport managers, requiring greater managerial sophistication (T. H. Kim et al., 2013).

The current research offers benchmarks to the running event industry, identifying both common and atypical practices, providing information regarding the range of prices offered for events, a sense of inter- and intra-event variation, and examples of alternative pricing practices not (yet) in common use. Results from this research can help inform the decision-making process for event organizers seeking to develop or refine registration and pricing policies. At the same time, atypical examples can provide novel ideas that might otherwise go overlooked and remain unconsidered. Appreciation for the full range of possibilities in pricing policies can aid managers in designing the approach best suited for their event and participants.

Long-distance running events most often use three or four distinct price tiers, with examples observed ranging from a single price to 11 price tiers. Price discrimination,

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where different runners pay different registration fees based on their idiosyncratic maximum reservation price to participate in an event allows event organizers to increase their revenue above what would be possible from uniform pricing (Leslie, 2004; Tirole, 1988). Event organizers interviewed in Study Two offered diverse opinions on the ideal number of prices to use. There was general agreement that price changes create marketing opportunities and represent a call-to-action that can trigger runners to register for an event. Disagreement arose on the relative value of using fewer, larger price jumps compared to more frequent, smaller increases. While more, smaller increases offer additional triggers, some organizers expressed concern that price increments that are too small merely serve to clutter marketing messages, advocating for fewer, more impactful price changes.

On average, marathons began offering registration for an $80.13 fee and closed registration with a highest price of $111.16. The highest price charged followed a bimodal distribution and was most often around either $100 or $150. Relatively few events exceeded the latter threshold, possibly indicating a natural point of resistance among runners. Half marathons were typically less expensive. On average, half marathons opened with an initial registration fee of $57.51, rising to a high of $78.65. Most often the maximum registration fee was between $70 and $80. Examples of higher fees were readily apparent, suggesting that either there is not the same type of barrier present with full marathons or that half marathon organizers have not increased fees sufficiently to identify runners' maximum willingness-to-pay. Comments during Study Two interviews suggest the second interpretation is likely, as runners appear willing to

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continue to register for half marathons despite price increases. One implication is that event organizers are likely currently underpricing half marathons.

Nearly all running events (94.0%) have a no-refund policy. Perhaps as a result, the industry has seen a recent rise in third-party insurance for registration fees. Data on the prevalence of this practice was not captured during the Study One census. Event organizers in Study Two were mixed, with some events offering the insurance, others considering doing so, and yet others not interested in insurance or concerned with possible negative reactions from runners. The rise of third-party insurance was attributed to integration into the platforms of leading registration management companies (e.g. Active.com) making offering the insurance convenient for event organizers.

Few long-distance running events hit or exceed capacity and sell out (8.5% in Study One). Thus, overbooking (the practice of intentionally selling more registration slots than the maximum capacity of a running event) is rarely an important direct consideration for event organizers. However, logistical planning, such as estimating the appropriate number of shirts or finishers' medals to order for event participants still require planning similar to that used under capacity constraints. All Study Two organizers who discussed estimating no-show rates indicated that they do so based on historical numbers for their event, consistent with conventional no-show forecasting methods (Lawrence et al., 2003). Interviewees' estimates for no-show rates ranged from 10% to 30%, in-line with industry estimates that up to 25% of marathon registrants ultimately do not participate (Helliker, 2010). Estimates were typically imprecise (e.g., "10 to 20 percent"), which decreases their utility. Using average no-show rates for all runners discards individual-level data that provide insight into runner heterogeneity and

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can improve forecasting (Harris et al., 2016). Event organizers could benefit from developing better models of runner no-show behavior to generate more precise estimates.

Finally, only a minority of long-distance running events (23.9% in Study One) list a title or presenting sponsor on their website or registration materials. This suggests that there is considerable room for improvement among running event organizers. Event sponsorships offer a potential source of revenue for running event organizers, providing financial stability and the ability to subsidize registration fees, attracting additional participants. Medical or health care providers were the most common sponsor category, followed by the insurance and financial industry, charities, and sport apparel or footwear companies. These four categories captured 63% of title or presenting sponsors of running events in Study One. Each of these industries offers a strong fit with long-distance running events or is particularly targeted at consumer segments over-represented among long-distance runners compared to the overall population. Previous research has identified perceived sponsor-event fit as a necessary condition to maximize sponsorship impact (Mazodier & Merunka, 2012; Olson, 2010; Simmons & Becker-Olsen, 2006; Speed & Thompson, 2000). Event organizers are encouraged to focus on these four industries when soliciting sponsorships.

Limitations

The two studies comprising this dissertation focus on registration and pricing policies for long-distance running events, specifically those that include a full or half marathon and that take place in the United States. Therefore, caution must be observed in generalizing findings from the current research to other forms of participant sport (e.g. cycling, triathlons), distances (5k, 10k, or ultramarathons), non-traditional running events

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(e.g. Tough Mudder, Zombie Run, Color Run), and geographic settings. It is likely that different sports attract distinct participants with varying expectations and demands. While not a focus of the current research, multiple Study Two interviewees suggested that non-traditional running events represent a distinct market from traditional road races and attract a distinct, if somewhat overlapping, customer base. Localized differences in how sport is organized, administered, funded, and participated in between countries suggest pricing practices may be context-dependent. Further investigation is necessary to confirm the proposed model using data from additional types of participant sport events and outside the United States.

Data for the Study One census included all available registration fees for the primary distance of each running event. For running events that included a full marathon, recorded prices reflected the fee to register for the full marathon, while fees for other distances (e.g. half marathon) were not tracked. For running events that did not include a full marathon, prices reflected the fee to register for the half marathon. This methodological design decision impaired the ability to conduct analyses of how prices vary across events with different component distances. Collecting data on half marathon prices for events that include a full marathon would support more comprehensive analysis of prices. Such data could also provide insight into price differentials based on event distance, holding other event characteristics constant. During Study Two, it was noted that pricing for full and half marathons is becoming more similar, perhaps reflecting the relatively higher demand for half marathons among runners (Running USA, 2015). Analysis of prices for the two distances at the same event could improve understanding

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regarding runners' price sensitivity and quantify differences in demand based on distance, while controlling for other potential confounding variables, such as event characteristics.

Study Two relied on a purposeful, rather than random, sampling technique. Interview participants were identified based on an expectation either that their organizations represented those typical in the industry or that they differed substantially in a particular manner, thus representing a critical case. Critical cases are those likely to "yield the most information and have the greatest impact on the development of knowledge" (Patton, 2002, p. 236), however they are necessarily atypical. As such, caution is warranted in generalizing frequency estimates based on comments made by Study Two participants. Replication using stratified or random sampling from events identified in Study One could be beneficial in this regard.

Data collection in Study Two continued until interviews lacked any new or emergent themes not thoroughly addressed in previous interviews (i.e. theoretical saturation; Soulliere et al., 2001). The goal was to capture considerable depth and breadth of understanding, sufficient for the purposes of the current study (Corbin & Strauss, 2008). Following suggestions by Corbin and Strauss (2008), early interviews served as guides to later interviews, helping define the primary focus and scope of later interviews. Each interview included segments designed to elicit confirmation or disconfirmation of previous data interpretations and concluded with a prompt for interviewees to suggest additional topics not already covered. Nonetheless, it is possible that additional themes related to event pricing were omitted from all interviews. Continuing to conduct additional interviews, even in the absence of evidence of omitted themes, may have provided additional confidence that no relevant data were missing.

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Finally, data for both studies came solely from event organizers, either in the form of published materials such as event websites and registration materials (Study One) or interviews with event organizers (Study Two). Other sources of data could have been incorporated to offer additional perspectives on event pricing and how runners respond to the registration and pricing policies adopted by event organizers. Specifically, neither study directly captured any data from runners – the actual consumers who pricing policies are designed to influence. While event organizers represent the individuals and groups responsible for developing and implementing registration and pricing policies, runners, whether individually or collectively, represent a crucial element in the determining the success or failure of a policy and, ultimately, an event. Additional qualitative data such as interviews with runners could provide useful insight and vital perspective to help complete the picture of the pricing development process. Further study of how runners respond to different policies using behavioral data could better establish the effects of policy and pricing decisions empirically. Several of the suggested future research directions described in the next section address this concern and would complement the research conducted as part of the current dissertation.

Future Research Directions

Additional future research directions are indicated based on findings from the current dissertation. The following section reviews nine topics where future research could provide meaningful contributions. Namely: (i) determining an optimal number of price tiers; (ii) assessing the impact of posted versus revealed-over-time prices; (iii) the influence of displaying higher and lower prices than are currently available; customer segmentation based on (iv) registration lead time or (v) generational cohort; (vi)

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determinants of event no-show rates; (vii) models for customer acquisition and retention; (viii) the impact of prior event participation on runners' price sensitivity; and (ix) methods to identify runner-defined competitive sets for events. Determining an optimal number of price tiers is a core pricing element represented by the inner-most circle in Figure 6. Other future direction topics focus on peripheral considerations with more limited impact on overall pricing policies, represented by the second circle in Figure 6. Peripheral considerations predominantly focus on pricing policy implementation, such as how event organizers present prices to potential participants or customer segmentation of runners for management and marketing purposes. Each topic is briefly introduced, with connection to applicable existing literature and findings from the current research, followed by a suggested approach to conducting the indicated future study.

First, additional research is necessary to determine the financial impact of using different numbers of prices for the same long-distance running event, a core pricing element in the conceptual mode (cf. Figure 6). Numerical examples suggest two or three price changes is sufficient to approach the upper bound of revenue generation (Dasu & Tong, 2010). This is noteworthy, given that in practice, event organizers most often use four different prices and Study One found examples of events with 10 or 11 different prices. As indicated in the conceptual model, core pricing decisions are primarily driven by organizational factors. Based on Study Two findings, managerial background and past experience, an organizational factor, exerts substantial influence on how many price tiers events offer. Event organizers interviewed in Study Two lacked consensus on how many prices to offer. Reinforcing these divergent opinions, some events have recently gone to more frequent, smaller price changes, while others have moved in the opposite direction.

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None of the participants indicated any attempt to systematically assess the impact of number of price tiers, appearing to rely instead on intuition and trial-and-error observations. Complete registration and revenue data from a series of paired events using different numbers of price tiers could offer a natural experiment to help address this question, with substantial managerial implications.

Second, once the appropriate number of prices has been determined, event organizers continue to differ on implementation and how to display prices to potential event participants. Decisions related to the presentation of prices must consider the consumer perspective (left-most arc in Figure 6). While most running events provide the complete menu of registration fees, including past, current, and future prices, some events present only the then-current price. Race organizers following a *posted-price* approach announce a set of prices at the beginning of the registration period. By contrast, under a contingent or *revealed-over-time* approach, price evolution depends on demand realization. Neither posted-price nor contingent-pricing strictly dominates in terms of revenue generation and the difference in expected revenue between the two approaches is small, despite the added managerial flexibility offered by a contingent approach (Dasu & Tong, 2010).

Flexible or dynamic pricing policies allow event organizers to actively manage prices, respond to realized consumer value, and engage in price discrimination to differentiate pricing based on runners' individual price sensitivity (Shapiro & Drayer, 2014). However, dynamic pricing, including offering discounts or coupons, also incurs risk that participants will feel they have been taken advantage of by an event organizer if and when they discover later registrants paid a lower price. In a study of golfers, Kimes

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and Wirtz (2003) found offering lower fees to later customers who booked later was unacceptable to consumers. This finding was consistent with comments made during interviews in Study Two, where event organizers indicated concern with customer response to discounting.

The conceptual model developed previously and presented in Figure 6 includes the consumer perspective as a source of influence on peripheral considerations, such as determining how to display prices, in the pricing policy development process. Specifically, consumer perceptions of inequity can constrain managerial decisions regarding how to display prices to potential event participants. Perceived inequity, or unfairness, threatens relationship stability and is likely to lead to withdrawal from future transactions (Howard & Crompton, 2004). Perceived fairness is strongly associated with consumer satisfaction and consumer loyalty, while pricing policies that are perceived as unfair lead to negative consumer responses (Bei & Chiao, 2001; Oliver & Swan, 1989a, 1989b). Negative responses to perceived unfairness include decreased purchase intentions (Campbell, 1999; Huppertz et al., 1978), negative word of mouth intentions (Blodgett et al., 1994, 1997), heighted price consciousness (Xia et al., 2004), and negative emotions such as disappointment, anger, and outrage (Austin et al., 1980). Consumers punish firms perceived as unfair, even when such punishment comes at some cost to themselves (Kahneman et al., 1986a, 1986b).

How pricing policies are implemented influences the perceived fairness of the policy (Kimes, 2003). Research on perceived fairness has shown that most customers believe they are entitled to a reasonable price and firms are entitled to a reasonable profit (Kahneman et al., 1986a, 1986b). Understanding how runners respond to each display

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option can aid race organizers in selecting the optimal approach. Future research could examine how runners respond to posted versus revealed-over-time prices using a randomized experimental design to evaluate runners' responses to running event pricing displays designed according to each approach.

Third, for the majority of long-distance running events that display multiple prices, most of which are not available to potential event registrants at any given time, is the question of what impact the presence of unavailable prices has on the perceptions of potential participants. Providing a range of external reference prices spanning the current price may expand the zone of price acceptability (Lichtenstein et al., 1988) to include the current price. However, runners' attitudes toward multiple prices might depend on whether alternative prices are predominantly higher or lower than the current price. Due to self-focused bias, consumers in a price-advanced condition (i.e., paying less than others) perceive differential pricing as more fair than those in a price-disadvantaged condition (Wirtz & Kimes, 2007). One finding from Study One was that some event organizers provide a limited selection of prices, with examples observed both listing only past (no longer available) prices and listing only future (soon to be available) prices. An example of an atypical practice, it is not clear how runners are likely to respond to either approach. Future research should investigate the impact of presenting only higher or only lower prices as alternatives to the current registration fee. Research into this question could be combined with the experimental design described previously to examine runners' responses to posted versus revealed-over-time prices and similarly builds on the connection between the consumer perspective and peripheral pricing considerations in the conceptual model.

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Fourth, different runners likely demonstrate considerable interpersonal variation in willingness-to-pay to participate in the same event. Effective revenue management requires segmenting customers into distinct partitions and tailoring marketing activities, including price, promotions, and marketing communications, to each partition (Kimes, 1989). Customer segmentation involves dividing a heterogeneous set of customers into smaller, more homogeneous groups (Kotler et al., 2013). The objective of customer segmentation analysis is identifying groups of individuals who respond to marketing messages in similar fashion (Simester et al., 2006). Segmentation is particularly helpful in improving profitability when demand is relatively weak and selling the full event capacity would require greatly reducing prices (Courty, 2015). Given recent industry trends toward market saturation and difficulty observed by event organizers in sustaining recent field sizes, the benefits of identifying distinct runner segments and improving marketing efficacy could be substantial.

Marketers use many factors to create customer segmentations, including demographics, psychographics, and behavior. For running events, runners are typically segmented based on registration lead time. Runners who register relatively early are provided discounts compared to those who register closer to race day. Through segmenting runners and differentially pricing across segments, an event organizer can induce runners who would not otherwise participate in the race to register while sustaining higher prices for those runners with greater willingness-to-pay. Customer segments must be accessible, measurable, actionable, and substantial for managerial relevance (Kotler et al., 2013). To support development of appropriate pricing policies

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for running events, additional research directly examining the role of registration date is necessary.

Fifth, while running events have historically relied on registration timing for segmentation, demographic characteristics might prove a fruitful avenue for further examination. Specifically, multiple Study Two interviewees suggested that Millennial (roughly, those born between 1980 and 1999; Twenge, 2014) runners are fundamentally different than those from previous generations. Previous research indicates that Millennials demonstrate greater levels of individualism than previous generations (Twenge, 2014). G. Bennett and Lachowetz (2004) argued that individual sports, such as running, are particularly attractive to Millennials. At the same time, the Millennial generation has been described as self-focused and lacking in self-control (Twenge, 2010, 2014; Twenge & Campbell, 2001; Twenge et al., 2012). This was reflected in Richard's contention that Millennial runners are less willing to put in the required mileage during training for long-distance running events than their predecessors.

Criticizing or complaining about newer generations and the young is a time-honored tradition (Arnett, 2008). Despite widespread assumptions regarding generational differences, empirical evidence that Millennials are inherently different than members of Generation X or Baby Boomers is limited and overly generalized (Macky, Gardner, & Forsyth, 2008; Mastrolia & Willits, 2013). Future research examining actual differences in response to pricing practices based on either generational or age-cohort could be beneficial in establishing where management practices ought to be informed by such differences and which stereotypes are unsupported by empirical evidence.

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Sixth, as indicated in Study Two, accurately forecasting how many registered runners would actually participate on the day of an event is a crucial task for event organizers managing event capacity or logistical support. Interviewees' estimates for no-show rates ranged from 10% to 30%, consistent with industry estimates that up to 25% of marathon registrants ultimately do not participate (Helliker, 2010). Identifying key factors associated with no-show behavior among registered runners can aid in forecasting participant numbers (Huang & Hanauer, 2014). Event organizers in Study Two indicated that they estimate no-show rates based on historically similar events without using customer-specific information, consistent with conventional approaches described in the academic literature (Lawrence et al., 2003). However, using holistic no-show rates for all runners discards individual-level data that can improve forecasting (Harris et al., 2016).

Accounting for interpersonal variation among registered runners could improve capacity planning outcomes for event organizers. Better no-show models could also inform pricing practices and price discrimination as organizers can afford deeper discounts for runners who are more likely to no-show the race. Thus, this topic connects both the consumer and event perspectives to the peripheral considerations of capacity planning and managing sell outs. Future research to design and assess no-show models for running event participants can be grounded in theoretical models from the advance demand (Ng, 2007) and advance selling literature (Shugan & Xie, 2000, 2005; Xie & Shugan, 2001), and prior empirical study in the context of travel planning (Beckmann, 1958; B. C. Smith et al., 1992; Talluri & Van Ryzin, 2004; Thompson, 1961) and medical appointment scheduling (Blanco White & Pike, 1964; Harris et al., 2016; Huang & Hanauer, 2014; LaGanga & Lawrence, 2007, 2012). An inductive design, relying on

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data from running event registrants, offers opportunity for empirically-driven research with practical relevance to bridge the gap between academic inquiry and practitioner needs (Irwin & Ryan, 2013; McAbee, Landis, & Burke, 2017).

Seventh, the conceptual model developed based on the current research incorporates the consumer perspective as one of the crucial factors influencing design and implementation of event registration and pricing policies. Recognition of how runners' attitudes and behaviors impact policy design requires greater understanding of how running events attract and retain participants. In turn, each of these areas calls for additional research.

Customer acquisition begins with understanding what motivates a runner to participate in a particular running event. Most sport participants choose to attend a specific event, rather than merely any event in general (Karvonen & Komppula, 2013). Runners can choose from among a wide range of different events to attend and individual runners are likely to select particular races that are perceived to offer the greatest personal benefits. Organizers' marketing success depends on knowledge and understanding of the needs and desires of runners who might consider participating in their event (R. Bennett, Mousley, Kitchin, & Ali-Choudhury, 2007). Accordingly, developing an understanding of the factors that distinguish running events from each other and lead runners to select one particular event over alternatives is necessary. Academic research into runner motivation has led to a proliferation of instruments and scales. Yet, a focus on general motivations rather than factors directly related to runners' choice of which running event to enter has resulted in a disconnect between what academicians have produced and what practitioners require. Future research should investigate how runners' demographic,

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psychographic, social, and behavioral characteristics influence event selection. Aggregating across the runner population, factors associated with individuals selecting a particular event impact overall demand for a running event, can inform event design and marketing, and are essential for determining optimal pricing policies.

Acquiring new participants is essential to sustain running events and offset any losses, however retaining existing participants is also critical. The cost of retaining an existing customer is less than the cost of acquiring a new customer and existing customers are less expensive to service than are newly-acquired customers (Reichheld, 1996). Previous research has shown consumer satisfaction leads to improved retention, increased purchase behavior, and higher consumer loyalty (Cronin, Brady, & Hult, 2000; Du, Jordan, & Funk, 2015; Kwon, Trail, & Anderson, 2005; Van Leeuwen, Quick, & Daniel, 2002; Yoshida & James, 2010). However, the precise links between satisfaction and repeat purchase decisions are poorly understood (Mittal & Kamakura, 2001). In a recent review of the consumer satisfaction research, J. W. Kim, Magnusen, and Kim (2014) concluded that sport marketing would greatly benefit from further context-specific research.

Starting with Ehrenberg (1959), marketing researchers have developed probabilistic models to describe consumer purchase behavior, under the assumption that observed behavior is the outcome of an unobserved stochastic process (Fader & Hardie, 2009). Sport management researchers have rarely employed such statistical behavioral models; two exceptions are Neale and Funk (2008) and Baker, McDonald, and Funk (2016). An essential feature of these statistical models is a reliance on behavioral patterns to explain past behavior and predict future behavior (Harris et al., 2016). This approach

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risks discarding attitudinal factors, such as enduring psychological involvement, that previous research has found useful in understanding individuals' connection to sport activities (Funk & James, 2001, 2006). Thus, incorporating attitudinal measures alongside behavioral offers a potential source of improved model accuracy.

Researchers must match their analytic strategy to their focal outcome. East, Gendall, Hammond, and Lomax (2005) and McKercher, Denizci-Guillet, and Ng (2012) suggest combined measures of loyalty which blend behavioral and attitudinal components are inappropriate as merging disparate concepts. If, as suggested, antecedent mechanisms for different conceptualizations of loyalty differ, researchers' selection of a suitable measure is crucial to generating meaningful results. Further complicating this picture is that extant sport management research largely focuses on behavioral intention, rather than actual consumer behavior (J. W. Kim et al., 2014). Specifically in the case of physical activity, there appears to be a substantial disconnect between behavioral intention and behavior (DellaVigna & Malmendier, 2006). Thus, sport management researchers' use of behavioral intention as a proxy for behavior may be inappropriate, resulting in misleading conclusions (Baker, Jordan, & Funk, 2017; Yoshida, Heere, & Gordon, 2015). Reliance on attitudinal measures could account for relatively poor performance in predicting actual behavior in models which offer good fit for behavioral intention or recommendation intention.

Pricing rests upon both runners' attitudes and behaviors. Willingness-to-pay is an attitudinal construct, while actual registration is a behavior. Understanding the potentially complex relationships between attitudes and behaviors is essential to appropriate conceptualization and developing theoretical understanding to support pricing decisions.

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Future research should investigate the separate and combined influence of runners' attitudes and past behavior on repeat participation.

Eighth, the influence of historical prices on future prices, specifically restricting event organizers' ability to implement price increases, suggests additional sources of variation in pricing between events. As historical prices are the most common source of internal reference prices (Mayhew & Winer, 1992), registration policies used in the past constrain available options for future races. Thus, it is likely running events catering to (mostly) new participants each year might have a greater ability to implement price changes than those relying to a greater extent on participant retention. Relatively well-established events, those with an extensive tenure, have a longer series of historical prices and thus are likely more constrained by that past.

Further, long-established events have history during a time when the long-distance running event culture was more focused on provision of sport opportunity and less on revenue generation. In Study Two, both Richard and William described a shift within the running event industry from a traditional approach to an increasing business-like orientation. This change is present more broadly across sport and recreation industries, where sport organizations are under increasing pressure to modernize and professionalize (Kikulis, 2000; Ruoranen et al., 2016). A series of paired events that differ on event tenure or participant retention could offer a natural experiment to help address the question of how past participant experience influences event organizers' ability to implement price increases.

Finally, additional research is necessary to better understand how running events compete with each other for participants. Related to the environmental factor in the

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conceptual model, this line of research would help establish better understanding of how event organizers determine (and how they should determine) a *competitive set* of events. The competitive set represents other events that compete for the same runners and where strategic responses to managerial decisions, including pricing, are necessary and warranted. The competitive set also provides benchmarks against which managers can assess their own performance.

Having defined a competitive set, managers develop aspirational targets (Schneider, 1992) for their own organization based on social comparison (Festinger, 1954; C. T. Miller, 1982; J. V. Wood, 1989). Event organizers in Study Two frequently mentioned industry leaders, such the Rock 'n' Roll Series and *run*Disney, irrespective of substantial differences between their events and those to which they were drawing comparisons. An alternative, common approach is a focus on competitors that share similar organizational characteristics (Greve, 2008; Lant & Baum, 1995; Porac, Thomas, & Baden-Fuller, 1989). Once defined, the competitive set forms a reference group (Greve, 2008); managers display greater awareness of the organizations in the reference group leading to greater likelihood of imitation (Baum & Haveman, 1997; Fiegenbaum & Thomas, 1995; Porac, Thomas, Wilson, Paton, & Kanfer, 1995).

However, previous research has demonstrated that managers typically consider an overly-restricted and poorly-chosen set of competitors during analysis of their firms' competitive environment (B. H. Clark & Montgomery, 1999). Divergence between who event organizers view as competitors and who runners do risks ineffective market positioning as organizers may make competitive responses (i.e. pricing decisions) against events that their target participants are unlikely to consider (de Chernatony et al., 1994).

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B. H. Clark and Montgomery (1999) suggest consumer-defined competitors as a more appropriate metric than organizational similarity.

Better identification of the competitive set, defined by consumer actions rather than managerial intuition, could be beneficial to developing appropriate pricing policies. Most runners participate in many events across their careers. Capturing how events share participants would permit establishing a connected competition network. Evaluation of cross-connections between events in that network can identify runner-defined competitive sets. This approach classifies events on the basis of runner behaviors and derives sets of competing events based on participation patterns of runners. Event organizers should account for this objective market structure in preference to their own intuition or organizational similarity (B. H. Clark & Montgomery, 1999). Further research is necessary to develop an understanding of the network structure between long-distance running events and help inform managerial decision-making.

Conclusion

The completion of this research represents not a conclusion, but a starting point, in understanding the heterogeneity of pricing policies among long-distance running events. The current research contributes to the sport management literature by providing practitioners and academics with new insight into the process long-distance running event organizers use when developing registration and pricing policies and the major factors that influence that process. Based on findings from a comprehensive census of events coupled with in-depth interviews of event organizers, the current research developed a theoretical model indicating that event pricing policies are influenced by organizational, consumer, environmental, and event-specific factors. The current research additionally

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lays a foundation for a stream of future projects building on the foundation provided by the conceptual model developed. The conceptual model established in the current research offers an inclusive foundation to motivate and position a series of future studies for a consistent and coherent stream of research. This should support development of a series of related research offering incremental contributions in an overall programmatic approach to understanding pricing in participant sport events, rather than relying on loosely-connected, one-off or ad hoc research studies.

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APPENDIX A:

STUDY TWO IRB EXEMPTION

TEMPLE UNIVERSITY
Research Administration

Research Integrity & Compliance
Student Faculty Center
3340 N. Broad Street, Suite 304
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Institutional Review Board
Phone: (215) 707-3390
Fax: (215) 707-9100
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Date: 29-Aug-2016

PI:	FUNK, DANIEL C
Committee:	A2
Protocol Number:	23949
Project Title:	Pricing Participant Sport: The Pricing Development Process in Long-Distance Running Events

Not Human Subject Research Determination The proposed activity is not research involving human subjects as defined by DHHS or FDA regulations. Consequently, Temple IRB review and approval is not applicable. You are welcome to pursue the activity, obtaining any applicable administrative or departmental (non-IRB) approvals. This determination applies only to the activities described in this IRB submission and does not apply should any changes be made. Changes could affect this determination, therefore please contact the IRB for guidance. DHHS Definitions: Research - a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Human subject - a living individual about whom an investigator (whether professional or student) conducting research obtains: (1) Data through intervention or interaction with the individual; or (2) Identifiable private information. FDA Definitions: Research - any experiment that involves a test article and one or more human subjects, and that either must meet the requirements for prior submission to the Food and Drug Administration Human subject - an individual who is or becomes a participant in research, either as a recipient of the test article or as a control. A subject may be either a healthy individual or a patient.

Please contact the IRB at (215) 707-3390 if you have any questions.

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APPENDIX B:

STUDY TWO INTERVIEW GUIDE

Prologue:

The purpose of this study is to better understand how running event organizers develop the registration and pricing policies for their events. Further, I want to understand what influences that process and what factors you consider when setting prices. I will be recording our conversation, and if there is anything you don't feel comfortable answering, you can skip the question.

1. Please tell me the story of your experience in developing the pricing policy for an event.

2. What's the most important thing to consider when setting prices for a running event and why?

3. What is your organization's primary objective when developing a pricing policy?

4. How many different price tiers do you offer for your event?
    a. What goes into determining how many tiers to offer?
    b. How do you determine the price differences between tiers?
    c. How do you separate the tiers (date/number of entries/etc.) and why?

5. Are there commonly-accepted best practices in pricing running events?
    a. To what extent do you consider how pricing is handled in other industries?

6. To what extent do you consider event costs when setting prices?
    a. How do you determine your costs? Costs per runner?

7. To what extent do you consider the fees charged by other events?
    a. Which other events do you consider? Why those events?
    b. Do you typically try to price above, below, or the same as those events?
    c. How much competitive pressure do you feel from other events?

8. To what extent do you consider the value of your event to runners when setting prices?
    a. How do you determine that value?
    b. Do you measure runners' willingness-to-pay or the impact of other prices? How?

9. How do past prices for the same event influence the fees you set for following years?

10. If you conduct multiple events, to what extent do you coordinate pricing between events?

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11. How do you determine race capacity?
    a. How often does your race meet the event capacity? What happens then?
    b. Do you ever consider offering more registration slots than your event capacity?
    c. What proportion of registered runners show up on race day?

12. Do you see any differences in runners who register far in advance compared to those who register relatively close to race day?
    a. How does that influence your pricing policies?
    b. How does that influence how you market or promote your event?

13. How many of your runners are repeat event participants?
    a. Do you market or promote differently for repeat and first-time participants?
    b. How does that influence your pricing policies?

14. What is your refund policy and why did you decide on that approach?
    a. What do you think about the option of offering race insurance through a third party?

15. What do you see as future trends in running event pricing?

16. What else matters when developing a pricing policy that we haven't discussed?

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