



# sporting TRADITIONS

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# sportingTRADITIONS

Journal of the Australian Society for Sports History

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# Value Creation, Loyalty and Satisfaction in the CrossFit Community

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**ABSTRACT:** CrossFit has grown exponentially since its inception in 2000. There is a lack of research to evaluate participants' satisfaction in general or with their affiliate. The purpose of this study is to investigate the factors that influence consumers' value, satisfaction and loyalty to the CrossFit community. To test the hypotheses, a multivariate regression analysis is performed with value as the dependent variable and six independent variables: service quality, coaches, injuries, addictive personality, digital application and income. Results show that coaching, perception of the risk of injuries and digital application provided by affiliate had a significant and positive influence on the athletes' satisfaction of CrossFit, while addictive personality and income had a negative relationship but were not significant. Athletes in satisfaction differ according to experience (elite, amateur or beginner). The article develops a better understanding of what influences customer satisfaction in the CrossFit community.

**KEYWORDS:** CrossFit, customer satisfaction, service quality, value, loyalty, coaches

## Introduction

CrossFit has gained significant attention over the past decade as a model of creating a high intensity interval training fitness program for individuals. CrossFit is a high-intensity power-training (HIPT) program that is used to improve ten general physical skills: cardiovascular/respiratory endurance, stamina, strength, flexibility, power, speed, coordination, agility, balance, and accuracy in athletes of both genders, as well as untrained individuals, through the appropriate mixture of diet, gymnastics, weightlifting, and multiple other aerobic and anaerobic exercises.<sup>1</sup> The program incorporates exercises, such as Olympic weightlifting with jerks, squats, deadlifts, snatches, and overhead press, among others. It also uses traditional gymnastic exercises, which include the use of rings, handstands and parallel bars, and aerobic exercises, such as swimming, running and rowing.<sup>2</sup> These exercises are often performed at a high intensity with little recovery time between exercises.<sup>3</sup>

Because of the growing interest in the sport, it is important to understand what factors influence the satisfaction of the athletes. The data collected from the survey will also reveal what the CrossFit athletes feel the affiliates offer that creates a competitive advantage and a sustainable business practice for this industry. The variables include the facility's characteristics: cleanliness, location, equipment, membership price, and knowledge of coaches' and athletes' characteristics: motivation, intimidation, competitive behavior, lifestyle and diet trends. SERVQUAL and value creation were utilised in this study.

## Literature Review

CrossFit is the fastest growing sport in America.<sup>4</sup> Greg Glassman, founder of CrossFit, recently said in an interview that he began training individuals, including law enforcement officers, in the 1990s and realised the potential

- 1 João Claudino, Tim Gabbett, Frank Bourgeois, Helton de Sá Souza, Rafael Miranda, Bruno Mezêncio, Rafael Soncin, Carlos Cardoso Filho, Martim Bottaro, Arnaldo Hernandez, Alberto Amadio and Julio Serrão, 'CrossFit overview: Systematic review and meta-analysis.' *Sports Medicine*, 4, 2010. <https://doi.org/10.1186/s40798-018-0124-5>; Michael Smith, Allan Sommer, Brooke Starkoff, and Steven T. Devor, 'Crossfit-based high-intensity power training improves maximal aerobic fitness and body composition', *J Strength Cond Res*, 27, 2013, pp. 3159–72.
- 2 Jena Meyer, Janet Morrison, and Julie Zuniga, 'The benefits and risks of CrossFit: A systematic review', *Workplace Health & Safety*, December, 2017, pp. 612–8.
- 3 Benjamin Weisenthal, Christopher Beck, Michael Maloney, Kenneth DeHaven, and Brian Giordano, 'Injury rate and patterns among CrossFit athletes', *Orthopedic Journal of Sports Medicine*, 2, 2014, pp. 1–7.
- 4 Patrick Rische, 'CrossFit's relationship with Reebok enhances its financial and commercial credibility'. <http://www.forbes.com/sites/sportsmoney/2011/07/22/crossfits-relationship-with-reebok-enhances-its-financial-and-commercial-credibility/>, accessed on 20 October 2019.

of this workout regimen.<sup>5</sup> With a slogan of 'Forging Elite Fitness', CrossFit consists of four main types of movements: cardiovascular (running, rowing, and air bike), gymnastics (pull-ups and hand-stand pushups), power lifting (deadlift and squats), and Olympic lifting (snatches and clean and jerks).

CrossFit was officially founded in 2000. There are over 15,000 CrossFit boxes in 162 countries across the world today.<sup>6</sup> CrossFit continues to grow despite the stereotypes of being called a cult and rumors of proneness to exercise amongst CrossFit athletes. In comparison to fitness chains such as LA Fitness, Anytime Fitness and Planet Fitness, CrossFit is one of the fastest growing fitness chains in the world, ranking in the top ten for fastest growing corporate chains, alongside names such as Subway and Dominos.<sup>7</sup> In social media, searches for CrossFit have grown exponentially while web searches for the corporate gyms remain stagnant.<sup>8</sup>

CrossFit gyms can be distinguished from a traditional gym by their appearance. Often seen as a minimalist approach to fitness, CrossFit gyms are characterised by open, dark rooms with high ceilings (for rope climbs), in large former industrial buildings. Other than rowing machines, bikes, and possibly ski machines, most CrossFit gyms do not have the standard machines found in a typical fitness facility. CrossFit boxes lack TVs and mirrors; most are without air conditioning.<sup>9</sup> CrossFit training is conducted by a coach with CrossFit certifications at different levels. Another difference is the price; CrossFit averages over \$US130 per month while gyms like Planet Fitness and YouFit boast low prices, averaging \$US20 monthly.<sup>10</sup>

CrossFit is known for a variety of movements such as burpees, snatches, toes-to-bar, rope climbs, squats, deadlifts, pull-ups, muscle-ups, cleans, and rowing. CrossFit is designed to entice the average person to bond with the workout regime and the variety reduces boredom, allowing 'CrossFitters' to

- 5 Sharon Alfonsi, 'King of CrossFit: Sharyn Alfonsi profiles Greg Glassman, a brash, former gymnast who created the CrossFit workout, now the basis for a chain of gyms that has become the largest in history', *CBS News*. <http://www.cbsnews.com/news/crossfit-creator-greg-glassman-60-minutes/>, accessed on 20 October 2019.
- 6 Alfonsi, 'King of CrossFit'; Crossfit, 'Map', <https://map.crossfit.com/>, accessed on 14 October 2019; Scott Henderson, 'CrossFit's explosive affiliate growth by the numbers', <https://morningchalkup.com/2018/10/23/crossfits-explosive-affiliate-growth-by-the-numbers/>, accessed on 14 October 2019.
- 7 Henderson, 'CrossFit's explosive affiliate growth'.
- 8 'Latest Crossfit Market Research Data', *Rally Fitness*. <https://rallyfitness.com/blogs/news/16063884-latest-crossfit-market-research-data>, accessed on 20 October 2019.
- 9 Katherine Martinko, 'CrossFit is the new eco-friendly gym', <https://www.treehugger.com/culture/crossfit-new-eco-friendly-gym.html>, accessed on 18 October 2019.
- 10 Mike Warkentin, 'Why CrossFit Is Free but CrossFit Gyms Are Not'. *The CrossFit Journal*, <https://journal.crossfit.com/article/economics-warkentin-2>, accessed on 20 October 2019.

sustain a long-term fitness plan. CrossFit Founder, Greg Glassman said, 'we want rings and bumper plates in our gyms, not machines. We believe that where you train is less important than how you train and that who you train with matters more than what gear you have'.<sup>11</sup> CrossFit brings individuals together individuals much like a 'church'. 'At CrossFit gyms, everyone does the same drills, from expectant mothers to Navy SEALs'.<sup>12</sup>

CrossFit is a unique strength and conditioning program that involves cardiovascular exercises combined with gymnastics and weightlifting movements, featuring timed elements and ranked competitions.<sup>13</sup> The CrossFit program uses a 'workout of the day' or WOD, posted open access on the CrossFit website. The WOD utilises aerobic and anaerobic training styles in intervals to simultaneously improve aerobic fitness and the body composition of athletes. The exercises are performed both as quickly as possible (for a best time), and for 'as many rounds as possible' (AMRAP).<sup>14</sup> Typically, in a CrossFit program, athletes conduct a warm-up, a skill or strength development segment, the WOD of the day, and a cool down.<sup>15</sup> The WOD by design varies from day to day, but typically includes a mixture of high-intensity exercises of 5–20 minutes.<sup>16</sup> CrossFit is useful for many individuals, as it requires minimal time commitment when compared with other traditional endurance training programs.<sup>17</sup>

## CrossFit Games: The Open

CrossFit introduced the CrossFit Games in 2007 to the brand, a national competition to find the 'fittest on earth', and this, too, has proved to gain

- 11 Crossfit. 'About Affiliation', <https://www.crossfit.com/affiliate>, accessed on 13 October 2019.
- 12 Gregory Ferenstein, 'CrossFit: Where Navy SEALs and pregnant soccer moms help each other get ripped', <https://www.fastcompany.com/1771136/crossfit-where-navy-seals-and-pregnant-soccer-moms-help-each-other-get-ripped>, accessed on 14 October 2019.
- 13 Sibley Benjamin A. 'Using sport education to implement a CrossFit unit', *Journal of Physical Education, Recreation & Dance*, 83 (8), 2012, pp. 42–8.
- 14 Gregory Waryasz, Vladimir Suric, Alan Daniels, Joseph Gill, and Craig Ebersson, 'CrossFit instructor demographics and practice trends', *Orthopedic Reviews*, November 2016, pp. 106–10.
- 15 Narelle Eather, Philip Morgan, Donald Lubans, 'Improving health-related fitness in adolescents: The CrossFit teens randomised controlled trial', *Journal of Sports Sciences*, 34, 2016, pp. 209–23.
- 16 Scott Drum, Bryanne Bellovary, Randall Jensen, Maggy Moore, and Lars Donath, 'Perceived demands and post-exercise physical dysfunction in CrossFit compared to an ACSM based training session', *Journal of Sports Medicine and Physical Fitness*, 57, 2017, pp. 604–9.
- 17 Michael Smith, Allan Sommer, Brooke Starkoff, and Steven T. Devor, 'Crossfit-based high-intensity power training improves maximal aerobic fitness and body composition', *J Strength Cond Res*. 27, 2013, pp. 3159–72.

in popularity each year.<sup>18</sup> In 2011, The CrossFit Open was designed and implemented to establish fitness as a spectator sport.<sup>19</sup> In the first year of The Open, more than 26,000 athletes competed across the world. In 2016, the ten-year anniversary of the CrossFit Games, 324,000 athletes competed in the CrossFit Open. The CrossFit Open is a worldwide five-week competition. The top men and women in each age division advance from the Open to Regionals with hopes of qualifying for the CrossFit Games. In 2019, a record 114 countries were represented in the CrossFit Games. The 2019 Games had a total purse of \$US2.8 million. Individual winners received the following prize money: 1st place received \$US300,000; 2nd place \$US115,000; 3rd place \$US75,000; and 4th place \$US50,000. A total of \$US337,000 was awarded to finishers from 4th to 20th place.<sup>20</sup>

## CrossFit in Australia and New Zealand

Australians were among the early adopters of CrossFit.<sup>21</sup> Most of the official CrossFit affiliates in Australia are located in Sydney and Melbourne.<sup>22</sup> Currently, there are 518 and 124 CrossFit affiliates in Australia and New Zealand.<sup>23</sup> Australia can also boast they have produced the only women to be named 'the Fittest on Earth' three times, Tia Clair Toomey, who won the CrossFit Games in 2017, 2018, and 2019.<sup>24</sup> Along with the growth of affiliates in Australia and New Zealand, the region continues to see increased local CrossFit sanctioned competitions like the Down Under CrossFit Championship and the Australian CrossFit Championship.<sup>25</sup>

## Customer Satisfaction

It is important to understand why CrossFit has become a significant part of the fitness industry over the last decade. The quality of services provided in affiliates varies, according to the individual owners. Glasser has given each owner the independence to manage their affiliate as they best see fit. CrossFit is not a franchise, but affiliates pay fees of \$US3000 per year

- 18 Crossfit, <https://www.crossfit.com/>, accessed on 13 October 2019.
- 19 Crossfit; Alfonsi. 'King of CrossFit'.
- 20 Crossfit. 'About the games', <http://games.crossfit.com/about-the-games>, accessed on 13 October 2019.
- 21 Debrina Aliyah. 'Where to travel around the world if you're addicted to CrossFit', <https://matadornetwork.com/read/travel-around-world-youre-addicted-crossfit/>, accessed on 20 October 2019.
- 22 Crossfit, 'Map'.
- 23 Crossfit, 'Map', <https://map.crossfit.com/>, accessed on 14 October 2019.
- 24 P. Blennerhassett and M. Agnew, 'Toomey wins record third "Fittest on Earth" title', <https://www.scmp.com/sport/outdoor/crossfit/article/3021070/crossfit-games-2019-tia-clair-toomey-dominates-first-workout>, accessed on 13 October 2019.
- 25 Crossfit, 'Affiliates', <https://www.crossfit.com/affiliate>, accessed on 13 October 2019.



to use the CrossFit name.<sup>26</sup> This allows each affiliate to stay creative and competitive in their business approach.

Service quality is 'a measure of how well the service level delivered matches customer expectations'.<sup>27</sup> Reliability, responsiveness, assurance, empathy, and tangibles are important determinants of customer satisfaction. SERVQUAL, a framework including dimensions of determining service quality, recommends different measures but also notes that each satisfaction survey should be adapted to the specific area.<sup>28</sup> Because CrossFit is a service provided to enhancing the individual's physical fitness, the SERVQUAL is a desirable method to use in measuring satisfaction.

Satisfaction is often determined by an individual's expectation, need, and demand.<sup>29</sup> Sometimes athletes allow their emotions to decide the type of quality of service they have received. Therefore, this makes an experience situational, and not a consistent assessment based upon each visit in which they encounter the service. These service encounters can be a moment of magic, moment of truth or a moment of misery. These experiences can shape the customer's impression and judgment about the firm. Fitness can be viewed as a need; therefore, the individual makes the decision immediately to determine the type of service encounter they received.<sup>30</sup> When coaches train with a mindset of helping prevent injuries, the CrossFit athlete may be put at ease. Coaches will often focus on the importance of proper warm-up, stretching, and mobility techniques before the strength and WOD portion of the class. This quality of coaching represents a long-term commitment, whereas the satisfaction of the athlete is decided primarily by the experience in the short-term.<sup>31</sup>

26 Alfonsi, 'King of CrossFit'.

27 A. Parasuraman, Valerie Zeithaml and Leonard Berry, 'A conceptual model of service quality and its implications for future research,' *Journal of Marketing*, 49, 1985, pp. 41–50.

28 A. Parasuraman, Valerie Zeithaml, and Leonard Berry, 'SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality,' *Journal of Retailing*, 64 (Spring), 1988, pp. 12–40.

29 Tomas Sima and Jan Ruda, 'Conceptualization of methods designed to evaluation service quality in sport.' *Kinanthropologica*, 48, 2012, pp. 146–55.

30 Sarah Lewis, 'An online customer service survey to determine current levels of customer satisfaction at a CrossFit gym', <https://www.semanticscholar.org/paper/An-Online-Customer-Service-Survey-to-Determine-of-a-Lewis/aa6368216d223055261789aa64c03b3dd4f98fb7>, accessed on 14 October 2019.

31 Jan Sima, and Tomas Ruda, 'Conceptualization of methods designed to evaluation service quality in sport,' *Kinanthropologica*, 48, 2012, pp. 146–55.

## Loyalty

Marketers know it is more important and less expensive to keep an existing customer than to recruit a new customer.<sup>32</sup> Therefore, successful businesses work to influence loyalty in their customers so that they have a reliable customer base. Instituting relationship marketing techniques is a valuable method of retaining customers and turning them into loyal brand advocates eventually. When CrossFit coaches spend more time with their athletes and genuinely show dedication, the coaches are likely to build trust and rapport with the consumers and increase loyalty. Loyalty is a complex mixture of attitudinal and behavioral elements.<sup>33</sup> Having both elements present signifies that the athlete understands their experience and reacts in a way that mimics the encounter. Loyalty is made up of affective, cognitive and behavioral components. True loyalty exists when all three of the components are present.

## Value

There are numerous ways to determine how value is created in CrossFit affiliates. Customer relationship management increases by focusing on building relationships with the athletes. 'Relevant personalization and recognition of an existing relationship makes the customer feel valued and increases loyalty'.<sup>34</sup> When the owners and coaches of the CrossFit affiliates make efforts to encourage and show they care about their athlete's progress, they enhance the experience for the CrossFit athlete. The objective is to 'create value by increasing customer lifetime value'.<sup>35</sup>

'Value is created when they can make informed purchasing decisions'.<sup>36</sup> CrossFit athletes have the leverage to decide which affiliate to join. Depending on the services, promotions and incentives offered when joining, this could persuade the athlete's decision. When the customer is confident in their decision, the likeliness of satisfaction is greater and value is created.

## Motivation

Athletes are highly motivated individuals who participate in competitive sports for various reasons. Motivation can take place both intrinsically and extrinsically. Intrinsically, the athlete feels motivation because they have

32 Fred Reichheld, *The Loyalty Effect* (Boston: Harvard Business School Press, 1996). Golnoosh Sa, 'Internal marketing builds service quality,' *Journal of Health Care Marketing*, 16 (1), 1996, pp. 54–9.

33 Richard Oliver, 'Whence consumer loyalty?' *Journal of Marketing*, 63 (4), 1999, pp. 33–44.

34 Connie Olasz, 'Marketing's role in a relationship age.' <http://bbr.baylor.edu/marketing-in-ra/>, accessed on 18 October 2019.

35 Olasz, 'Marketing's role'.

36 James Anderson and James Narcius, 'Capturing the value of supplementary services.' *Harvard Business Review*, 73 (Jan/Feb), 1995, pp. 75–83.

a need to understand out of curiosity, want to be accomplished, and want to stimulate specific sensations.<sup>37</sup> These elements also explain having an internal locus of control. Extrinsically, the athlete experiences motivation for reasons other than their own sake. Athletes may want to regulate praise and awards, avoid feeling of guilt about not staying in shape, or feel motivated to perform so they can achieve personal goals. These are attributed to outside factors, exhibiting an external locus of control.

'One of the most popular theories of human motivation is McClelland's trichotomy of needs — need for achievement (*n Ach*), need for power (*n Pow*), and need for affiliation (*n Aff*).'<sup>38</sup> Psychologist David McClelland develops a model that explains what motivates an individual in a specific environment. The Needs Theory categorises people in these three areas: a need for affiliation focuses on acceptance in social and interpersonal relationships, through the importance placed on being part of a group and to be accepted; a need for power focuses on status and having an influence on others; a need for achievement relates to a strong desire to perform challenging tasks. Individuals with these needs often set goals and achieve them. McClelland's Needs Theory helps to identify why CrossFit athletes are motivated and perform so well in the CrossFit community.

Goal structures vary between male and female CrossFit athletes.<sup>39</sup> Coaches will want to be mindful of the varying goals for their members and provide individual instruction to help their members. It is common to see these goals written on boards in the gym, so peers can also help encourage each other in working towards those goals.

'As CrossFit continues to grow in popularity and members stay in these environments, motivation climate perceptions may begin to change'.<sup>40</sup> This can be seen when setting long-term and short-term goals. Depending on what the individual may be training for, personal goals can often change. An example of this is when a runner may be training for a half marathon and will still come to CrossFit, but will have different fitness goals. They will likely shy away from maxing out weight on various lifts to prevent injury, but may focus more on endurance.

37 Luc Pelletier and Kim Tuson, Michelle Fortier, Robert Vallerand, Nathalie Brière and Marc Blais. 'Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The sport motivation scale', *Journal of Sport and Exercise Psychology*, 17, 1995, pp. 35–53.

38 Adriane Harrell and Michael Stahl, 'A behavioral decision theory approach for measuring McClelland's trichotomy of needs', *Journal of Applied Psychology*, 66, 1981, pp. 242–7.

39 Julie Partridge, Bobbi Knapp, and Brittany Massangale, 'An investigation of motivation variables in CrossFit facilities', *The Journal of Strength and Conditioning Research*, 28, 2014, pp. 1714–21.

40 Partridge, Knapp, and Massangale, 'An investigation'.

## Hypotheses

The literature reviewed above suggests five hypotheses relating to athlete satisfaction with CrossFit that may be tested:

- H1. As a coach's knowledge and helpfulness increases, an athlete's satisfaction with CrossFit will increase.
- H2. As the perceived risk of injuries increases, an athlete's satisfaction with CrossFit will increase.
- H3. As addictive personality tendencies increase, an athlete's satisfaction with CrossFit will increase.
- H4. As the affiliate utilises a mobile application more, an athlete's satisfaction with CrossFit increases.
- H5. As an athlete's income increases, satisfaction with CrossFit increases.

## Data and Methodology

### Sample

This study is based on data gathered from CrossFit athletes across the USA (37 states) and 15 other countries. The survey had 267 respondents after deleting five for not answering the majority of the questions. Data were collected through a survey consisting of 42 Likert scaled, demographic and open-ended questions). The data are analysed using descriptive analysis, frequency analysis, correlation analysis, and regression analysis. From these analyses, we search for trends within the data that relate to the five hypotheses about customer satisfaction, loyalty and value creation.

### Measures

Measures were constructed for each of the variables to identify the adapted scales that were used for the final survey. A SERVQUAL instrument can measure the dependent variable, customer satisfaction at CrossFit.<sup>41</sup> These items include:

1. They should have up-to-date equipment
2. Their physical facilities should be visually appealing.
3. Their employees should be well dressed and appear neat.
4. The appearance of the physical facilities of these firms should be in keeping with the types of services provided.
5. When customers have problems, these firms should be sympathetic and reassuring.
6. These firms should be dependable.
7. They should provide their services at the time they promise to do so.

41 A. Parasuraman, Valerie Zeithaml, and Leonard Berry, 'A conceptual model of service quality and its implications for future research', *Journal of Marketing*, 49 (Fall), 1985, pp. 41–50.



8. They should keep their records accurately.
9. Customers should be able to trust the employees of the firms.
10. Customers should be able to feel safe in the transactions with these firms' employees.

Customer Loyalty items were adapted from a Net Promoter Scale. This is used when a survey includes a claim of a recommend question in a single statement. This was the case twice in the survey, when respondents were asked about overall satisfaction and whether they would recommend their CrossFit affiliate to a close friend or family member. One study suggests that the NetPromoter Score is the 'best predictor of business growth'.<sup>42</sup>

Value Creation is measured using a five-point Likert scale in a variety of questions, including digital marketing and social media. This measures levels of satisfaction and added value perceived by respondents in the connection online, when posting about their experience or the relationship they receive from the CrossFit gym. 'Performance can now be measured by increase in customer share, customer retention and customer value'.<sup>43</sup>

Lastly, motivation at CrossFit can be measured by using a Sport Motivation Scale. These questions include internal and external factors that lead to reason for motivation. 'The SMS is a measure of contextual motivation that is intended to identify the perceived reasons for participating in sport'.<sup>44</sup> These items include:

1. For the pleasure of discovering new training techniques.
2. Because, in my opinion, it is one of the best ways to meet new people.
3. Because I feel a lot of personal satisfaction while mastering certain difficult training techniques.
4. Because it is absolutely necessary to do sports if one wants to be in shape.
5. For the prestige of being an athlete.
6. Because it is one of the best ways I have chosen to develop other aspects of myself.
7. For the pleasure I feel while improving some of my weak points.
8. Because I must do sports to feel good about myself.
9. For the pleasure I feel while executing certain difficult movements.
10. To show others how good I am at my sport.

42 Bob Hayes, 'Lessons in loyalty: There's a better way to measure customer loyalty and boost business growth', *Quality Progress*, 2011, pp. 24–31.

43 Connie Olasz, 'Marketing's role in a relationship age'. <http://bbr.baylor.edu/marketing-in-ra/>, accessed on 18 October 2019.

44 Clifford Mallet, Masato Kawabata, Peter Newcombe, Andreas Otero-Forero, and Susan Jackson, 'Sport motivation scale-6 (SMS-6): A revised six-factor sport motivation scale', *Psychology of Sport and Exercise*, 8, 2007, pp. 600–14.

Another way to measure motivation is by using McClelland's Needs Theory. The Manifest Needs Questionnaire created by Steers and Braunstein further supports McClelland's idea. Individuals either have a need for affiliation, a need for power or a need for achievement. These questions help determine which factors best indicate motivational types for an individual, and in the case of this paper, a CrossFit athlete. Questions adapted from the Manifest Needs Questionnaire include:<sup>45</sup>

1. I work very hard to continually improve my work performance.
2. I enjoy competition. I like to win in sports and in other things I do.
3. I enjoy difficult challenges.
4. I typically set realistic goals. I tend to achieve my goals.
5. I enjoy belonging to a team.
6. I enjoy the satisfaction of successfully completing a difficult task.
7. I would rather work in teams than alone.

## Methodology

To examine the value of Crossfit several types of analysis were conducted. First, descriptive statistics were computed. Pearson correlations between the dependent variable and each of the four independent variables were then examined. Finally, multiple regression analysis was used to test the hypothesised relationships.

## Data Analysis

### Descriptive Statistics

Table 1 provides descriptive statistics, including mean values, standard deviations, and minimums/maximums for the measurement scales. The mean value for total satisfaction (4.41) denotes a positive impact. The majority of the respondents reported high value in coaching (4.51). Generally, respondents experienced positive effects of injuries from CrossFit and the affiliate linking with a digital application (4.18 and 4.23). When asked to rate the perceived addictive personality, many subjects expressed a negative effect (2.62). The sample consisted of equal proportion of gender (0.504).

45 Richard Blackburn, 'An evaluation of reliability, stability and factor structure of the manifest needs questionnaire', *Journal of Management*, 7 (2), 1981, pp. 55–62.

**Table 1: Descriptive statistics**

	N	Range	Minimum	Maximum	M	SD	Variance
Satisfaction	267	3.56	1.44	5.0	4.41	.62	.387
Coaches	267	3.75	1.25	5.0	4.51	.68	.463
Injuries	267	4.0	1.00	5.0	4.18	.76	.583
Addictive Personality	267	4.0	1.00	5.0	2.62	.70	.492
Affiliate Digital Application	267	4.0	1.00	5.0	4.23	.77	.587
Income	262	4.0	1.00	5.0	3.07	1.36	1.842

We also asked participants the following questions: How long have you been doing CrossFit workouts? Respondents answered the following: Less than one year 13.3 per cent, 1–2 years 38.5 per cent, 3–4 years 35.6 per cent, and over five years 12.6 per cent. On average, 42 per cent of respondents visited CrossFit affiliates 3–4 times per week; 50 per cent visited five or more times per week. Fifty-nine per cent of respondents described themselves as amateur CrossFit athletes, 37.8 per cent identified as elite CrossFit athletes, and only 3.3 per cent described themselves as beginners to CrossFit. Ages ranged from up to 30 (30 per cent), 31–39 (28.5 per cent), 40–49 (19.2 per cent), and 50 and over (5.2 per cent). Forty-three per cent of respondents had completed at least a bachelor's degree, and 20 per cent a master's degree or higher. Fifty-one per cent were married and 41 per cent single. The income was distributed rather equally: \$US25,000 or less (14.4 per cent), \$US25,000–50,000 (22.6 per cent), \$US50,000–75,000 (21.9 per cent), \$US75,000–100,000 (18.1 per cent), and \$US100,000 or more (20.4 per cent).

### Correlation Analysis

Table 2 displays the Pearson coefficients between all variables. The only negatively associated variables with satisfaction codes were addictive personality (-.067) and income (-.076). All other variables were positively associated with satisfaction. However, only coaches, injuries, and digital application were significant. Coaches showed the highest correlation at 0.726.

**Table 2: Correlation analysis**

	1	2	3	4	5	6
Satisfaction	1					
Coaches	.726**	1				
Injuries	.156*	.112	1			
Addictive Personality	-.067	-.060	.114	1		
Affiliate Digital Application	.567**	.586**	.071	-.016	1	
Income	-.076	.023	-.170**	-.193**	.017	1

\*Significance  $p=0.005$ ; \*\*significance  $p=0.001$ .

### Regression Analysis

Table 3 shows the results of multiple regression analysis, in which satisfaction is regressed on coaches, injuries, perceived addictive personality, affiliate digital application, and income. The test of the overall model is  $F=69.414$ ,  $p<0.000$ . The regression analysis of the factors found positive significance for coaches ( $\beta=0.603$ ;  $p=0.000$ ) and affiliate digital application ( $\beta=0.203$ ;  $p=0.000$ ). Income was negative and significant ( $\beta=-0.089$ ;  $p=0.034$ ). Addictive personality was negative, but not significant in the model.

**Table 3: Regression Analysis-Dependent variable: Satisfaction**

	Beta (t-value)	Sig.
H1-Coaches	.603 (11.866)	.000
H2-Injuries	.066 (1.572)	.000
H3-Addictive Personality	-.041 (-0.972)	.117
H4-Affiliate Digital Application	.203 (4.018)	.332
H5-Income	-.089 (-2.136)	.034

$R^2=0.576$ ; Adjusted  $R^2=0.567$ ; F-statistic=69.414; Significance=0.000;  $n=267$

## Discussion

The purpose of any marketing research activity is to find useful knowledge for business managers to use in planning, strategy, marketing, communication, and a variety of other business functions. The present study provides insight into the management of CrossFit headquarters and its affiliates in developing and implementing their business plan. Managers can use the information to develop their marketing strategy, including service quality aspects. A significant number of participants will also be able to benefit from the information in the study. As CrossFit gains popularity worldwide, it is replacing or augmenting traditional physical training methods to increase the physical fitness of lifeguards, fire fighters, police officers, and military personnel.<sup>46</sup>

This survey was designed to ask specific questions pertaining to CrossFit members, but almost all of the questions can be applied to a traditional gym environment. Individuals that have gym memberships could answer a vast majority of the survey questions. When assessing satisfaction, loyalty and added value within a fitness facility, this survey analyses many areas that are interrelated with other facilities in the fitness industry. Athletes who prefer to engage in fitness programs at a traditional gym would likely respond similarly. Assessing the satisfaction on the facilities, coaching and programming would be comparable, but would likely predict a less aggressive and less intense coaching method. This merely separates the preference of the individual. Non-CrossFit athletes would likely be satisfied engaging in working out in an atmosphere in which they prefer. The motivation factors are likely to be the same.

Runners that support local 5km races that opt to not have gym memberships would respond much differently. In some cases, they might have coaches to help train local running clubs. Facilities would be difficult to assess as most runners find a local track or local neighborhoods to run for their weekly mileage. Satisfaction and loyalty would likely be similar as running is their preferred method of training.

A limitation of the study is that a majority of the respondents are from similar demographic backgrounds in the US Southeast. Choosing 'boxes' from all areas of the USA and abroad would provide less skewed results. Another limitation of our study is due to the continued growth of the sport, with new gyms that are popping up but not called "CrossFit." CrossFit is still in the early stages of development as a sport. Is it here to stay or is it just another fad, like Taebo?

Future research should concentrate on partnering with CrossFit headquarters to survey a broader sample. By partnering with the headquarters, researchers may also have access to secondary data about the affiliates that would be intriguing for the future of CrossFit. Another idea for future research is to investigate the training methods for new CrossFit gyms to succeed based on our results.

## Conclusion

The regression analysis provides support for several of the hypotheses: H1, H2, and H5. Coaches seem to be the most important driver (H1). H2 is also supported by the analysis, suggesting that perception of injuries is more positive (Respondents agree more with the following statements: *Injuries from CrossFit are no more severe than injuries from other sports* and *Injuries from CrossFit often come from poor movements during lifts*). H3 (Addictive Personality) and H4 (Digital Application) are not supported in the model. CrossFit athletes span a range of ages, but most are in the mid-20s to late 40s. Many will have a college education or extensive work experience. Because CrossFit tends to have a higher monthly membership price than other fitness facilities, the income of respondents varied.

We found that with a sense of camaraderie and competition at local CrossFit gyms, the value of the coaches' instruction and business practices will influence customer satisfaction. Social media and other digital marketing impact on how the customer perceives their service encounter. The level of service of each CrossFit affiliate provides will enhance the customer experience. Offering annual events, evaluation of goals, and more one-on-one instruction time will increase the morale and involvement by the athletes. If the athletes thrive on results, we recommend the affiliates incorporate a measurement system to track progress and reevaluate goals with their clients through a mobile application.

CrossFit athletes tend to have an extreme work ethic and will be highly motivated individuals. Some will have an extreme competitive nature; others may feel intimidated by this. Many CrossFit athletes have a tendency to follow a healthier type diet as this provides proper nutritional needs for the human body when athletes are training. If diet has any correlation with the CrossFit program, we recommend the affiliates educating their clients on the importance of nutrition and how that impacts their CrossFit training.

46 Jeffrey Paine, James Uptgraft, and Ryan Wylie, 'CrossFit Study', *Command and General Staff College*, May 2010, pp. 1-34.