

UNIVERSITY OF KWAZULU-NATAL

**AN ANALYSIS OF COMPLEMENTARY COMPETENCE CO-BRANDING
POTENTIAL IN THE BEER INDUSTRY**

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DECLARATION

I Roger Hans Theodore Salisbury declare that:

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The research conducted for this thesis has, perhaps, an unusual genesis. The SA Liquor Act, Act No. 59 of 2003 came into effect on 13 August 2004. An important provision of this Act is to “promote the development of a responsible and sustainable liquor industry in a manner that facilitates –

- (i) the entry of new participants into the industry;
- (ii) diversity of ownership in the industry; and
- (iii) an ethos of social responsibility in the industry.”

With these objectives in mind this researcher developed a franchised microbrewery model in partial fulfilment of the requirements for an MBA degree. The majority of individuals involved in the brewing industry at that time (2003) did not identify much potential in the microbrewing sector in general and the franchise model in particular. One individual, the Financial Director of SABMiller South Africa, Mr Garth Saunders did however. Even before the term “Craft Beer” had been coined he foresaw the potential. He engaged with the financial, production and other aspects of my proposal but then declared that he had one lingering doubt, “How does a mainstream brewer like SAB market microbrews; indeed do we want to risk cannibalising our Castle (lager) sales?”

Attempting to answer this question over the past 10 years has proved to be a most interesting and rewarding journey that has stimulated an extensive reappraisal of certain areas of conventional marketing doctrine. My thanks to Mr Saunders and SABMiller and I trust that one outcome of this research may be that it will demonstrate how large and small enterprises can derive mutual benefit from a co-branding association and create substantial synergies. For example, an appropriately structured relationship between mainstream and craft brewers can take back some of the market share gained by the RTD, AFB and other more readily consumed “alcopops” targeted at younger segments of the market.

My thanks to Advocate Mthethwa, chairman of the KZN Liquor Board, for giving freely of her time and for her enthusiastic support for an initiative that seemed, in its infancy, rather farfetched.

Similarly, I would like to extend my sincere thanks and appreciation to my supervisor, Professor Charles O'Neill for believing in the concept of co-branding at a time when little was known and even less was published on the subject. Prof O'Neill's inimitable approach to supervision employs a gloved hand and mailed fist that, on occasion, proved quite daunting (particularly given his fondness for the latter) but without it this work would never have been concluded. Prof, I thank you for the academic rigour you have insisted upon and for encouraging the development of a sound theoretical framework. As a result, I trust this study will be more widely relevant both academically and to practitioners in other industries and market situations.

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ABSTRACT

Co-branding, where two or more brands are used to market one new product, has been proposed as a potentially cost effective marketing strategy in highly competitive mature industries. The objective of the study was to evaluate a potential role for co-branding to increase users' overall brand preference and to stimulate non-users' brand preference whilst suppressing any existing negative perceptions.

In order to do so the research sought to probe how consumers develop and respond to a diverse and complex range of brand associations that result from a co-branding alliance. A unique aspect is that this study incorporates unknown real brands in co-branding alliances and distinguishes between low equity and unknown brands.

A convenience sample of 711 business studies students were asked to participate in the research with 331 questionnaires suitable for analysis recovered (a response rate of 47%). They were presented with individual brands and with co-brands incorporating a little known or unknown beer and restaurant/fast food brand with a relatively well known or popular complementary brand to produce an overall consumption solution.

The study addresses four important research issues: Firstly, it tests a conventional consumer-based multi-dimensional brand equity scale and demonstrates the limitations and conceptual inconsistencies of this approach. A formatively-indicated measurement scale is developed to measure respondents' "overall brand preference". Secondly the method with which co-brand concepts are presented to respondents and how their overall brand preferences are measured is addressed. Two experimental procedures are tested. Thirdly, the effect on overall preference for a co-brand is measured when the original brands are evaluated variously as combinations of high, medium or low overall preference. Finally, the research examines the effect on respondents' overall preference for a co-brand when a third cause-related modifying variable is introduced.

The research supports the findings of similar studies but also records a number of novel contributions. Principally, that when component brands in a co-branding alliance range from unknown to high equity brands, the relationship between the

contribution that a component brand makes to a co-brand is non-monotonic. For example, an unknown brand may improve the overall brand preference for a low equity, known brand. This has important implications in understanding consumers' behavioural response to co-branding. The practical implications include highlighting the contribution that start-up enterprises and unknown brands can make to established brands rather than simply the reverse.

Keywords: Complementary competence co-branding, brand preference, consumer-based brand equity, little known/unknown brands, formative scales, cause-related marketing

TABLE OF CONTENTS

DECLARATION	i
ACKNOWLEDGEMENTS	ii
ABSTRACT	iv
TABLE OF CONTENTS	vi
LIST OF FIGURES	x
LIST OF TABLES	xii
CHAPTER 1: INTRODUCTION TO THE RESEARCH STUDY.....	1
1.1 BACKGROUND TO PRESENT STRATEGIC MARKETING LIMITATIONS	1
1.2 CO-BRANDING DEFINED	9
1.3 STATEMENT OF THE RESEARCH PROBLEM	10
1.4 OBJECTIVES OF THE RESEARCH STUDY	11
1.6 OVERVIEW OF OTHER RESEARCH STUDIES CONDUCTED.....	14
1.5 IMPORTANCE OF THE RESEARCH STUDY	16
1.5.1 Academic relevance	16
1.5.1 Managerial implications	18
1.7 OVERVIEW OF THE RESEARCH STUDY	19
1.8 DISCUSSION	20
CHAPTER 2: A REVIEW OF BRANDING AND BRAND EQUITY	22
2.1 INTRODUCTION	22
2.2 BRANDS AND BRANDING.....	22
2.2.1 Product marketing.....	22
2.2.2 Brand components	24
2.2.3 Brands and consumer needs.....	27
2.2.4 Consumer behaviour	28
2.3 BRAND POSITIONING STRATEGY	30
2.4 BRAND EQUITY.....	31

2.4.1	Definitions	32
2.4.2	Measuring brand equity	34
2.4.3	Leveraging brand equity	35
2.5	DISCUSSION	37
CHAPTER 3: CONSUMER RESPONSE TO BRAND EXTENSIONS		38
3.1	INTRODUCTION	38
3.2	OVERVIEW OF BRAND EXTENSIONS	38
3.3	FACTORS AFFECTING THE SUCCESS OF BRAND EXTENSIONS	39
3.3.1	Similarity effect; perceived fit (conceptual similarity) between a parent and extended brand	40
3.3.2	Brand name effect; brand affect, strength of the parent brand and brand-specific associations	46
3.3.3	Uncertainty effect; quality uncertainty regarding the product category of the extension	47
3.3.4	Other success factor effects	49
3.3.5	Interaction amongst the groups of effects	58
3.4	FEEDBACK EFFECTS ON BRAND EXTENSIONS	60
3.5	DISCUSSION	67
CHAPTER 4: CO-BRANDING CORPORATE ALLIANCES.....		69
4.1	INTRODUCTION	69
4.2	OVERVIEW OF CO-BRANDING	70
4.2.1	Defining Co-Branding	70
4.2.2	Other co-operative ventures.....	71
4.2.3	Forms of Co-Branding	72
4.3	ADVANTAGES OF CO-BRANDING	74
4.3.1	New markets	75
4.3.2	Adding benefits and opportunities for differentiation	76
4.3.3	Reducing barriers to entry.....	76
4.3.4	Quicker returns, price premiums and other benefits.....	77
4.3.5	Respond to the marketplace's expressed and latent needs.....	77
4.3.6	Leverage one's own core competencies.	78
4.3.7	Positive feedback or spillover effects on the parent brands.....	78
4.3.8	Protecting brand image while entering new markets.....	78

4.4	DISADVANTAGES AND INCREASED RISK OF CO-BRANDING	79
4.4.1	Brand incompatibility	79
4.4.2	Repositioning of partner brands.....	79
4.4.3	Brand dilution and separation- becoming a single hybrid brand	79
4.4.4	Negative feedback from a failed co-brand.....	80
4.5	FACTORS AFFECTING THE SUCCESS OF CO-BRANDS	80
4.5.1	Attitudes to parent brands	80
4.5.2	Parent – parent category fit	82
4.5.3	Parent-parent brand fit	82
4.5.4	Parent – co-brand fit	84
4.5.5	Parent brand familiarity	85
4.5.6	Marketing effects and consumer characteristics	85
4.6	CAUSE RELATED MARKETING: A SPECIAL CASE OF CO-BRANDING	87
4.7	DISCUSSION	89
CHAPTER 5: RESEARCH METHODOLOGY		91
5.1	OVERVIEW	91
5.2	THEORETICAL FRAMEWORKS	95
5.3	RESEARCH APPROACH	98
5.4	RESEARCH DESIGN	99
5.4.1	Research participants	100
5.4.2	Brand stimuli.....	100
5.4.3	Pre-test- selection of appropriate brand stimuli	101
5.5	MAIN STUDY.....	105
5.5.1	Stage 1 of main study.....	107
5.5.2	Stage 2 of main study.....	113
5.6	DATA ANALYSES.....	115
5.6.1	Interitem consistency reliability.....	115
5.6.2	Tests for differences in distributions (medians)	115
5.6.3	Testing hypotheses about two related samples	117
5.7	DISCUSSION	119
CHAPTER 6: RESEARCH FINDINGS AND ANALYSES.....		120
6.1	PRE-TEST	120

6.2	MAIN STUDY.....	123
6.2.1	A measuring instrument for ‘overall preference’	124
6.2.2	Evaluation of measuring instrument.....	126
6.2.3	Comparison of independent groups	131
6.2.4	Measuring consumers’ responses to co-brand concepts.....	141
6.2.5	Measuring the effect on respondents’ overall preference for a co-brand when a third cause-related modifying variable is introduced	144
6.2.6	Differences in respondents’ overall preference scores of co-brands (high, medium or low OBP for header brand with high, medium or low OBP for modifier brand).....	145
CHAPTER 7: DISCUSSION		151
7.1	INTRODUCTION	151
7.2	CONTRIBUTION.....	153
7.4	LIMITATIONS OF THE RESEARCH STUDY.....	157
7.5	FUTURE RESEARCH	158
REFERENCES.....		160
APPENDIX A		183
1.	ETHICAL CONSIDERATION	183
2.	STUDY 1 (PRETEST).....	185
a.	Instructions to respondents	185
b.	Questionnaire Response Sheet.....	186
c.	Brand Image Logos.....	187
3.	STUDY 2	196
a.	Instructions to respondents	196
b.	Questionnaire Response Sheet.....	198
c.	Brand Image Logos.....	199
APPENDIX B: RESULTS OF STATISTICAL ANALYSES.....		210
Appendix B,1:	Evaluation of measuring instrument- Cronbach’s Alpha test of interitem consistency reliability.....	211
Appendix B, 2:	Comparison of independent groups- Kruskal-Wallis comparison of more than 2 independent groups and Mann-Whitney U test of 2 independent groups	230
Appendix B, 3:	Testing of two related means- Wilcoxon signed-rank test.	268
APPENDIX C: ETHICAL CLEARANCE APPROVAL.....		445

LIST OF FIGURES

Figure 2.1	The components of brand equity.....	33
Figure 2.2	Components of brand added value and brand equity.....	34
Figure 3.1	Consumers' evaluation of undifferentiated brand extensions showing the effect of involvement at each level of congruity/similarity	55
Figure 3.2	Consumers' evaluation of differentiated brand extensions showing the effect of involvement at two levels of congruity/similarity.....	56
Figure 3.3	A conceptual framework of brand extension success illustrating direct (main effects), mediating (indirect) effects and moderating (interaction) effects.	59
Figure 3.4	Model to analyse the effect of brand extensions on brand image.....	65
Figure 4.1.	Co-operative venture matrix	72
Figure 4.2	Shared value creation in co-branding relationships	73
Figure 4.3	Conceptual and structural model of co-branding effects	81
Figure 5.1	A signalling theory model representing a co-brand strategy incorporating n brands. Arrows represent the signals transmitted to address information asymmetry between signaller and receiver.	98
Figure 5.2	Pre-test measuring instrument used to evaluate potential brands to be used in main study.	103

Figure 5.3	Slide 1- Brand logos of 12 automotive brands presented to respondents in the pre-test.....	104
Figure 5.4	Main study, stage 1 brand evaluation response sheet	108
Figure 5.5	Main study, stage 1 co-brand pairs- individual brand evaluations	110
Figure 5.6	Main study, stage 1 co-brand pairs- composite brand evaluations	111
Figure 5.7	Main study, stage 1 co-brand pairs- composite brand evaluations presented in a cause-related context.	112
Figure 6.1	Pre-test selection of co-brand component brand logo stimuli (steakhouse, fast food and beer brands). See Appendix A, 2 Study 1,d Pre-test selection of brand logo stimuli, for full results.....	122
Figure 6.2	Age distribution of participants in stage 1 of Study 2 (N = 78).....	126
Figure 6.3	Age distribution of participants in stage 1 & 2 of Study 2 (N = 227).	135
Figure 6.4	Distributions of female and male overall preference scores for the Steers brand.....	140
Figure 6.5	Distributions of female (1) and male (2) overall preference scores for the Heineken and Samuel Adams beer brands.....	140

LIST OF TABLES

Table 1.1:	Research objectives of recent co-branding studies (2004-2014).....	15
Table 6.1, (i)	Cronbach's Alpha Brand A1 (Audi) Study 1 Stage 1 Slide 1	127
Table 6.1, (ii)	Cronbach's Alpha item statistics Brand A1 (Audi)	127
Table 6.1, (iii)	Cronbach's Alpha inter-item correlation matrix Brand A1 (Audi) ...	128
Table 6.1, (iv)	Cronbach's Alpha item total statistics Brand A1 (Audi).....	128
Table 6.2	Interitem consistency reliability (Cronbach's coefficient alpha) across 3 vehicle brands (see Appendix B,1,4 – B,1,1,8).	130
Table 6.3	Interitem consistency reliability (Cronbach's coefficient alpha) of the underlying dimensions of overall brand equity (each dimension represented by the unweighted average of 3 items) (see Appendix B,1,9 – B,1,12).....	131
Table 6.4	Descriptive statistics of the overall brand preference scores for vehicle, food, beer and co-brand brands, stages 1 and 2 of study 2 (main study, App. B,2,1).....	132
Table 6.5	Results of Kruskal-Wallis comparison of independent groups to test if the groups originate from the same population (main study, see Appendix. B,2,1).....	133
Table 6.5 (cont.)	Results of Kruskal-Wallis comparison of independent groups to test if the groups originate from the same population (main study, see App. B,2,1).....	134
Table 6.6	Respondents in study 2 (stages 1 & 2) grouped according to age.	135

Table 6.7	Test for differences in distributions of the overall brand preference scores for six different age groups using the Kruskal-Wallis H test (see App. B,2,2,(i))	136
Table 6.7(cont.)	Test for differences in distributions of the overall brand preference scores for six different age groups using the Kruskal-Wallis H test (App. B,2,2,(i))	137
Table 6.8	The Mann-Whitney U test for a difference in distributions of the overall brand preference scores between female and male respondents (see App. B, 2, 3)	138
Table 6.8 (cont.)	The Mann-Whitney U test for a difference in distributions of the overall brand preference scores between female and male respondents	139
Table 6.9	Comparison of methods used to measure consumers' evaluations of co-brand overall preferences (using Wilcoxon signed-rank test for examining differences between two related samples)	142
Table 6.10	Change in respondents' overall brand preferences- header brands Heineken, Windhoek & Samuel Adams, with the co-brand modifier brands Zebras, Wendy's, <i>etc.</i>	147
Table 6.11	Change in respondents' overall brand preferences- header brands Zebras, Wendy's, <i>etc.</i> ... with the co-brand modifier brands Heineken, Windhoek & Samuel Adams	148
Table 6.12	The effect of the overall brand preference score (OBP) of component brands on the evaluation of subsequent co-brands	149

CHAPTER 1: INTRODUCTION TO THE RESEARCH STUDY

1.1 BACKGROUND TO PRESENT STRATEGIC MARKETING LIMITATIONS

The product life cycle theory proposed by Vernon (1966) predicted that globally, products in maturing markets would become more standardised, and price rather than factors of production would become the competitive determinant. Porter (2001: 71) described the maturing market phenomenon as a competitive convergence. A consequence of unprecedented competition in a range of maturing markets is the tremendous increase in advertising expenditure. Ries and Trout (2001: 6) noted that media advertising expenditure in America rose eightfold from \$110 *per capita* in 1972 to \$880 in 2000, with the result that advertising expenditure became largely inelastic.

Increased advertising has, in turn, resulted in competitive interference: consumers confuse competing advertisements and brands (Keller, 1987: 316; Burke and Srull, 1988: 55; Keller, 1991: 463; Kent and Allen, 1994: 97). In addition to differentiating their products from those of competitors, a major challenge for most companies is to communicate more effectively with the market than competitors. Aaker (1991: *ix*) stressed how important brands and brand equity have become in this environment.

Brands now are often a company's biggest asset (Keller, 1998: 2; Kapferer, 1999: 21; Blackett and Russell, 1999: 3; Doyle, 2002: 184; Christodoulides and de Chernatony, 2010: 44). Consequently strategies such as line extensions, brand extensions and co-branding (Kotler, 2000: 413; Monga and John, 2010:80) are used to leverage brand equity. Using an established brand, the cost of introducing a new product can be reduced and the probability of it succeeding can be increased (Boush and Loken, 1991: 16; Vukasovič, 2012: 493). Nonetheless, repositioning an existing brand is itself an expensive undertaking (Trout and Rivkin, 1996: 33).

Expenditure on brand development and maintenance may be severely constrained as a company's short-term financial performance is adversely affected by brand building

expenditure that may not yield immediate results. Secondly, current accounting practice generally does not permit the value of intangible assets to be included on the balance sheet (Kapferer, 1999: 62, 385; Doyle, 2002: 185).

Strategies to leverage brand equity may further be influenced by a number of business paradoxes that this researcher has identified in the modern marketing environment. These paradoxes include:

1. Brands may not be recorded as assets in a company's annual financial statements so become the company's most valuable expense;
2. Shareholders, generally, seek long term investments and demand short-term profits;
3. Buying a valuable brand may increase a company's weighted average cost of capital as the debt to asset ratio is impaired (rendered less favourable);
4. Brand appeal should be increased and extended yet the need to increase differentiation (to distinguish the brand's product from competitors') may tend to create niche products with narrower appeal;
5. Establishing a dominant position for a brand in the minds of consumers is a difficult and costly exercise yet the brand may then require repositioning to keep it relevant to more quickly changing consumer tastes and trends;
6. Marketing imperatives demand increased layers of value to be added to products yet competition driven production cost constraints necessitate that companies focus on their core competencies and the rationalisation of attributes;
7. Production cost constraints drive a smaller product range yet modern consumers expect customised solutions (fragmentation of the market);
8. Companies attempt to drive scale economies yet, increasingly, it would seem that market growth opportunities reside in niche markets;
9. Segmentation is one of the pillars of the marketing platform yet, increasingly, segments appear unstable and consumers may show less consistency in their purchasing behaviour;

10. Marketers attempt to target specific needs yet consumers may respond better to solutions that provide a bundle of benefits, *i.e.* satisfy more of their total consumption system.

These conflicting demands suggest that existing brand leveraging strategies may be inadequate and that different philosophies should be explored. Essentially, brands should strive for a timelessness and universality that is distinct from the products they represent. A high relative perceived quality has long been identified as the most important single factor affecting a company's financial performance (Jacobson and Aaker, 1987: 31).

Only features that contribute to an individual's perception of quality add value. Mass customisation strategies employed by operations managers (Heizer and Render, 2014: 310) seek to avoid uniform increases in levels of potential customer added value (*i.e.* relatively more added attributes) that would result in products too costly and too complex for the majority of consumers.

However, in the marketing arena there is, arguably, a tendency to misapply or misinterpret the concept of a marketing orientation or what Kotler and Armstrong (2014: 63) term a “market oriented mission”. Initially Levitt (1960: 45) asserted that the purpose of business processes is to satisfy customers, not produce products. Yet in 1980 he introduced the total product concept that has a generic product at its core, with extra features and services representing layers of customer added value (Levitt, 1980: 85). This view holds that products compete on the basis of relative added value. Similarly, the subsequent evolution of product management to brand management to category management has retained a product driven system rather than focussing on basic customer needs (Jaworski and Kohli, 1993: 53; Zenor, 1994: 202; Kotler, 2000: 687). A further drawback to the emphasis on product exists in mature competitive markets where a ceiling to cost effective product augmentation may be reached and "competitive convergence" (Porter, 2001: 71) is then likely to ensue (hence operations managers' attempts to achieve cost effective mass customisation).

Market centred business organisations focussing on the needs of distinct customer groups have shown increased profitability (Narver and Slater, 1990: 20). This suggests that there is a need for an holistic approach that, conceptually, places customer consumption solutions, rather than products, at the core of a marketing orientation. This researcher envisages that an effective consumption solution should satisfy a diverse but interrelated range of needs and be a significant component of a consumer's total consumption system. To provide broader solutions, a plethora of goods, services, different costs, channels and communications would be required in the marketing mix. Individual companies may contribute their products to this marketing mix in a complementary and integrated fashion. The sum of customer's added value would be determined by the depth (how well individual needs are satisfied) and breadth (how many needs are satisfied) of the overall solution. An important motivation for the research reported in this thesis is the anticipation that increasingly, in future, competition will take place between different alliances of complementary products rather than between individual products.

The concept of overall consumption solutions outlined in the previous paragraph is unique but there are certain analogies. The modern supermarket provides diverse goods that satisfy a wide range of needs. However, where the role of a supermarket is to be an efficient distribution channel for fast moving consumer goods (FMCGs) and provide customer convenience and potential cost savings, the consumption solution concept is more far-reaching and should attempt to satisfy even more diverse needs. Secondly, where the supermarket serves as an intermediary between manufacturers and consumers, the consumption solution concept recommends that alliance partners, jointly and severely, maintain direct contact with customers thereby also achieving a more even balance of power amongst stakeholders.

Pine and Gilmore (1999: 20) referred to an "experience" economy, and using a model similar to Levitt's (1980) total product concept, described how commodities may be differentiated into more-easy-to-handle products (*e.g.* cake ingredients into pre-packed cake mix), further differentiated into a service (a birthday cake) and finally an experience (organising the birthday party). This sequence illustrates the process of

adding customer value but doesn't provide a theoretical framework for modelling the roles and interrelationships of stakeholders.

Corporate alliances, according to a McKinsey & Company report (Blackett and Russell, 1999: 6), were estimated to have grown worldwide at 40% annually from 1994. In the credit card business alone, brand alliances, termed co-brands, accounted for a third of the \$473 billion industry. Co-branding has emerged as an innovative marketing strategy for businesses competing in highly competitive, mature industries (de Chernatony, 1999: xvi). The objective is to realign and integrate the value chains of participating businesses in order to provide an innovative "cluster of benefits" that satisfies the heterogeneous preferences of a diverse target market.

The relative value of an individual product's attributes may not be sufficiently high amongst consumers to appeal to a viable segment whereas the combined utility value of the attributes of co-branded products that complement one another (provide a composite solution) may satisfy a substantial market segment. The alliance may also be able to leverage significant scale economies in marketing. A further advantage is that initially unappealing or undesired products in the total mix may, in the minds of consumers, be linked by association and in time be tried and even adopted.

Despite a significant increase in the rate at which corporate alliances are being formed (apparent to any observer of business environments), comparatively little academic research has been conducted. A better understanding of how consumers respond to co-branding and a more comprehensive indication of co-branding potential is required (in support of this contention, please see Table 1.1).

The study reported in this thesis posits that co-branding may be used as a strategy to market niche products in highly competitive, mature industries. The beer industry and associated sectors serving the hospitality consumer provide an interesting opportunity to analyse the potential for co-branding strategy. Internationally, in developed markets, the beer industry has matured and is suffering from declining profitability and the effects of declining *per capita* beer consumption (as will be reviewed further).

The general decline in the South African beer industry is illustrated by annual *per capita* beer consumption reducing from 65l in 1990 to 55l in 2012 (Marketline, 2013: 9; Statistics South Africa, 2012: 8). Beer's future share of the alcoholic beverage market is also in doubt as, increasingly, younger consumers adopt easier drinking, higher alcohol content, alcoholic fruit beverages (AFBs) and spirit fortified ready-to-drinks (RTDs).

In South Africa, yet another consideration for the industry is the explicit objectives of the new liquor act (Republic of South Africa, Act No. 59, 2003). This legislation seeks to reduce the socio-economic and other costs of alcohol abuse, assist entry of new participants into the industry, facilitate diversity of ownership and encourage an ethos of social responsibility. Any business strategy must accommodate these overriding considerations.

South African Breweries' peak share of 98.5% of the local clear beer market (Coulson and Adami, 2002: 6), provided a good example of a company competing in a mature, stagnating industry. The company's annual financial statements also showed year on year production in S.A. either declining or level over the previous decade (SAB AFS, 2001/02; SABMiller AFS, 2003-06). Real growth had only occurred in the speciality beer sector that targets narrower segments of the market (Salisbury, 2005:23).

Macro breweries such as SABMiller plc brew in batches of approximately 3,000hl, and while they have been successful at driving large volumes of mainstream brands, they can't effectively exploit niche market opportunities. Microbrewed speciality beers (more recently termed craft beers), however, can be produced for specific consumer niches, used to encourage new categories of usage and to develop innovative beer products.

To enable cost effective production and marketing of these beers in niche volumes, a potential franchised microbrewery system was developed at the University of KwaZulu-Natal. The researcher presented this concept to the Financial Director of SAB Ltd, Mr Garth Saunders (April, 2003). Subsequently, the concept was placed

second in the UKZN round of the 2004 National Innovation Competition and a supply chain and financial model of this strategy for SAB was developed as an MBA dissertation (Salisbury, 2005).

A franchised microbrewery system can reduce barriers to entry and provide opportunities for mutually advantageous relationships between new entrants and existing stakeholders in the beer industry. Microbrewed, “craft” beer, positioned in the speciality, premium beer segment of the market, is not targeted at high consumption occasions and has a lower alcohol content than wine, AFB's or RTD's.

Some indication of the potential for niche market micro-brewed beer was provided by statistics from the USA. The number of American breweries increased from 44 in 1980 to 1,465 in 2003 with 1,426 of these breweries categorised as craft or microbreweries (Salisbury, 2005). By June 2014 the number of breweries in the USA had reached 3,040 breweries – the highest number since the 1870s (Wilmore, 2014: 2). In South Africa, the premium beer market for 1.5 million *hectolitres* (6% of total annual production) was estimated to be growing at 10% *pa* and was expected to have doubled by 2010 (Mathews and Rose, 2003: 8).

A range of niche market opportunities exists for innovative beer products, but according to senior SAB executives (Salisbury, 2005) and in accordance with international trends, SABMiller was primarily interested in developing female and young adult segments of the beer market. With the benefit of hindsight this view may be considered myopic as, for example, recent figures from Britain evidence; small, independent brewers now produce more than 12,000 brands of beer in the UK alone (Whitwell, 2014: 2). In the USA sales of craft beer in 2013 grew by 18% in volume (representing 14.3% of the total retail dollar value and 7.8% of the total beer market; up from 6.5% in 2012), whilst the biggest US beer brands' sales declined by 1.7% year-on-year (Morton, 2014: 3).

The preliminary objective of this doctoral research was to gain a better understanding of how an innovative marketing strategy, co-branding, may be used to assist

unknown or new brands to compete in hypercompetitive industries and, conversely, to also explore the impact of co-branding on the corresponding better known brand.

The empirical research conducted in this study focussed on analysing the potential for co-branding strategies that targeted a heterogeneous population of tertiary students; a group comprising young adults. The decision to focus on tertiary students was favoured as the sub 25 year age group has a high propensity to experiment. In this regard, Sherrington (2003: 32) suggested that 80% of all brand switching in beverages happens below this age. The appropriateness of conducting research involving beer brands within this group may be questioned. However, the research potentially may make a positive practical contribution by encouraging the responsible early adoption of premium beer as the beverage category of choice (rather than higher alcohol content AFBs, RTDs and others). Longer-term advantages afforded by developing this higher perceived value segment are that this segment does not promote overconsumption or irresponsible behaviour. The proposed research methodology was submitted to and approved by the Research Ethics Committee of the University Of KwaZulu-Natal (see Appendix C) prior to the start of the empirical research.

The study investigated, in part, how, indeed if, a co-branding strategy could be used to market speciality beers as a response to mature industry challenges. The research *analyses the potential for co-branding in the beer industry* by investigating how consumers perceive and react to hypothetical co-branded concepts. It explored possible cooperative relationships between two or more complementary brands that would be able to create shared value through brand leverage of their combined brand equity, marketing economies of scale and other potential synergies. The research seeks to provide a platform from which further research may be launched in order to gain a better understanding of the role of attribute fit, imputed attributes, categorisation processes, brand affect, brand-specific associations, marketing mix effects and preference analysis in the implementation of effective co-branding strategies.

To investigate the potential for co-branding strategies, little known or unknown beer and restaurant/fast food brands were combined with relatively well know or popular complementary brands (*i.e.* beer/food or food/beer). The term complementary is used to mean that the combined brands could potentially satisfy a greater number of hospitality consumers' total consumption needs compared with the brands considered on their own. To what extent could this strategy contribute to a flexible and successful co-brand and what synergies may be created? A major potential advantage of a successful co-brand is the encouragement of new categories of usage and new users. On the supply side, reconfiguration of the hospitality industry should provide significant opportunities for new entrants offering innovative goods and services.

Corporate alliances, manifesting as alliances between brands and described as co-branding, may be structured in any one of several ways. The different forms of co-branding and their respective strategic objectives are reviewed in Chapter 4. At this stage a generic definition of co-branding is provided.

1.2 CO-BRANDING DEFINED

Branding is essentially a value adding activity. Co-branding is an alliance of brands that seeks to create more value than the sum of the value created by its component parts (de Chernatony, 1999: ix). The alliance may include two or more brands that create something new, be it a product, service or an enterprise. Individually the participants would be unable to deliver this outcome, but together their complementary capabilities or expertise contribute to a composite offering that competitors may struggle to match. In addition, synergies may be achieved that result in economies of scale advantages in marketing and production.

Although corporate alliances and co-branding are not new, until recently (2010 onwards) there has been little published research on the topic and little indication of the potential for co-branding strategies in modern mature markets. This study seeks to contribute to a better understanding of the impact of co-branding strategies on the development of consumer-based brand equity and hence the potential role of co-branding alliances in mature markets.

1.3 STATEMENT OF THE RESEARCH PROBLEM

Companies in mature markets attempting to differentiate their offerings from those of competitors may experience several significant limitations. Firstly, a threshold may be reached whereby adding further customer value (differentiating attributes) is no longer cost effective. Secondly, the differentiated product may become a niche product that appeals to too small a segment of the market to be economically viable.

Thirdly, in pursuit of growth, a firm may be drawn to potential opportunities existing in unfamiliar categories, or indeed entirely new categories. Yet in order to do so, the firm may first be required to acquire certain essential competencies necessary to produce the intended product or service. The firm may lack the marketing experience or expertise to enter new markets, or it may lack the resources required for development of the proposed new product or service (NPD).

The preliminary objective of this research (described on page 7) was refined as a problem statement that declares that *co-branding is a more effective strategy to provide consumers with an innovative bundle of benefits than attempting to provide equivalent benefits individually*. The focus of this research has thus been on the potential for complementary competence co-branding to address the problem statement. The specific context of the study is the beer industry. The assumed consumer population has been categorised into three categories: users, intermittent users and non-users.

Consequently, in order to be effective, co-branding strategy should attempt to deliver three distinct outcomes:

1. To increase users' overall preferences (to stimulate willingness to pay more),
2. To increase intermittent users' overall preferences (to stimulate increased frequency of purchase), and
3. To increase non-users' overall preferences whilst suppressing any existing negative perceptions (to stimulate awareness, interest and an increased probability of purchase).

At the outset, this study intended to use an extensively tested and validated multi-dimensional, reliable measure of consumer-based brand equity to assess the effectiveness of co-branding in achieving these outcomes. However, in the course of this research, it became evident that existing measuring instruments and indeed the operationalisation of consumer-based brand equity in co-branding studies were inadequate and conceptually problematic. Defining an appropriate measuring instrument to assess consumers' responses to co-branding became a primary objective of the study.

1.4 OBJECTIVES OF THE RESEARCH STUDY

Co-branding, as a research area, is relatively new: Park, Jun and Shocker (1996: 453) viewed the strategy as a form of brand extension they termed composite brand extension. Only 15 years ago Blackett and Russell (1999: 7) provided the first typology of cooperative brand relationships and indicated that co-branding is a form of cooperation that can exist between two *or more* brands. A logical extension of this cooperation would be production of one *or more* co-branded products. The different products may include two or more of the allied brands, but not necessarily all or the same brands. At present there is no reference to this contingency in the academic literature; the co-brands would be regarded as separate co-brands, which would not adequately describe their mutual relationship and any co-generated brand equity nor account for any marketing synergies that potentially would exist. No model, as yet, has been proposed to represent the impact on the brand equities of component brands that may participate in co-branding extensions.

This research investigates how consumers respond to a diverse and complex range of brand associations that result from a co-branding alliance. It focuses on how, indeed if, a co-branding strategy may be used to incorporate a little known or unknown beer and restaurant/fast food brand with a relatively well know or popular complementary brand (i.e. beer/food or food/beer) to produce an overall consumption solution. A non-probability, convenience sample of a heterogeneous population of undergraduate students attending the University of Kwa-Zulu Natal, Pietermaritzburg was selected. The heterogeneity of the student sample refers to the different demographic variables

of race, culture, socioeconomic status, religion, etc. A potential advantage of this etic approach is that the outcomes of the exploratory research may be considered relevant to, and even a basis for, later cross-cultural comparisons.

The study focuses on four important research issues. Firstly, it tests a consumer-based multi-dimensional brand equity scale to measure respondents' assessments of consumer-based brand equity. When this approach was found wanting, derived multi-item reflective scales were used to measure the formative dimensions (components) of a construct that was termed "overall brand preference". Supporting this approach is the research by Arnett, Laverie and Wilcox (2010: 21) who investigated the effects of retailer-manufacturer brand alliances on the respective firms' brand equities. A major limitation of their study however is that they used a formative scale comprising 5 indicators that were each represented by consumer responses to single questions (rather than multi-item dimensions measured on reflective scales). Brand equity indices were calculated for each respondent by averaging the indicators. Keller and Lehmann (2006: 741) posed this question for future research "are intangible attributes formative (causes) or reflective (constructed) reasons for equity or choice... are they considered *a priori* or constructed after experience with the brand?" As yet this question has not been addressed in the literature. The present research demonstrates the limitations and conceptual inconsistencies of using a conventional brand equity measurement approach. Instead, in this research a formative scale was used to measure respondents' "overall brand preference" for the different brand concepts (considered individually or represented as an undefined co-brand concept).

The second research issue concerns the method with which co-brand concepts are presented to respondents and how their overall brand preferences are measured. Two experimental procedures were tested. Respondents were asked to record their preferences for the two component brands in a co-brand, firstly, by rating the two brands individually (2 component brands measured separately in the co-brand) and, secondly, by recording single responses to the composite co-brand (1 measure per co-brand). There was some evidence supporting convergent validity in some tests but

overall the single response to a composite co-brand was identified as a more reliable measure.

The third area addressed in the research explored how respondents, grouped according to their assessments of individual brands (high, medium or low overall preference), rated a co-brand comprising two of the individual brands. The nine possible combinations were tested (H-H, H-M, H-L, M-H, *etc.*). Studies reported in the literature (Washburn, Till and Priluck, 2004: 498; Besharat, 2010: 1244) investigated the effects of different levels of consumer-based brand equity combinations by selecting component brands that were rated as either high or low equity brands by comparatively uniform participants. This could be viewed as a brand manager's perspective. This research was conducted from more of a consumer perspective appropriate to a study involving multiple cultures and a more *etic* (*c.f.* *emic*) approach. Brand stimuli were initially selected on the basis of high or low consumer-based brand equities but in order to test the effects of different brand equity levels on consumers' assessments on a co-brand the participants were grouped accordingly, not the brands.

Although not a perfect representation, consumers grouped as high, medium or low (in terms of their brand equity appraisals) could be considered appropriate surrogates for consumers described as users, intermittent users and non-users of a particular branded product or service. So, for example, a reasonable interpretation of a consumer who rates a co-brand highly when one of the constituent brands is considered to have high equity and the other low would be that a user of one brand and a non-user of the other is likely to become a user of the co-brand. Alternatively, a consumer who is "medium" for both brands *i.e.* an intermittent user of both, but records a high score (user) for the co-brand would indicate the existence of brand synergies.

These conclusions should be regarded warily because as Janiszewski and van Osselaer (2000: 342) pointed out, predictions and evidence in support of co-branded product superiority is generally expectation based, not experience based. There is

scope for future research to record actual consumer buying behaviour with real co-brands and an adequate sample size (where means and variances can be calculated).

Finally, this research examined the effect on respondents' overall preference for a co-brand when a third cause-related modifying variable was introduced. There is not a primary cause-brand alliance (as with studies by Lafferty and Goldsmith, 2005: 423 or Lafferty, 2007: 447); rather the cause serves as a modifying variable. Previous studies in both the brand extension and co-brand arenas have highlighted the importance of perceived fit between constituent brands. Other than obviously contributing to self-congruity a cause-related feature may also, in terms of Schema Theory (Meyers-Levy and Tibout, 1989: 41), allow respondents to use this additional information to resolve any moderate incongruity between partner brands and hence improve fit. Walchli (2007; 968) demonstrated that subjects responded to moderate incongruence, in her study moderately incongruent brand pairs, by exhibiting higher involvement which in turn resulted in more favourable evaluations. Increased customer involvement may result in increased analytical judgements as opposed to low involvement that results in exemplar-based and non-analytic judgements. Greater involvement may contribute to improved regulatory fit and an assessment of increased product value (Avnet and Higgins, 2006: 1; Aaker and Lee, 2006: 15).

Using cause-related marketing in this co-branding context is not reported in the literature but according to Ahn and Sung (2012: 422) the act of resolving incongruity adds further to consumers' satisfaction. Resolving moderate incongruity may be inherently satisfying or the act of seeking resolution may bias subjects to provide positive explanations of the incongruity (Walchli, 2007; 950).

1.6 OVERVIEW OF OTHER RESEARCH STUDIES CONDUCTED

A summary of recent publications (the decade 2004-2014) is presented in Table 1.1.

Table 1.1: Research objectives of recent co-branding studies (2004-2014).

Author/s	Publication Date	Research Objectives
*Washburn, J. H.	1999	Evaluate co-branding effects on brand equity, SEC attribute performance, and the moderating role of product trial
Baumgarth, C.	2004	Evaluate the spillover (feedback) effects of co-brands on consumer brand attitudes
Dickinson, S. & Heath, T.	2006	Examine how consumers form attitudes towards co-branded products
Jones, S.A.	2007	Explore consumer interpretations of a brand alliance
Walchli, S.B.	2007	Analyse the effects of between-partner congruity on consumer evaluation of co-branded products
Ahn, S.K., Kim, H. & Forney, J.A.	2009	Demonstrate a conceptual structure of how consumers evaluate a co-marketing alliance
Lee, C.L.	2009	Influence of consumer evaluations on the success of co-branding
Bouten, L.M.	2010	Improve understanding of consumer evaluations of co-branded products
Besharat, A.	2010	Role of consumer attitudes, quality perceptions and purchase intentions in evaluating new co-brand products
Lin, S.	2010	Factors that influence consumer evaluations of co-branded products
Bouten, L.M., Snelders, D. & Hultink, E.J.	2011	Impact of fit measures on the consumer evaluation of new co-branded products
Stutz, N. & Schaffner, D.	2011	Role of congruity in the evaluation of co-branding strategies
Newmeyer, C. E., Venkatesh, R. & Chatterjee, R.	2014	Develop a conceptual framework and managerial guidelines for co-branding arrangements and partner selection.

* The 1999 Doctoral dissertation by Washburn is included in this recent list as it features as a landmark study in co-branding research.

Many of the co-branding studies to date extend the frameworks developed for brand extensions research (Park *et al.*, 1996: 453; James, 2006: 15; Besharat, 2010: 1240). Investigations tend to have one of four themes. The focus is on studying:

1. What factors influence consumers' evaluations of co-brands (*e.g.* consumers' perceptions of "fit" or constituent brand similarity, brand attribute associations, or the perceived quality of the constituent brands)
2. How consumers form attitudes to, and interpret co-brands, and how consumer evaluations influence the success of co-branding
3. The effects of co-branding on brand equity
4. Potential feedback or spillover effects of the co-brand on its constituent brands

1.5 IMPORTANCE OF THE RESEARCH STUDY

This research seeks to contribute to two endeavours: Firstly, to contribute to improving the theoretical understanding of co-brands and co-branding and secondly, to provide direction for practitioners wishing to explore potential co-branding opportunities; specifically those in the beer and hospitality industries.

1.5.1 Academic relevance

As described in section 1.4 above, most co-branding studies are designed around frameworks extended from conventional brand research and brand extension research. This study is no exception, but critically, it acknowledges and highlights essential differences that exist between co-brand research and other brand related studies. There are both theoretical and practical reasons why co-branding should be considered as a separate conceptual category. A practical example illustrates this: There would be little purpose served by investigating the brand equity of a low equity brand and even less by extending a low equity brand into a new product category, yet there may be mutually advantageous consequences of including a low equity brand in a co-branding alliance with a high, medium or even low equity partner brand.

Besharat's (2010: 1240) study specifically compares the effectiveness of co-branding *versus* brand extension strategies. The focus of the present study, however, was to explore the potential for constituent brands to complement one another and to create synergies rather than to determine if co-branding is simply a more effective strategy to target the same market segment. As reviewed in Chapter 3, significant niche segment growth opportunities exist in mature, competitive markets (fragmenting markets). This research sought to evaluate the potential of complementary competence co-branding to provide more cost effectively, what de Chernatony (1999: *ix*) termed, a "bundle" or "cluster" of benefits that satisfy several niche segments. Targeting several niche segments would correspond with what Kotler (2000: 318) termed a multiple niche strategy or Kotler and Keller (2011: 234) multiple segment specialisation (supersegments).

At the individual consumer level Leuthesser, Kohli and Suri (2003: 40) proposed a view that "focuses on the entire bundle of benefits, tangible and intangible, that the product delivers to the customer. No studies have so far attempted to assess the scope for co-brands in multi positioning strategies or any implications with regard to regulatory fit (*i.e.* sustaining consumers' regulatory orientation).

Co-branding thus far has only been proposed as a strategy to leverage brand equity and realise marketing and production scale economies that contribute to increased competitive advantage. Brand alliance research has only focussed on understanding how consumers form composite brand concepts from two component brands and on determining the effectiveness of composite extension strategies over single brand extension strategies.

This study explores the potential for co-branding to be used as a strategy to reposition existing products and/or brands. This may be repositioning in terms of quality perceptions (in order to encourage consumers to pay more) or in order to stimulate re-categorisation by consumers. The latter may contribute to an increased salience of information relevant to the "new" product and suppression of negative perceptions or any other category-based inferences that a significant number of potential users familiar with the existing category may have. An extreme example; a

young girl who never drinks is obviously a non-user of Heineken beer, but may nonetheless have high quality perceptions of the brand and show strong brand awareness and associations (*e.g.* recognition, awareness and logo recall). These dimensions of brand equity may transfer positively to constituent partner brands in a co-brand.

Various observations, such as that described above, recommend that the existing approach to operationalising the dimensions and elements of multi-dimensional consumer-based brand equity need to be reconsidered in a co-brand context. Cobb-Walgren, Ruble and Donthu (1995: 26) observed that operationalisation of brand equity typically incorporates two aspects: firstly involving consumer perceptions (perceived quality, awareness and brand associations) and, secondly, consumer behaviour (brand loyalty, willingness to pay more). Yoo and Donthu (2001: 11) suggested that, although not conceptually equivalent, purchase intention and brand attitude may be used as practical surrogates. This study extended this view to include perceived quality. The resultant construct (in this study termed “overall preference”) is viewed as an explanatory combination of the dimensions quality, attitude and intention to purchase (the direction of causality is reversed). As a result a formatively-indicated (or composite latent variable) measurement model was adopted. Golicic, Fugate and Davis (2012: 23) conceptualised brand equity in their study of the transportation industry as a higher order construct comprising the formative dimensions of brand image and brand awareness. These dimensions were measured on reflective scales represented by five and three items respectively.

1.5.1 Managerial implications

The research reported in this thesis supports the contention that certain synergies may be achieved when an unknown brand for which consumers show little preference is partnered with another brand that consumers show medium or high preference for. Research shows that moderate incongruity between constituent brands or between constituent brands and co-brand concept even improves consumers’ evaluations of the co-brand. This research was confined to the hospitality industry (beer brands and fast-food/restaurant brands) and provides a framework

with which practitioners could evaluate the potential for their own co-brand concepts. The recent burgeoning market for craft beers is a case in point.

The microbrewing industry (now termed the “craft” beer industry) is important in the South African context for several reasons. Firstly, there is a political imperative to comply with the explicit objectives of the new Liquor Act. Secondly, the speciality (premium) beers target a high margin segment known to the trade as the "worth-more segment". Thirdly, craft beers provide an opportunity to develop new niche segments by encouraging new users and usage situations. In time these segments may become substantial. Fourthly, they provide an opportunity to incorporate innovative attributes that may redefine the beer category and provide a sustainable competitive advantage.

Although the purpose of this study was largely exploratory, the findings may be utilised to inform potential co-brand partners from a range of diverse sectors of the economy. This research was confined to exploring the effects on consumers’ overall preferences for co-brands by measuring their responses to brand logos before and after proposing an alliance between the brands. In practice this assessment would need to be followed by post exposure measurements influenced by consumers’ actual usage experiences of the co-branded product. The management of that subsequent engagement was beyond the scope of this research and the research design was consequently structured so as to exclude these effects.

1.7 OVERVIEW OF THE RESEARCH STUDY

The introduction to this thesis provides a background to the strategic marketing challenges faced in mature industries. The concept of brand alliances, specifically complementary competence co-branding, is introduced as a potential tool to address these challenges. The problem statement declares that *co-branding is a more effective strategy to provide consumers with an innovative bundle of benefits than attempting to provide equivalent benefits as individual offerings* (this statement and the corresponding research question are discussed more fully in Chapter 5, section 5.1 of this thesis). An overview of the research objectives follows with a list of

contemporary studies that have informed or guided this research thereafter. The anticipated contribution of this study is described.

A literature review of the three key areas of marketing research that underpin this study is presented in Chapters 2 to 4. These areas are, respectively, branding and brand equity, brand extensions and co-branding. Chapter 5 describes the methodology employed to conduct the empirical research and in Chapter 6 the findings and analyses of results are presented. Chapter 7 concludes the thesis with a discussion of the results, a summary of the key findings, limitations and direction for future research.

1.8 DISCUSSION

Chapter 1 describes marketing problems common to businesses in mature, highly competitive industries and introduces co-branding as a strategy that has the potential to create shared value in that environment. The primary objective of co-branding is to align and integrate the value chains of participating businesses that serve the same or similar consumers in order to provide an innovative "cluster of benefits" whilst leveraging a combined consumer-based brand equity. Competitive advantage may be anticipated if higher levels of customer satisfaction can be achieved more cost effectively.

Despite an accelerating rate of corporate alliance formation worldwide, there has been comparatively little research that explores how consumers are better satisfied or, indeed if, advantages ostensibly inherent in co-branding strategies actually exist. The apparent advantages include *inter alia* the potential to satisfy heterogeneous consumer preferences, to contribute to repositioning or re-categorisation of existing products and brands, to introduce one product or brand's customers to other products and brands, and to improve the regulatory fit of consumers.

This research attempted to *analyse the potential for complementary competence co-branding in the beer industry* by investigating how consumers perceive and react to co-branded products. The study was conducted from a consumer derived perspective

and investigated likely brands that could feasibly be offered to the hospitality consumer.

The study reported in this thesis was a quantitative study confined to a non-probability sample of University of KwaZulu-Natal business studies students on the Pietermaritzburg campus and was conducted over the period 2011 to 2012. Students' existing perceptions and preferences were recorded with reference to real products and brands (using brand logo stimuli) that were locally available. This data was recorded as item responses on 7-point Likert scales. Thereafter the student respondents were asked to rate fictitious, undefined co-brand concepts. That is, pairs of brand logos were screened with the explanation that they represented an unspecified (surprise), innovative product/service combination. These responses were compared with the respondents' initial responses and the results were analysed. The respondents were further categorised on the basis of their average assessments (high, medium and low groups) for each constituent brand and using this classification analyses of the nine possible pairings were made (H-H, H-M, H-L, M-H, *etc.*).

The overriding objective was to record and analyse the responses of a heterogeneous group (to represent a diverse target market population) to a composite offering or "bundle of benefits" in order to explore the potential for co-branding in the beer industry.

A review of academic literature investigating branding, brand equity, consumer behaviour, marketing strategies, and strategies to leverage brand equity provided the theoretical framework for the empirical research conducted for this study. The literature review is presented in the following three chapters.

CHAPTER 2: A REVIEW OF BRANDING AND BRAND EQUITY

2.1 INTRODUCTION

The importance of brands in competitive, mature industries was outlined in the introduction. This chapter presents a review of academic literature concerned with the role and nature of brands in the context of consumer buying behaviour. Brand equity is defined and existing strategies to leverage this equity are critically evaluated. In the following chapter, chapter 3, the comparatively new research field of corporate co-branding is introduced and the various forms of co-branding alliance are described.

2.2 BRANDS AND BRANDING

A brand is a name, term, graphic representation or combination thereof that provides an identity that differentiates one product from another (Keller, 1998: 2; Kotler, 2000: 404; Puligadda, Ross and Grewal, 2012:116). For the purposes of this study Kotler's (2000: 394) definition of a product will be adopted: "A product is anything that can be offered to a market to satisfy a want or need." This generic term includes everything from physical goods to intangible services and experiences. A product in essence represents a bundle of potential customer benefits, some tangible, others intangible.

2.2.1 Product marketing

The definition of product is significant in the context of the debate on whether services marketing should be approached in the same way as the marketing of tangible goods (Williams, 2002: 23). This debate is largely circumvented when every product is considered to have an element of both *i.e.* can be represented on a continuum between tangible product and intangible service (Levitt, 1976: 117, Shostack, 1982: 49). Products that provide both tangible and intangible benefits may be termed product-service systems (PSS) (Phumbua and Tjahjono, 2012 : 425) and are also more easily differentiated (Park, Geum and Lee, 2012: 534).

The distinguishing characteristics of a service are intangibility (Hellen and Gummerus, 2013: 132), inseparability (consumption is simultaneous with provision), variability (influenced by who provides the service, where and when) and perishability or inability to be stored (Kotler and Keller, 2011: 361). Williams (2002: 28) suggested that since there is no change of ownership with a service (a benefit not an enduring product), this is a fifth characteristic distinct from intangibility.

The implication of products with both a tangible and service component is manifest in a mature market where there is likely to be a high level of competition within each product category. In a competitive market it becomes more difficult to provide stimuli that are effective at differentiating a product. Levitt (1980: 83) maintained that differentiation can always be achieved by focussing on providing increasing levels of customer benefits or added values. He described four levels that products may compete at:

1. Generic level – a basic product that has little or no competition (unlikely in developed countries)
2. Expected level – a product that conforms to purchasers' minimum requirements for attributes such as design, price and packaging (generally occurs when buyers have little experience of competing brands)
3. Augmented level – a product with additional benefits or added value unexpected by consumers familiar with the product category (required in a mature market with experienced customers when buyers begin to base purchase decisions on price only)
4. Potential level – an augmented product that needs further innovative added values as a result of existing augmentation becoming expected (a challenge to recover the increased costs)

Kotler and Keller (2011:326) termed this the customer-value hierarchy. Adding a service component to a pure product can provide additional levels of benefit in a unique or individual fashion. Raddats and Kowalkowski (2014: 31) used the term

service infusion and contended that this strategy can provide differentiation and enable growth for manufacturers.

Conversely tangible goods may be offered with a service (*e.g.* a bottle of shampoo with a haircut or a souvenir to commemorate an occasion). The combination of added values that augment and differentiate a product may also serve to make the product harder to copy by competitors (Doyle, 2002: 186).

The question arises as to whether these values are being added to the product or to the brand that represents the product. Although the brand is an identifiable product, Gardner and Levy (1955: 33), Keller (1998: 4) pointed out that it should be regarded as distinct from the product it represents. In a classic U.K. study, de Chernatony and Knox (1990: 333) described how 51% of a panel of consumers favoured Diet Pepsi *versus* 44% who favoured Diet Coke in a blind test (5% indeterminate) whereas in an open test where the brands were revealed, 23% preferred Diet Pepsi and 65% Diet Coke (12% indeterminate). Riezebos (2003: 19) recommended that the term "brand-added value" be adopted.

2.2.2 Brand components

Brands should add perceived value that better matches the rational and emotional needs of buyers or users (de Chernatony and McDonald, 1992: 18, 20). To be effective brands should have a distinct identity that is durable, coherent and realistic (Kapferer, 2012: 150). Kapferer suggested that this identity can be represented by a prism with the six facets characterising:

1. Physical attributes – the tangible added value
2. Personality – the person it would be if it was human
3. Culture – the values that inspire the brand
4. Relationship – with consumer or user
5. Reflection – image of the typical consumer or user
6. Self image – the consumer's self assessment in relation to the brand.

Furthermore the six facets of a brand should be congruent and mutually reinforcing. In turn, the product's price, promotion, any packaging and the channel of distribution should be dictated by the brand identity (Kapferer, 2012:158). Brand identity can be actively managed whereas the image of the brand created in the receiver's mind can only be influenced. Park, Jaworski & MacInnis (1986: 135) contended that consumers' perceptions of brand image are influenced not only by a firm's specific communications but by all its brand related activities. The brand image, therefore, is an individual's synthesis that arises from a decoding of all the brand messages received.

Kapferer (2012: 149) referred to the brand identity as the unique, enduring meaning which a company wishes to project while brand image is the perception of the consumer. Da Silveira *et al.* (2013: 28) preferred to see brand identity as a dynamic process co-created by brand managers and consumers while retaining core values in order to maintain stability.

According to Park, Millberg and Lawson (1991: 185) brand concepts are the brand unique image associations that evolve from the attributes, benefits and marketing activities used to translate these features into higher order meanings. Schnittka, Sattler and Zenka (2012: 265) referred to these as brand association networks and used brand concept maps to elucidate them. The brand image or concept in consumers' minds may, quite often, differ from the message that the marketer is trying to convey (Doyle, 2002:163). Ries and Trout (2001: 3) termed this influencing process positioning. Brand positioning strategy will be reviewed in section 2.3.

The characteristics of a brand, that if changed will change the product, are termed intrinsic attributes (Szybillo and Jacoby, 1974: 74). Riezebos (2003: 32) made a further distinction between what he termed non-distinguishing intrinsic attributes (the general characteristics of a product class) and distinguishing intrinsic attributes (those that differ between products in the same category or class).

The difference between product classes may be obvious (beer *cf.* wine), but intrinsic differences between products in the same category may not be readily apparent. For

example the majority of participants in a study were unable to differentiate between different brands of beer on the basis of taste and appearance when the brands were not revealed (Allison and Uhl, 1964: 36).

The brand name or logo is an extrinsic attribute that serves to distinguish a product from the products of competitors. Other extrinsic attributes of a product may be its price, packaging or country of origin (Riezebos, 2003: 34). Hoppert, Mai, Zahn, Hoffmann and Rohm (2012: 950) and Enneking, Neumann, and Henneberg (2007: 134) used conjoint analysis to evaluate consumer responses to intrinsic and extrinsic stimuli and their influence on food choice.

A branded product will comprise a number of different attributes (both intrinsic and extrinsic) that the consumer will evaluate in order to make a purchase decision. The process of consumer evaluation will be reviewed in section 2.2.4 in terms of consumer behaviour. According to Brunswick (1955: 193) consumer evaluation essentially involves consumers subconsciously developing a hierarchy of attributes based on a ranking of attributes that they judge to be important and relevant to their needs. As the process is individual, the value or utility of different attributes will vary with consumer.

In addition to consumer behavioural factors, the nature of the attributes may influence the evaluation process. Nelson (1970: 311; 1974: 729) distinguished between search and experience intrinsic attributes. Search attributes are those attributes that a consumer can evaluate before purchase whereas experience attributes must be evaluated through use of the product. Riezebos (2003: 40) recognised that every product may have both search and experience attributes and so proposed that "perceptible" replace search and "imperceptible" replace experience with the former terms now attached to entire products. Therefore the most important intrinsic attributes of a search product will be perceptible and those of an experience article will be imperceptible. Furthermore he suggested that extrinsic attributes will have a greater influence on consumers' evaluation process with experience articles than with search. The implication is that brand name (an extrinsic attribute) will exert a greater influence on the evaluation of an experience product such as beer.

Management should predetermine the meaning of a brand or what the brand represents. Park *et al.* (1986: 135) described this as brand concept selection, derived from intended buyer or consumer needs. Furthermore certain brand names may be associated with more than one product (line and brand extensions will be reviewed in subsequent sections).

2.2.3 Brands and consumer needs

Three categories of consumer needs have been described. Consumption related needs, termed functional needs (Keller, 2012: 187, Fennel, 1978: 38), require problem solving, functional brand concepts. Symbolic needs relate to individuals' need for self-enhancement and membership of a group, with a symbolic brand one that seeks to create an association between the individual and a desired group, role or self-image (Kotler and Pfoertsch 2010: 23, Park *et al.*, 1986: 136, Keller, 1998: 8). The desire for an enjoyable or interesting experience is termed an experiential need and brands that provide stimulation and represent variety are appropriate (Zarontello and Schmitt, 2010: 533, McAlister, 1982: 141, Holbrook and Hirschman, 1982: 132).

Brands may provide consumers with benefits in all three categories. Keller (1998: 311) used the example of Levi's 501 brand of jeans. Functional benefits include high quality and durability, symbolic benefits may be a contribution to feeling self-confident and self assured and experiential benefits may be a comfortable fit that is relaxing to wear. From a marketing perspective however, developing and managing a brand image that offers a mixture of benefits will complicate positioning of the brand and expose the brand to a greater number of competitors (Park *et al.*, 1986: 136).

Orth and De Marchi (2007:230) commented on the need for experiential benefits to reinforce consumers' preconceptions of functional benefits: a sweet taste experience of a fruit beverage was in conflict with the requirement for a healthy function for the drink. These authors suggested that focussing on the symbolic benefits of a brand may evoke a more enduring belief and provide a greater competitive advantage than advertising functional and experiential benefits.

2.2.4 Consumer behaviour

As competition represents a contest between related products to provide a target market with the most attractive benefits, an understanding of consumers' assessment and evaluation process is important. Blackett and Russell (1999: 5) cited Carl Jung's^a theory that the four functions of the mind are thinking (use of logic), sensing (perception of phenomena), feeling (in the context of emotions) and intuition (the ability to sense the intangible). These four functions enable consumers to measure subjectively the overall appeal of the combined benefits of a product.

Knowledge of consumers' perceptions and attitudes is central to understanding, predicting and controlling their responses. A review of the behavioural science literature would provide a thorough understanding of consumer interpretation and response mechanisms but was considered to be beyond the scope of this study. However, the following aspects considered important in a marketing context have been extracted from MacDonagh and Weldridge (1994).

Perception represents individuals' interpretation of stimuli in their environment. To be meaningful a stimulus should exceed a threshold level, be differentiable from other stimuli and habituation should not occur. Both external and internal factors or "cues" that correspond with different stimuli influence the likelihood of the stimuli being noticed. External factors include:

- a. Size- a larger stimulus is more likely to attract attention
- b. Intensity- brighter, louder
- c. Contrast- in relation to background
- d. Novelty- unusual, unexpected or unique
- e. Repetition- to reinforce but not to the extent of habituation
- f. Movement- attracts attention

^a Carl Jung (1875-1961) founded the analytical school of psychology.

The internal cues or variable factors characteristic of a consumer that may have an important influence on that consumer include:

- a. Past experience
- b. Response salience- the tendency to react to that which is most relevant
- c. Response disposition- the tendency to react to that which is familiar

MacDonagh and Weldridge (1994: 80) defined attitude as "the inclination to perceive, interpret and evaluate ... in a certain manner". The three major components of attitude are:

- a. Cognitive component- an individual's knowledge and perceptions of an object where thought processes are used to believe/disbelieve
- b. Affective component- an individual's overall evaluation in terms of emotions and feelings^b
- c. Co-native component- an individual's readiness to respond

The range of scales that have been developed to measure attitude may test an attitude explicitly (the respondent is aware of what is being tested) or may use a latent scale (the respondent doesn't know what attitude is being examined). The scales may be differential (agree, disagree, don't know) or responses may be scored and added for each respondent to give cumulative scores that may be compared.

The outcome of a consumer's cognitive processes is to judge what category a product belongs to. Functionally, this grouping of similar products enables more efficient information processing and evaluative judgements (Jewell and Saenger, 2014: 1560), Cohen and Basu, 1987: 455). In addition consumers are able to infer hidden or obscure attributes intuitively (Broniarczyk and Alba, 1994a: 214).

^a Zajonc, 1980: 151, maintains that this is mostly an immediate, precognitive judgment and therefore capable of influencing subsequent cognitive processes

2.3 BRAND POSITIONING STRATEGY

In the previous section brands and branding are reviewed in the context of consumers' needs and buying behaviour. The following section takes a firm-based perspective and provides some insight into strategic brand management.

Ries and Trout (2001: 3) defined positioning as "How you differentiate yourself in the mind of your prospect". Kapferer (2012: 152) noted that there are two sides to this process; the brand identity conceived and developed on the sender's side and the brand image on the receiver's side. A brand image is a perception that has been created and managed by marketers (Park *et al.*, 1986: 136). Riezebos (2003: 53) pointed out that Ries and Trout saw price as an outcome of positioning whereas it may be a determining factor. He contended that brand positioning has a price dimension and an intrinsic dimension that relates to the benefits that the brand has to offer.

Positioning strategies are crafted from a consumer or receiver perspective whereas brand strategies are devised from a producer perspective. Brand strategy according to Riezebos (2003: 17) has two parameters, differentiation and added value. The added value refers to the premium that consumers may be prepared to pay in comparison with an unbranded item. Brand strategy is an extension of corporate competitive strategy.

Thompson and Strickland (2003: 151) adapted Porter's competitive strategy matrix by combining the two dimensions of cost leadership and differentiation to produce a strategy they term best-cost provider. The strategy requires a brand to be perceived by consumers to have the same or better attributes than competing brands, but to cost the same or less than competitors' brands. This may be a prerequisite in mature, competitive industries.

An equally important positioning question is whether to target a broad cross section of buyers (mass market) or a niche market (Porter, 1985:255; Walker, Boyd, Mullins,

and Larreche, 2003: 167). An alternative would be to target several niche markets simultaneously. A best-cost strategy lends itself to the latter.

Doyle (2002: 84) stressed that the position a brand occupies in the mind of a prospect is not absolute but is relative to the offerings of competitors. He envisaged the position as representing the culmination of a prospect's evaluation process that involves two axes: perceived quality on one and cost on the other. In a segmented market he places the economy segment close to the origin (low cost, low perceived quality), extending out through mass-market, premium and luxury segments. By inference, an effective positioning strategy in a mature, competitive market segment would require the offering to have slightly more attractive features or attributes than competitors, but at the same or a lower price. Targeting a range of sub segments of the premium market segment is thus the equivalent of a least cost provider strategy.

Pre-emptive moves (MacMillan, 1983: 16) and synergy are generally discussed in terms of operational and marketing strategies but as Aaker (1992: 8) asserted, being the first brand in a category and optimising shared resources with other business units can contribute significantly to developing a brand with a sustainable competitive advantage. Vishwanath and Mark (1997: 123) maintained that "continuous differentiation through innovation" is the key to success of "high road" brands or ones with a ROI of more than 20%.

2.4 BRAND EQUITY

In section 2.2 the nature and role of brands from consumers' perspectives was reviewed. Section 2.3 assumes a firm-based standpoint and provides some insight into brand positioning strategy and its role in strategic brand management. This section examines the added value represented by brands. A customer-based perspective (after Keller, 1993:1) is adopted for two reasons. Firstly, customers' responses to the marketing of a brand are the determinants of brand equity, while the extent to which the needs and wants of consumers are satisfied by a brand (relative to competing brands) provides a further determinant of the brand's equity.

2.4.1 Definitions

Essentially brand equity refers to the value that may be attributed to consumers' reactions to a brand, as compared with a hypothetically identical product that is unbranded (Keller, 1998: 43). More specifically, Aaker (1991: 15) defined brand equity as:

"A set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers".

He described five components of brand equity and indicated that together they provide value to both customers and the brand holder (see Figure 2.1).

Riezebos (2003: 269) was critical of this model as it does not distinguish between the components that represent "consumer-based brand equity" and "producer-based brand equity". An alternative is graphically illustrated in Figure 2.2 and indicates how the magnitude of the brand-added value (to the consumer) will translate into brand equity (of the brand owner).

Essentially, brand equity is represented by consumers' knowledge of the brand and may be considered in terms of consumers' brand awareness and the brand image that has been created in consumers' minds (Keller, 1998: 50). Brand awareness consists of brand recognition and brand recall or a prompted (cued) recollection of the brand. The brand image is a consumer's perception of the brand as reflected by the mental associations the brand inspires (*e.g.* service, quality, value, convenience, *etc.*).

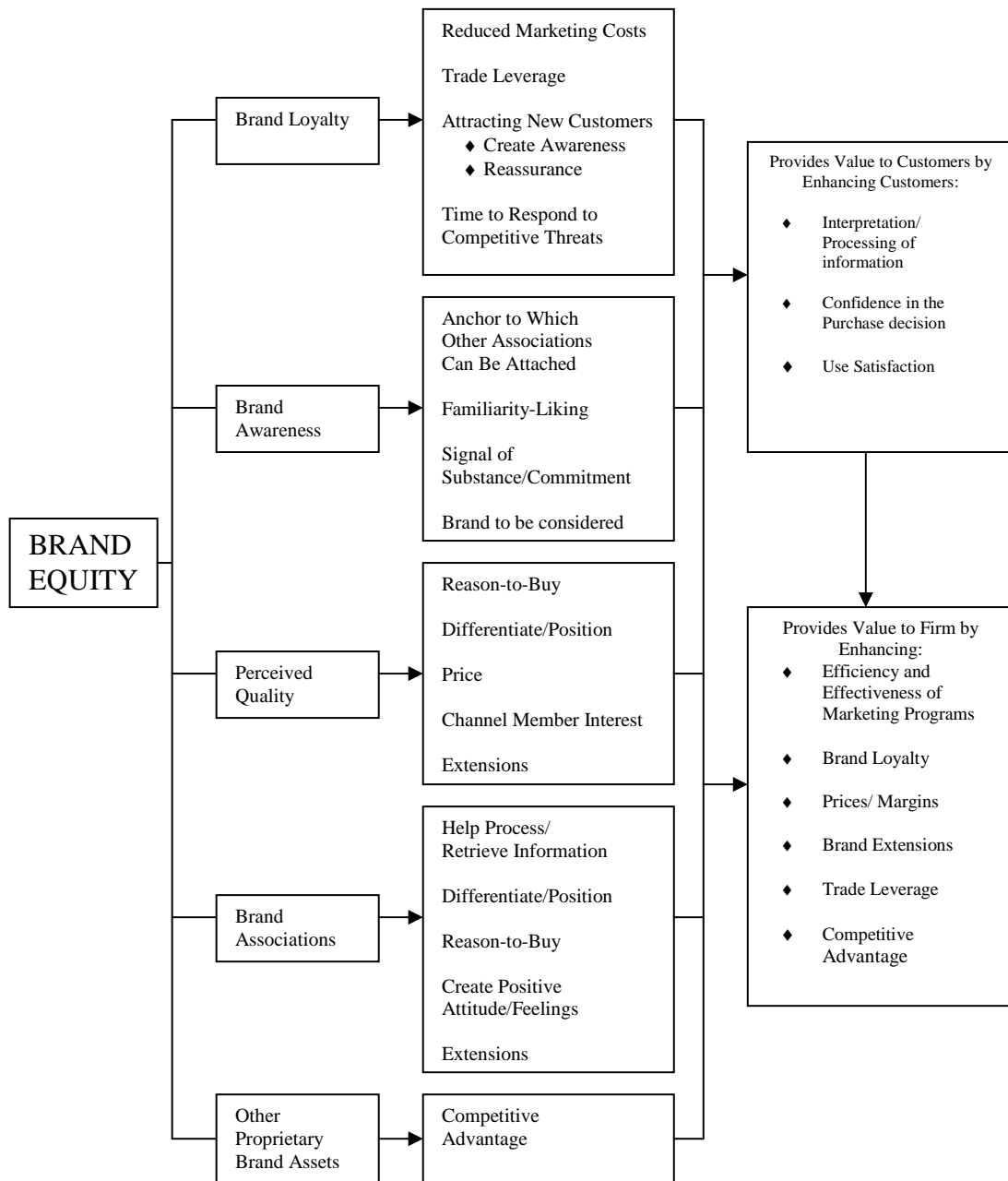


Figure 2.1 The components of brand equity (Aaker, 1991:269)

Since brand equity is driven by the added value which customers derive from their experience of a product or service, Helm and Jones (2010:587) proposed that brand equity is co-created by the firm and its customers when a consistent brand experience is delivered.

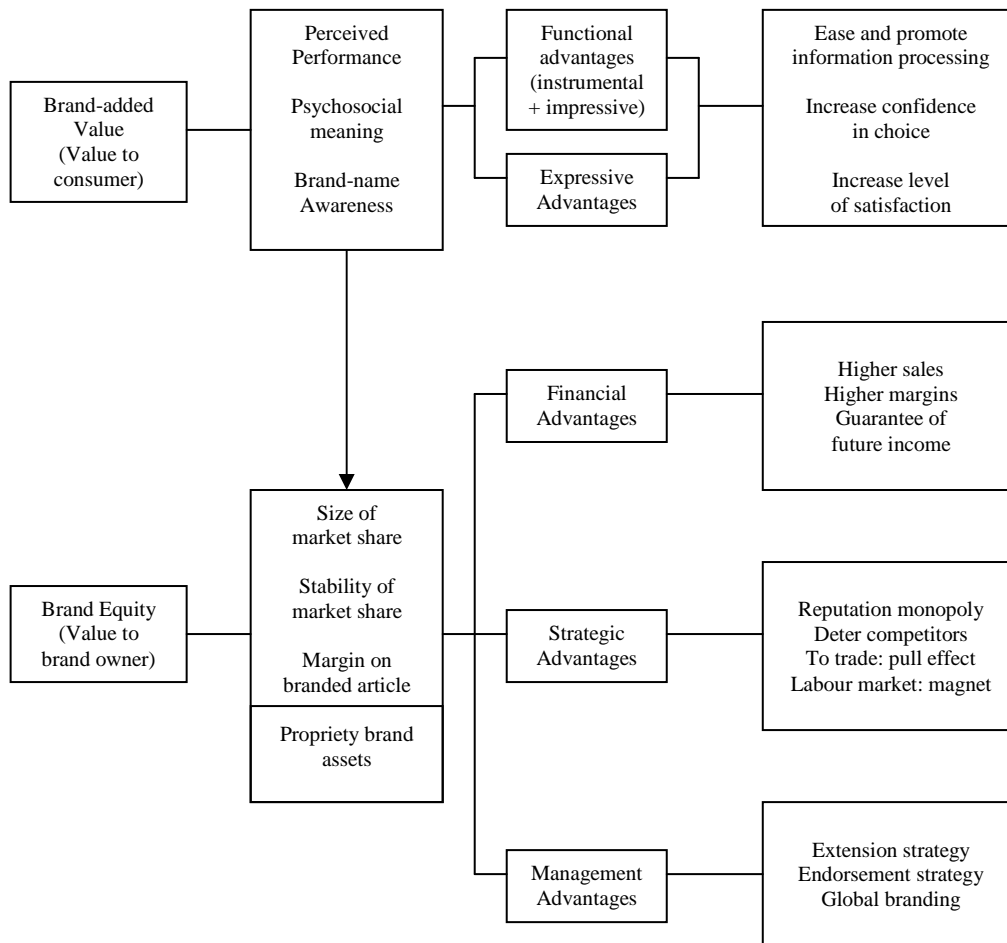


Figure 2.2 Components of brand added value and brand equity (Riezebos, 2003: 271)

2.4.2 Measuring brand equity

According to Riezebos's model, illustrated in Figure 2.2, there are four components to brand equity or value to the brand owner. Keller (1998: 368), however, described two approaches to measuring brand equity. The first approach, termed separation, includes residual methods that subtract tangible values from the total valuation, or comparative methods that compare branded products with unbranded products. The second approach, termed integration, uses either subjective valuation methods or subjective methods that assess value in terms of consumer perceptions.

The extent to which consumers attribute added value to the brand may be expected to drive the size of the market share. The stability of the market share is largely a function of repeat purchases, which returns to Aaker's component of brand loyalty.

The margin that can be realised on a branded product is a further component of brand equity that can be attributed to customers' perceptions of brand added value. The value of proprietary brand assets is a more indirect reflection of brand added value and is largely dictated by the retail trade.

Doyle (2002: 184) described five methods of valuing brands. These value the price premium afforded by the brand, the increased market share, the replacement cost, the share market valuation or the future earnings. Essentially all valuations of brand equity will represent a prudent accounting compromise between objective and subjective valuations. Kotler and Keller (2011: 255) proposed that brand equity can be measured indirectly by assessing consumers' knowledge of brands or directly by their response to marketing.

Yoo and Donthu (2001: 11) developed a scale for measuring consumer-based brand equity. They proposed that this scale would allow researchers to study the antecedents of brand equity (e.g. consumption experience) and to evaluate marketing strategies, such as co-branding.

2.4.3 Leveraging brand equity

Kotler (2000: 413) recorded five brand strategy options. Three of these strategies may be used to leverage a firm's brand equity: *line extensions*, *brand extensions* and *composite brand extensions* or *co-brands*.

Line extensions extend the same product category by adding new flavours, forms, colours, ingredients and package sizes using the same brand name. South African Breweries, for example, have 14 brands but 51 brand/pack combinations (McLoughlin, 2001: 1).

Brand extensions rely on an existing brand to sell products in different product categories. The assumption is that consumers' liking for the original brand will be transferred to the new category product (Kapferer, 2012: 269). Brand affect (how much consumers like the original product) and how similar the extension product is to the original may be expected to influence the level of success of the extension. As

Broniarczyk and Alba (1994: 214) demonstrated, brand-specific associations (*i.e.* attributes or benefits specific to a particular brand) may be the most important factors in the success of an extension. Tauber (1988: 26) estimated that 66% of all successful brands had originated in either line or brand extensions.

A third strategy to leverage brand equity differs from conventional brand extension in that more than one brand is used for the extension product. Park, Jun and Shocker (1996: 453) investigated the effectiveness of combining two existing brand names to create a composite brand for a new product. They termed this strategy composite brand extension and cite as an example a fictitious chocolate cake mix as the extension product. The authors suggested that a cake mix could be produced by Slim-Fast (a real brand) and Godiva Chocolates (another real brand). Slim-Fast produces diet food products for the mass market and distributes widely. Were they to produce a cake mix, the consumer perception could well be that the product would be bland and tasteless. Godiva on the other hand has a reputation for exceptional taste and upmarket boxed chocolates sold through a limited number of distribution outlets.

A composite brand extension of Slim-Fast and Godiva to a cake mix may result in a range of outcomes. Conceivably, consumers could perceive that the cake mix would be tastier than if the Slim-Fast brand alone was extended and that they would further assume that the cake mix would contain less fat and calories than if Godiva alone was extended. Other benefits could be that Slim-Fast would subsequently be more successful extending its brand to other products and that Godiva would enjoy a healthier image.

Merchandising may be considered as a further brand leveraging strategy. This strategy incorporates elements of both brand extension and composite brand extension in that one brand is used to promote another product. The strategy differs from composite brand extension (CBE) in that the emphasis of (CBE) is on creating mutual advantages rather than merely stimulating the sales of another otherwise unrelated product (Riezebos, 2003: 97).

A fundamental difference between composite brand extension and conventional brand extension strategies is that composite brand extension is based upon corporate alliance and mutual cooperation. With brand extensions a *single brand* is used to market *one or more new products*, whereas with composite brand extension, *two or more brands* are used to market *one new product*. A successful composite brand extension endeavour may conceivably be extended subsequently for the purposes of simple brand extension from the primary composite brand extension.

2.5 DISCUSSION

The branding literature provides a framework within which the strategy of co-branding and its potential value can be assessed. Theories of consumer behaviour provide a basis on which to build an understanding of how people react to different branding strategies and how they might assess a new product.

The adoption of brand equity as an estimate of the value of a brand is widespread, but the scales used to measure it are necessarily open to debate, given the intangible nature of this concept. When unknown brands are considered, their brand equity may be non-existent but consumers may rapidly develop preferences based on the context in which these brands are presented. Hence a different evaluation may be required.

Without, as yet, a body of co-branding research to turn to, reference to research in other related fields may be useful. Literature describing brand extension research is extensive and provides the theoretical basis for an understanding of composite brand extension or co-branding. A review of the brand extension literature providing a theoretical framework in support of the research conducted in this empirical study is presented in Chapter 3. Chapter 4 will review the literature describing the comparatively new field of composite brand extension, now termed co-branding. Co-branding as a contemporary business strategy has received considerable support and is widely reported (5,370,000 hits were recorded in a Google search for co-branding, 2/1/09). However, there is a paucity of research that investigates the theoretical principles that underpin co-branding strategy.

CHAPTER 3: CONSUMER RESPONSE TO BRAND EXTENSIONS

3.1 INTRODUCTION

Extensive research has been conducted in the area of brand extensions. As stated in the previous chapter (2.4.3), brand extensions involve a *single brand* being used to market *one or more new products* whereas co-branding requires *two or more brands* to market *one new product*. This chapter reviews brand extension literature and consumer responses to brand extensions.

The focus is primarily on research in the field of brand extensions but reference is also made to consumer responses to innovation and new product features, the role of regulatory fit, conjoint analysis and other areas related to consumer behaviour research. The review is conducted in order to develop a theoretical basis for understanding potential consumer responses to co-branding strategies. In terms of anticipated consumer response to brand extensions and co-brands, a number of similarities may be expected but equally a number of fundamental differences may be expected to emerge from empirical studies of co-brands.

3.2 OVERVIEW OF BRAND EXTENSIONS

The use of well known brand names to introduce new products is termed brand extension (Tauber, 1981: 36; Aaker and Keller, 1990: 27; Klink and Smith, 2001: 326). When the brand name or identity that has proved successful in one market or channel is used to promote a product in a very different category this may be termed brand “stretching” (Doyle, 2002:174). Keller (1998: 268) contended that brand extensions leverage secondary brand associations thereby building brand equity. The premise is that consumers’ attitudes toward the parent brand will be transferred to the brand extension. Consumer evaluation of the attractiveness of the extension is based on available cues (Broniarczyk and Alba, 1994: 214).

An important aspect of brand associations is the strength and direction of the association between the product category and the branded product. Dominance is

used to describe the strength of the association (Herr, Farquhar and Fazio, 1996: 135) with the strength of the category-to-brand association termed category dominance and the brand-to-category association termed instance dominance. Category dominance exists when mention of a product category evokes a particular brand, and instance dominance exists when mention of a certain brand evokes a particular category. For example, the manifestation of strong category dominance is a brand that, relative to competing brands, “can be named earlier, recalled more frequently, classified faster and recognised sooner” (Herr *et al.*, 1996: 138).

The potential implication of the strength and direction of brand associations in the brand extension context is that category dominance may improve the transfer of parent brand properties to the brand extension whilst also reducing the likelihood of negative impressions of the extension adversely affecting the parent brand. With instance dominance however, consumers may be reluctant to accept the veracity of an extension.

3.3 FACTORS AFFECTING THE SUCCESS OF BRAND EXTENSIONS

A number of factors that may contribute to the success (or failure) of brand extensions have been proposed. The potential effects of these success factors have been categorised by Völckner and Sattler (2007: 149) and Fedorikhin, Park and Thomson (2008: 281). A proposed success factor, for example, is the strength of the parent brand name. The suggested effect of a high quality parent brand is that consumers’ attitude transfer from the parent brand to the extension will be higher than if the parent brand quality was low. The success factors and the main effects reviewed by Völckner and Sattler (2007: 150), and Fedorikhin *et al.* (2008: 281) will be described in the following subsections.

3.3.1 Similarity effect; perceived fit (conceptual similarity) between a parent and extended brand

Aaker and Keller (1990: 29) suggested that an important determinant of extension success is consumers' assessed similarity or perceived fit between the original and extension product classes. The greater the similarity between two products, the greater the extent to which knowledge and affect may be expected to be transferred from the more familiar object to the less well-known object. Perceptual fit is defined as the extent to which "a consumer perceives the new item to be consistent with the parent brand". The suggested importance of fit is consistent with several theoretical perspectives such as categorisation theory described by Cohen and Basu (1987: 456) and Carter and Curry (2013:254).

As Lee and Hyman (2008: 219) contended, degree of fit is a complicated construct to assess in brand extension research. Various dimensions have been used to define degree of fit. Tauber (1981: 38; 1988: 27) suggested concept consistency and logicalness. Aaker and Keller (1990: 30) developed three dimensions of fit; *complementarity* or the extent to which consumers view two product classes as complementary, *substitutability* or the extent to which consumers view two product classes as substitutes and *transferability* or the perceived ability of a firm to make the extension product. A review by Martin and Stewart (2001: 472) summarised definitions of fit as being either *feature based*, *usage based*, *brand concept based* or *goal based*. The various definitions of fit are generally operationalised (measured) as product category similarity. Estes, Gibbert, Guest and Mazursky (2012: 87) proposed a dual-process model which divides this similarity into taxonomic (common features) and thematic relations (resulting from two product classes featuring in the same scenario or event, *e.g.* pizza and beer).

The findings of these and similar studies (Boush and Loken, 1991: 16; Keller and Aaker, 1992: 35; Smith and Park, 1992: 296) provide general support for the importance of fit. The implication is that low perceived fit will result in few of the parent brand positive associations being conveyed to the extension product. Yet it should be expected that *a priori* determination of fit dimensions does not guarantee

successful brand extension (Ambler and Styles 1996: 10; Carter and Curry, 2013: 257).

Although studies have shown that perceived fit between parent and extension products is important, Klink and Smith (2001: 327) pointed out that there are a number of brands that have successfully been extended to perceptually dissimilar product categories. Their study indicated that three factors may contribute to increased acceptance of an extension product. They suggested that providing increased attribute information may reduce brand name effects and that fit effects are only relevant to later product adopters rather than early adopters. Furthermore, they observed that with increased exposure to an extension, consumers were able to identify more shared attributes (with perceived fit then increasing). The potential implications of these observations should be taken into account in brand extension research, research design and in terms of the external validity of research results. The role of communication and the impact of communication strategies on consumers' response to brand extensions will be discussed in section 3.3.4 below.

Two aspects of parent and extension similarity or fit were distinguished by Park, Milberg and Lawson (1991: 185): product feature similarity and brand concept consistency. Brand concept consistency was defined in terms of prestige brands and functional brands. On this basis they concluded that for both function-oriented and prestige-oriented brands, the most favourable consumer evaluations occur when brand extensions are made with high brand concept consistency and high product feature similarity. However, they found that when a parent brand's concept is consistent with its extension, if there is low feature similarity, a prestige brand seems to receive a more favourable evaluation than a functional brand. On this basis it may be reasonable to expect, for example, that should SABMiller (Pty) Ltd. extend a beer brand to mineral water (extension product with low feature similarity) their Peroni brand (a prestige brand) would be more successful than their Castle brand (a more functional brand).

Carter and Curry (2013: 256) also distinguished between functional fit (common physical features) and image fit, with the latter relating to brand associations including prestige and value.

Usage-based similarity may exist even when product features or attributes are entirely dissimilar, for example Kodak cameras and Kodak film or Gillette razors and Gillette shaving foam (Martin and Stewart, 2001: 472). The measurement of similarity in this instance would focus on assessing the occasions when both products are used. In a co-branding context a Castle Lager beer based marinade or sauce produced by SABMiller (Pty) Ltd and Mrs Balls chutney (Unilever Foodsolutions South Africa (Pty) Ltd) may be perceived as two brands now having high usage-based similarity. Ratneshwar and Shocker (1991: 281) defined goodness-of-fit as the appropriateness of each product in a particular usage context. As a result, Martin and Stewart (2001: 473) proposed that measures of feature similarity and usage similarity should not be regarded as corresponding representations of similarity but rather as separate measures that have fundamental, distinct and orthogonal constructs.

In a consumer research context goals are abstract benefits that consumers seek and are provided by attributes of appropriate products. Research conducted by Huffman and Houston (1993: 190) showed that acquisition of information by consumers was directed by their goal orientation. The concept of goal orientation suggested to Ratneshwar, Pechmann and Shocker (1996: 240) that consumers' categorisation processes are goal-derived. The implication of goal derived categorisation may be particularly important in a brand extension context. Martin and Stewart (2001: 474) observed that product similarity, when measured on the basis of goal similarity, will incorporate and link the other three approaches *i.e.* feature based, usage based and brand concept based measures of fit.

Martin Stewart and Matta, in a further study (2005: 278) which repeated aspects of their 2001 study, determined that "goal congruency between a parent brand and an extension category [has] greater explanatory power (accounts for more variance) in measures of attitude and purchase intent toward a brand extension than traditional measures of perceived similarity" *i.e. versus* feature/attribute based, usage based or

brand concept based. The study clearly demonstrates (2005: 289) that consumers' goal congruency will result in an increased likelihood of consumers transferring knowledge and affect from a parent brand to an extension product.

As described previously (section 2.2.3 above), three categories of consumer needs have been described; functional, symbolic and experiential. Holbrook and Hirschman (1982: 92) defined the experiential facets of consumer behaviour that relate to multisensory, fantasy and emotive aspects of product usage experience as hedonic consumption. Hedonic consumption may involve consumers' symbolic and experiential needs. Lee and Hyman (2008: 221) replaced the construct of degree of fit with one of congruity and focussed on hedonic versus functional considerations when investigating the extension of retail store private label brands. They contended that fit is only an indirect assessment of consumers' beliefs about the interrelatedness of product categories whereas congruity focuses directly on consumers' beliefs. They employed schema theory as a framework to understand consumers' responses.

Schema theory, explained by Goldstein and Chance (1980: 47), speculates that when consumers are presented with new information they will process this information according to its congruence with an associated schema or cognitive framework. Consequently when linking an object to a schema (by relating the object's characteristics to the contents of the schema) the extent to which the attitudes and beliefs will transfer from the schema to the object will depend on the level of congruence. Lee and Hymans' study (2008: 229) concluded that when hedonic (or functional) beliefs about a retail store were congruent with an hedonic (or a functional) extension private label brand, the hedonic (or functional) brand will be more successful. One may conclude that this empirical evidence supports an obvious contention; hedonic stores or brands should produce hedonic extensions and functional stores or brands should produce functional extensions. In a co-branding context however, potential implications are less certain; should, for example, contributing brands all be either hedonic or all functional?

The validity of a bi-dimensional (hedonic/utilitarian) approach to understanding consumer attitudes was demonstrated by Batra and Ahtola (1991: 159) with regard to

specific brands and Crowley, Spangenberg and Hughes (1992: 240) who focussed on product categories. The latter authors indicated that inherent differences may exist between consumer attitudes toward *brands* versus *product categories*. For example the attitudes of student consumers to the alcoholic beverage category may be hedonic (sensory gratification) but to a high strength/alcohol brand utilitarian or functional (“expectation of consequences”). As Crowley *et al.* (1992: 248) observed, this dichotomy has interesting implications with regard to advertising effectiveness, for example.

Visual art used as a tool to increase hedonic potential and hence to support a brand extension was investigated by Hagtvedt and Patrick (2008: 212). Paintings by artists such as Monet and Turner were employed to represent both fictitious and real brands. The studies indicated that firstly, art (or works perceived by respondents to be art) confers “an impression of luxury, prestige, and high class on the brands with which it is associated” and secondly, “facilitates cognitive flexibility”. From this, the authors concluded that the presence of art “enhances brand image and perceptions of category fit, and through these effects increases overall brand extendibility”.

Broniarczyk and Alba (1994: 214) questioned whether existing studies had ignored the effect of brand affect, as only one brand from each category was extended. Their study attempted to disentangle category effects and they concluded that brand-specific associations dominated category similarity (fit) and how well-liked the parent brand was (brand affect), particularly when consumers’ knowledge of a brand is high. More recent studies (Barone, Miniard and Romeo, 2000: 386; Bottomley and Holden, 2001: 494; Zhang and Sood, 2002: 129; Boisvert, 2011: 543)) acknowledged the importance of brand specific associations.

Dawar (1996: 190) examined how brand knowledge and context influenced the retrieval of product associations and the resultant effects on consumers’ evaluations of brand extension fit. He argued that brand breadth may be defined in terms of both the number and variability of products marketed under that brand and the brand’s strength of association with the different products. Context was manipulated by asking respondents questions that related to the products under consideration. For

example the Lux brand is associated with a number of products, but by asking respondents questions such as “How frequently do you wash your hands everyday?” the context of soap is introduced. He found that when brands were associated mainly with a single product, brand knowledge and context interact to influence evaluations of fit for extensions to products weakly associated with the brand. More predictably, with brands strongly associated with more than one product, context influences evaluations of brand extension fit.

A study by Bhat and Reddy (2001: 111) suggested that consumers initially are likely to assess an extension on the basis of their knowledge of the parent brand and that similarity between the product categories is unimportant. Furthermore, the study suggested parent brand attribute associations were more important than parent brand affect in contributing to consumers’ evaluation of an extension. The implication of this finding, if it is indeed valid, is that consumers may not necessarily favour the parent brand but may develop a favourable attitude towards the extension on the basis of the parent brand attribute associations. An example could conceivably be non-beer drinking consumers who respond favourably to a Heineken Natural Mineral Water brand extension.

Maoz and Tybout (2002: 119) identified a moderating role of involvement and differentiation in the evaluation of extensions. They found that a congruent brand extension is judged more favourably than either a moderately incongruent extension or an extremely incongruent extension, but only when involvement in the task is low. When involvement is high, a moderately incongruent brand extension may be judged more favourably than a congruent one if the extension is undifferentiated. If the extension is differentiated, the differentiation may provide a basis for favourable evaluation irrespective of the level of congruity with the parent brand. In effect a moderately incongruent brand extension may be evaluated more favourably than a congruent or extremely incongruent brand extension. These findings were supported by Walchli (2007: 950) in a study of between-partner congruity in the context of co-branding.

3.3.2 Brand name effect; brand affect, strength of the parent brand and brand-specific associations

The second effect identified by Aaker and Keller (1990: 28) that may influence consumers' evaluation of an extension is the beliefs and attitudes they hold towards the parent brand. The assumption is that if consumers hold positive beliefs and favourable attitudes toward the parent brand, these positive associations will engender a similar evaluation of the extension. A corollary was proposed for negative perceptions of the parent brand.

How much a brand was liked in its original category (brand affect) and the similarity between the parent and extension category have been generally accepted as two key factors in differentiating between successful and unsuccessful brand extensions. Herr, Farquhar and Fazio (1996: 136) suggested that a related construct, the extent to which the parent brand dominates its category may prove a potential limitation in that consumers may cognitively limit the brand's extendibility to other product categories.

Völckner and Sattler (2007: 150) in their categorisation of extension success factor effects included quality and record of previous extensions as brand name effects. Smith and Park (1992: 296) found that if the perceived quality of the parent brand was high, attitude transfer to the extension was greater. This was confirmed by Hagtvedt and Patrick (2009:616) in their study of brand extensions with luxury and value brands. They attributed the greater extendibility of luxury brands to their greater hedonic potential. If the breadth of the parent brand was high (Boush and Loken, 1991: 16) or the number of previous brand extensions of the parent was high (Dacin and Smith, 1994: 229), then the attitude transfer to the extension was greater too. Similarly, Dawar and Anderson (1994: 119) found that if previous extensions were positioned towards the proposed extension then attitude transfer to the extension was greater.

According to Fedorikhin, Park and Thomson (2008: 281) researchers have investigated affect in terms of attitude (Boush and Loken, 1991: 215; Broniarczyk

and Alba, 1994: 214) and mood (Barone, 2005: 263) but not in terms of consumers' attachment to brands. Fedorikhin *et al.* (2008:290) demonstrated that consumers' emotional attachment to a brand exerts greater influence on their behaviour (in terms of purchase intentions, willingness to pay, word-of-mouth and forgiveness) than either level of fit or brand attitude. However this effect was greater at high and moderate levels of fit, but not at low levels (section 3.3.5 below discusses interaction effects between potential success factors). The study suggests that if, for example, Heineken was to extend the brand to a reduced alcohol beer (high degree of fit), a mineral water (medium fit) and a savoury snack (low fit), consumers emotional attachment may be transferred to the first two extensions but not the latter.

Kapferer (2012:292) asserted that a brand must have a strong intangible identity if it is to transfer value to a wide range of extensions.

3.3.3 Uncertainty effect; quality uncertainty regarding the product category of the extension

The third effect representing a potential success factor investigated in Aaker and Kellers' (1990: 30) seminal work was the perceived difficulty of making the extension. The authors postulated that if a brand extension was perceived by consumers to be easy to make or as being trivial, they may reject the extension as being incongruent or exploitative (costing more than could be justified). Conversely, if consumers' perceptions were that the extension involved difficulties in design or manufacture, then there would be greater attitude transfer from the parent brand to the extension. Both Aaker and Keller's study and a subsequent study by Sunde and Brodie (1993: 47) supported this hypothesis.

The results of a study conducted by Bottomley and Doyle (1996: 365), who repeated the test, did not support earlier findings. Bottomley and Holden (2001: 494) suggested that previous studies suffered from high levels of multicollinearity and reanalysed multiple data sets using a residual-centering approach. On this basis they concluded that the perceived difficulty of making the extension does influence consumer evaluations of brand extensions. Echambadi, Arroniz, Reinartz and Lee

(2006: 255) questioned the validity of the residual-centering approach. Using appropriate statistical techniques they re-analysed Bottomley and Holden's study and their empirical generalisations based on their secondary analysis of eight studies (Aaker and Keller's original study and seven other close replications). They concluded (2006: 258) that the perceived difficulty of making an extension did indeed have a significant positive relationship with extension evaluations thus supporting Aaker and Keller's original hypothesis that consumers are less likely to accept easy-to-make extensions.

Kardes and Allen (1991: 393) distinguished between existing brands used to promote a wide variety of products (so called umbrella brands) and brands, positioned at the other end of the continuum, associated with a single product (niche brand). They suggested that consumers' perceptions of an umbrella brand's ability to enter a new market would be greater than that of a niche brand as the manufacturer would be more likely to have the requisite resources and skills. They further argued that if perceived variability of existing products in an extension category was low, attitudes to the parent brand would generalise more readily to the extension. If perceived variability is high they maintained that generalisation from the parent brand to the extension product would be more difficult and consumers would be unable to make predictions about the quality of new brands. They maintained that since perceptions of variability are lower for unfamiliar categories and for abstraction based (as opposed to instance-based) categories, greater generalisation will occur for unfamiliar and for abstraction based categories. In their study they focussed on perceptions of quality as one key dimension of variability.

Völckner and Sattler (2007: 156) re-examined Kardes and Allens' conclusion (1991: 397) that "when the perceived variability of existing products in an entry category is low, there appears to be some opportunity for brand leverage". Völckner and Sattler stated that "attitude transfer from the parent brand to the brand extension is greater if the variance in quality across the products of the extension's product class is high" and tested this hypothesis across seven extension categories. In only one category (dairy products) was the result significant ($p < 0.01$).

3.3.4 Other success factor effects

Several researchers have investigated a range of other potential effects that may contribute to extension success. Smith and Park (1992: 309) in a survey of 188 product managers in consumer goods companies found that both market share and advertising efficiency were reduced when the extension belonged to a product category for which a substantial segment of the market had considerable product class knowledge or the products comprised primarily search attributes. Conversely, if consumers' knowledge of the product class of the extension was low, the attitude transfer from the parent brand was greater.

Reddy, Holak and Bhat (1994: 257), in a study of line extensions, found that line extensions supported by firm advertising and promotion were more successful than those receiving little support. Company size and marketing competence were also implicated in an extension's success. The role of communication strategies in enhancing perceived fit through the establishment of explanatory links was tested by Bridges, Keller and Sood (2000: 3). They contended that in certain situations consumers may overlook relevant brand associations or may not perceive salient brand associations to be meaningful. They sought to test whether communication strategies that emphasise explanatory links between parent brands and their extensions could improve consumer perceptions of the extensions.

Two strategies were employed and it was found that both these strategies resulted in increased perceptions of fit. The authors concluded (2000: 10) that "the most effective communication strategies for brand extensions will be those that recognize which associations would already be salient from the parent brand and highlight those associations which would otherwise be overlooked or misinterpreted in the extension context." Furthermore, they suggested that communication strategies that increase the salience or credibility of explanatory links will increase the number of potential extension categories for a particular brand.

Meyvis and Janiszewski (2004: 347) proposed that since brand extension success amongst consumers is influenced by the collection of benefit associations specific to

different brands, the accessibility and “diagnosticity” of the associations will be critical factors. Accessibility is defined as “the degree to which a piece of information can be retrieved from memory for input into a judgement” and diagnosticity as “the degree to which that piece of information is relevant for that judgement”. An additional consideration is that accessibility of benefit associations will be dependent on the level of interference by other non-benefit associations such as category associations.

From their study, the authors conclude that broad brands (*i.e.* those supporting a wide portfolio of different products) will generally have more accessible benefit associations than narrow brands (with more competing category associations) and so will have more favourable brand extension outcomes. Furthermore this will occur irrespective of the level of fit. When two brands have equally accessible and diagnostic benefit associations then level of fit will influence the relative outcome of brand extension success.

In section 3.3.1 above, the work of various researchers investigating similarity and perceived fit effects was reviewed. Martin, Stewart & Matta (2005: 278) raised the question of how consumers become aware of similarities between parent brands and their extension products. These authors explored the role of communication in instances where goal congruency (see 3.3.1: 44) of parent brand product and extension product were not obvious, as when product categories are very different.

Martin *et al.* (2005: 291) concluded that marketing communications are not required to support a goal congruent extension, but goal incongruent extensions would need the support of a congruent message in order to stimulate a perceived similarity by consumers. For example, consumers may not perceive any goal congruency between Castle lager beer and an extension product of Castle mineral water. An effective marketing communications strategy would perhaps seek to highlight the refreshing, thirst quenching properties of Castle Mineral Water and its pure, natural ingredients. In a co-branding situation, an effective product could perhaps be a reduced alcohol Perrier (mineral water) with Pilsner Urquell (Czech pilsner) product.

Lane (2000: 81) tested the impact of repeated advertisements on consumer perceptions of incongruent extensions. For example the extension of the Michelin brand to sports sandals was generally perceived as being incongruous (whereas extension to bicycle tyres was seen as congruent). Consumers' initial responses to this extension product were framed along the lines of "I don't want to wear car tyres on my feet!" Participants in the study were exposed to a series of 5 advertisements that focussed consumer attention on brand association benefits, for example, how Michelin have developed rubber compounds and tread patterns that contribute to the inherent recreational safety of the sandals. An important finding of this study (2000: 88) is that consumer assessments of an extension product's consistency with its parent brand are dynamic (rather than fixed) and may be manipulated through advertisement repetition. After repeated exposure the evaluation of incongruent extensions may be no poorer than congruent extensions and the negative effects of initial incongruity are countered. This study also demonstrated that exposure to repeated brand extension advertisements is more effective when the advertisements evoke direct benefits associated with a brand rather than more peripheral brand associations.

Consumers' knowledge of the product category of a brand extension may also be expected to influence the potential success of an extension in the market. Smith and Park (1992: 301) suggested that if consumers know very little about a brand extension's product class they will rely more heavily on the parent brand name in making a decision. The inference is that a brand extension product will enjoy an advantage over a product that is not an extension of an existing brand. Low levels of consumer knowledge are likely to exist when an innovative new product is developed. The product may even define a new product category. Smith and Parks' study (1992: 307) confirmed that the relative success of brand extensions in terms of market share diminished as consumers' knowledge of the extension product category increased. A conclusion is that the brand extension effect on market share will be greatest when new products are first introduced and will decline over time as the products become established.

A related extrinsic factor that may affect brand extension success is the number of rivals competing for market share in a product category. Smith and Park (1992: 301) predicted that the relative effect of brand extensions on market share would be greater in markets with more rather than fewer competitors. The results of their study (1992: 309) indicated the opposite with the relative effect of brand extensions on market share diminishing as the number of competitors in the extension market increased. This finding is however consistent with the previous observation that brand extensions are relatively more effective with new product introductions when consumers' inferences may be based on their knowledge of the parent brand. As consumer knowledge of the product category increases (and simultaneously the number of competitors in the category increases) the brand extension effect decreases.

The importance of taking into account competitors when conducting brand extension research was stressed by Kapoor and Heslop (2009: 228). They pointed out that much of the published empirical research has focussed too narrowly on evaluating a brand extension in isolation rather than in the company of competing brands in the extension category. The consequence is that singular brand extension evaluations based solely on parent brand-extension fit will tend to overestimate product attractiveness and provide misleading results. Kapoor and Heslop (2009:235) proposed the term "extension relative brand strength" for the competitiveness of the extension in its own product category. They also noted the role of marketing in the evaluation of extensions, and commented that the provision of positioning information about the extension product leads to comparison with competitors in the extension category rather than reliance on the parent brand, and may hence lead to a less favourable assessment.

Posavac, Sanbonmatsu, Kardes and Fitzsimons (2004: 650) investigated consumer product evaluations in two contexts; either in isolation or when alternatives were provided or specified. Singular evaluations of products resulted in a "brand positivity effect" where the focal brand was judged to be more favourable than if the brand was evaluated under comparative circumstances. An interesting implication in a co-branding context is that a co-branded product may intrinsically define a new product

category, and as such, benefit from a co-brand positivity effect *i.e.* a more elevated evaluation or appraisal than would be the case if there were other products in the category with which to compare.

Milberg, Goodstein, Sinn, Cuneo and Epstein (2013:284) confirmed the importance of competition in determining the attractiveness of brand extensions. They found that the relative familiarity of the competing brands affected decision making more than fit and parent brand quality, particularly in situations where there is a high perceived risk in the extension purchase.

Miniard, Bhatla and Sirdeshmukh (1992: 173) demonstrated mood effects on consumers' product evaluations. Barone, Miniard and Romeo (2000: 386) investigated consumer mood influences on brand extension evaluations. The brand extension context is interesting in that mood's influence on brand extension evaluation may be mediated by the similarity between an extension and its parent brand. Barone *et al.* (2000: 397) determined that the positive influence of mood was greatest when there was a moderate similarity between the extension and the parent brand, as opposed to extensions that were either very similar or entirely dissimilar. In other words an inverted "U" relationship exists between similarity of extension and effect of positive mood on judgements. In their study, mood was manipulated by asking respondents to firstly complete anagrams. A positive mood was stimulated by providing respondents with easily solved anagrams whereas a negative frame of mind was induced by providing more difficult anagrams where respondents scored poorly.

The marketing implication is that advertising and point-of-sale tactics that evoke positive affective responses may, in turn, enhance consumers' moods (Aaker, Stayman and Hagerty, 1986: 365) and thus consumers' evaluations of brand extensions (Barone *et al.*, 2000: 398). Appropriate advertising (perhaps using suitable music), celebrity endorsers and free gifts that induce positive moods have been mentioned, but in a co-branding context, if any one of the parties to a co-brand were able to contribute an attribute with the ability to evoke a positive mood, this would be an advantage *e.g.* an SABMiller/ Club Med "Tropical Paradise Lager".

Meyvis, Goldsmith and Dhar (2012: 213) evaluated the effect of the environment in which the consumer's decision takes place. They found that if consumers are provided with information about comparison brands or visual information about the new product the emphasis in the evaluation of the brand extension will shift from fit of the extension to quality of the parent brand. Thus the factors affecting the evaluation of brand extensions are not fixed for any given parent-extension combination but can be influenced by advertising and promotional information.

Maoz and Tybout (2002: 119) confirmed that a moderately similar extension is evaluated more favourably than a similar or entirely dissimilar extension but only when the subjects' involvement in the evaluation task is high. They found that when the subjects' involvement in the evaluation task is low, a similar brand extension was judged more favourably than either a moderately similar or entirely dissimilar extension. Hence subjects' involvement in the evaluation task was demonstrated to play a moderating role in the relation between extension similarity and the evaluation of the extension.

To manipulate the subjects' involvement in the task of evaluating an extension Maoz and Tybout (2002: 122) provided fictitious competitive information about a real brand's (BMW motor vehicles) fictitious brand extension plus fictitious competitive information of 6 unidentified competing products. This information was provided for a similar brand extension (BMW motorboat), a moderately similar extension (BMW lawnmower) and a dissimilar extension (BMW camera). The competitive information was presented so that careful analysis by respondents would indicate that the BMW extension in any of the three extension contexts had no competitive advantage over any of the six competing products *i.e.* on the basis of attribute information BMW was undifferentiated (no better).

The subjects in the study were either told that they were invited to contribute as a small, highly important group (to stimulate high task involvement) or that they were part of a general, nationwide survey (to stimulate low involvement). The authors interpret their inverted "U" results in the high involvement condition as:

1. Similar extension- subjects determine that the extension is undifferentiated so record a relatively low evaluation.
2. Moderately similar extension- subjects initially perceive the extension as incongruent, but after becoming involved “elaborate on and resolve the incongruity, thereby generating task satisfaction and resulting in a more favourable evaluation of the extension.”
3. Dissimilar extension- subjects could not resolve the incongruity so evaluation was unaffected by the manipulation of involvement.

In the low involvement condition subjects are not stimulated to employ their cognitive resources so rely on a more straightforward heuristic process of transferring their favourable attitudes towards the parent brand to those extensions that they perceive are similar or congruent *i.e.* “fit”. This results in a linear decline in evaluation in response to decreasing extension similarity. See Figure 3.1.

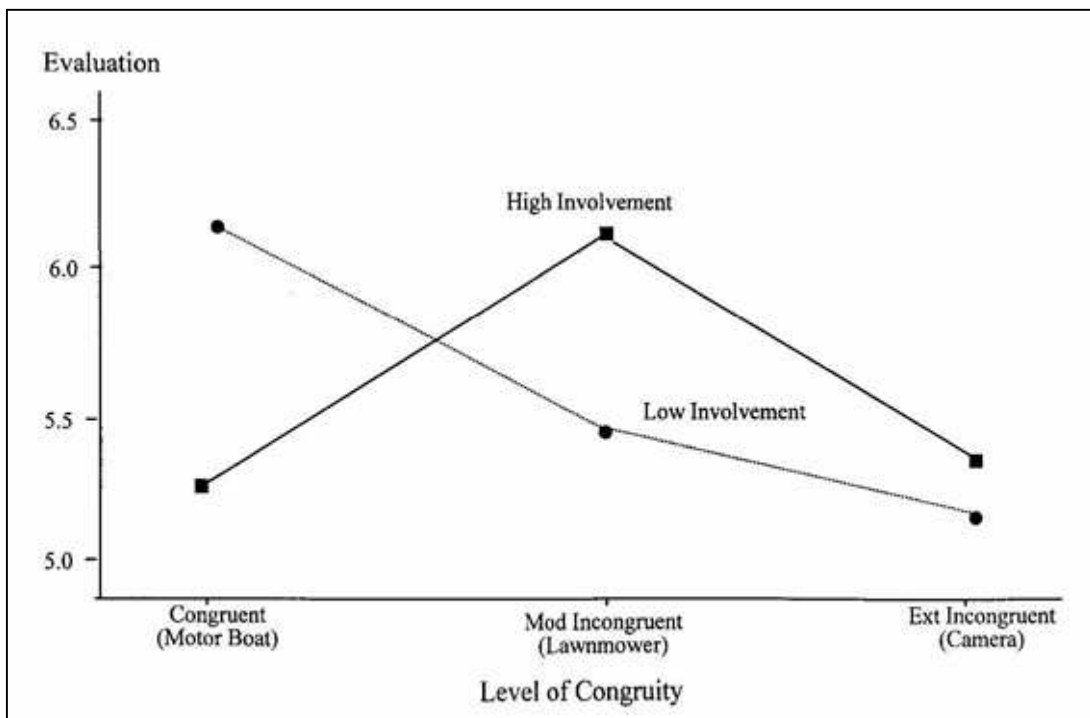


Figure 3.1 Consumers’ evaluation of undifferentiated brand extensions showing the effect of involvement at each level of congruity/similarity (Maoz and Tybout, 2002: 123)

Maoz and Tybout (2002: 124) then conducted a similar experiment but instead of presenting competitive information that indicated that the BMW brand extension was undifferentiated from the six competing brands (no better), the authors provided attribute information that differentiated the extension from the six competitors. This was achieved by ensuring that the sum of attribute scores across four dimensions was highest for the BMW extension, that is, equal to 208 with the next highest score 192 and lowest score 168. As hypothesised, with a differentiated BMW extension and high involvement, the similar or congruent extension was favoured and the moderately incongruous extension then enjoyed little advantage over congruity. With low involvement there is no resolution of moderate incongruity and consequently no resulting task satisfaction to enhance subjects' evaluation. Furthermore, with moderate incongruity subjects didn't transfer their positive attitudes associated with the parent brand to the extension (see Figure 3.2).

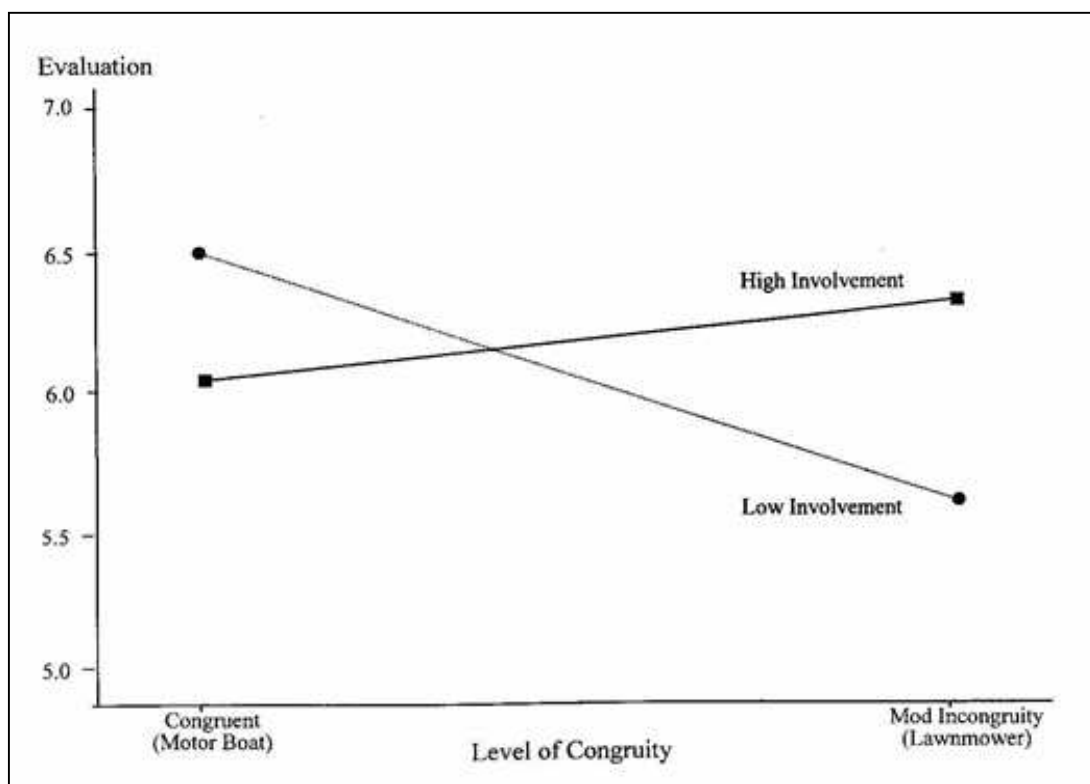


Figure 3.2 Consumers' evaluation of differentiated brand extensions showing the effect of involvement at two levels of congruity/similarity (Maoz and Tybout, 2002: 127)

Barone (2005: 263) revisited the study of Barone *et al.*, (2000: 386) and postulated that consumers' product evaluation processes may not necessarily be based solely on a cognitive analysis of a product's attributes (as accepted categorisation theory proposes). Instead he suggests that since mood has been identified as influencing brand extension appraisals and since people allow their affect (which in turn is influenced by an individual's emotion and feelings) to influence their feelings towards an object, this should result in mood influencing extension evaluations independently of categorisation processes. Affect (see page 30) is a component of attitude that Zajonc (1980: 151) maintained is an immediate, precognitive judgement. The question then is, to what extents do categorisation theory, affective reactions and mood influence brand extension evaluation?

Yeung and Wyer (2004: 412) observed that the picture of a product could elicit consumer affect that may influence initial impressions of the product. These initial impressions subsequently influenced consumers' judgements of the product irrespective of any other evaluation criteria that may be used. Further support for this observation came from the work of Hagtvedt and Patrick (2008: 212) who demonstrated that the presence of art has a positive influence on brand image and results in more favourable evaluations of brand extensions. In their study art was defined from a consumer perspective as "that which is deemed as art by the viewers" (2008: 213). Two pictures by Monet and Turner, when presented to subjects as stimuli to accompany a parent brand, were deemed art and elicited a favourable evaluation of a range of associated brand extensions. A third visual image of a decorative pattern of flowers was not deemed art by subjects and exerted no influence on parent brand image and did not induce a favourable evaluation of brand extensions.

Yeung and Wyer (2005: 496) went on to investigate the impact of brand-elicited affect on consumers' evaluations of brand extensions. The study concluded that consumers exposed to an affect-eliciting brand may form impressions of a brand extension that are influenced by that affect. Furthermore, the affect's mediating impact on the initial impression influences subsequent extension product evaluation, rather than any influence at time of judgement (2005: 505). However, if subjects in

the study firstly were asked to assess the similarity between the core brand products and the extension product, then the similarity criterion is used as a basis for making judgements.

Consequently, Yeung and Wyers' 2005 study accords with Barone's 2005 study in that if subjects are prompted to have high involvement (*e.g.* by asking them to assess similarity, or informing them that individually their evaluations are highly important) then evaluation and attitude are based more on cognitive components. However, if subjects have little involvement in the task, they rely more on affective components (impressions formed when first exposed to the brand) to provide a heuristic basis with which to evaluate an extension. Lastly, Yeung and Wyer (2005: 504) noted that mood-induced affect only influenced extension evaluations when the core brand elicited affect (*i.e.* mood influence is contingent upon brand-induced affect).

3.3.5 Interaction amongst the groups of effects

To understand and predict the likely success of brand extensions, the research into consumer responses to brand extensions that has been reviewed thus far has generally been focussed on investigating a "main effects" model. Echambadi, Arroniz, Reinartz and Lee (2006: 253) refuted this approach and suggested that a parsimonious model is both empirically and theoretically inappropriate. In a footnote (2006: 259) they stressed that using a "main effects" model rather than a "full" model would represent a "theoretical misspecification" and introduce bias. They re-examined Bottomley and Holdens' (2001) study investigating the empirical generalisability of the original and replications of Aaker and Kellers' (1990) seminal study and prove analytically that their generalisations are suspect. Echambadi *et al.* determined that it is the interaction effects of parent brand quality with extension fit that are the important determinants in consumers' evaluations of brand extensions.

Völckner and Sattler (2006: 21) reviewed a wide range of studies and recorded 15 determinants of brand extension success that had proved significant ($p < .10$). In these studies the direct relationship between brand extension success (as a dependent variable) and potential success factors (as independent variables) was tested. The

conclusion of Völckner and Sattler was that other structural relationships could exist among the success factors. They conducted an empirical study that simultaneously incorporated 10 potential success factors and then, by applying a structural equation analysis, were able to test several conceptual models that attempt to explain brand extension success.

The conceptual model presented in Figure 3.3 proposes that the success of an extension will be influenced by direct effects, mediating effects and moderating effects. Of the 15 potential success factors mentioned in the literature as exerting direct effects on the outcome of a brand extension, the 10 selected by Völckner and Sattler were then grouped as: (1) parent brand characteristics, (2) the extension's marketing context, (3) the relationship between the parent brand and the extension, and (4) the extension's product category characteristics.

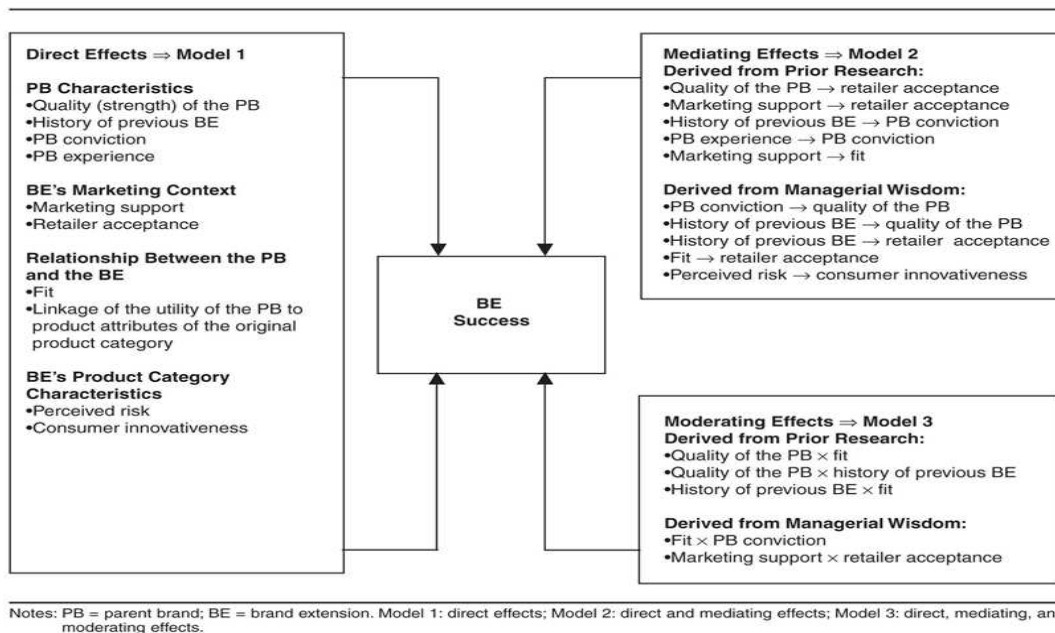


Figure 3.3 A conceptual framework of brand extension success illustrating direct (main effects), mediating (indirect) effects and moderating (interaction) effects. (Völckner, F. and Sattler, H., 2006: 19)

The authors tested the first model in the German fast moving consumer goods (FMCG) market using real brands and extensions. Secondly, they investigated

potential indirect effects which they termed mediating effects and these are summarised in Model 2 (see Figure 3.3). An example of a potential mediating effect could involve the interaction between quality of the parent brand and retailer acceptance. This is explained by Völckner and Sattler (2006: 22) as retailers perhaps assuming that the extension of a quality parent brand would itself be of good quality (as poor quality would compromise or dilute the parent brand). On the assumption that the extension will be of good quality, retailers may accept and promote the new product and as a result contribute to the success of the extension.

The moderating effects described in Model 3 (see Figure 3.3) are distinguished from the ten main effects described in Model 1 and the ten indirect or mediating effects referred to in Model 2. The moderating or interaction effects that could perhaps influence the success of an extension include, for example, the interaction between parent brand quality and extension/ parent fit. If there is high fit the perceptions of the parent brand are more likely to be transferred to the extension. With greater degree of fit there will be a greater transfer of perceptions of quality and hence, potentially, greater chances of extension success.

The authors found that extension fit was the most important direct driver of extension success, followed by marketing support, parent brand conviction, retailer acceptance and parent brand experience. The important structural relationships (model 2) included, for example, marketing support → fit → retailer acceptance → extension success. Overall, model 2 (created by incorporating indirect effects into model 1) performed best.

3.4 FEEDBACK EFFECTS ON BRAND EXTENSIONS

Brand extension research has focussed primarily on studying how consumers may transfer their attitudes from parent brands to extension brands. The association of an existing brand with a new product or product category may result in a reverse transfer, with consumers' attitude towards the extension now influencing their attitude towards the parent brand. The feedback effect may be positive or negative. Ries and Trout (2001: 151) described the demise of the Packard motor vehicle brand.

In the early part of the 20th century Packard was considered one of the most prestigious automobile brands in the world. The company then introduced a budget priced model, the Packard Clipper, which proved overwhelmingly successful. The parent brand then subsequently lost favour relative to competing luxury brands and ultimately was bought out in 1954.

The authors went on to describe the extension of Johnnie Walker Whisky to a prestige brand, Johnnie Walker Black Label. The suggestion was made that drinkers of the original Johnnie Walker (a red label) then considered they were being offered an inferior drink, with the result that Chivas Regal became the top selling premium brand of whisky.

In their seminal paper Aaker and Keller (1990: 40) too pointed out that a vital strategic issue is the impact that an extension may have on its parent brand. They suggest that there may be both positive and negative outcomes. The negative outcome may simply be cannibalised sales of the parent brand, it may dilute parent brand equity or, more seriously, the extension may actively contribute to development of a negative image. The likelihood of this latter contingency may be increased if the extension is vertical, whether upscale or downscale. An upscale extension may not be plausible from a consumer perspective and a downscale extension may detract from the perceived prestige and value of the parent brand.

Romeo (1991: 399) postulated that since consumer acceptance is often greater when the extension is very similar to the parent brand (indicating effective affect transfer), the feedback effect (on the parent brand) of negative extension information will be greater under the same circumstances. By manipulating an extension's product category and attribute similarity he then demonstrates that when extensions are in the same product category as the parent brand, negative information has a more adverse effect on both extension and parent brand evaluations.

The relationship between brand extension strategies and negative feedback effects was further explored by Milberg, Park and McCarthy (1997: 119). These authors observed negative feedback effects in situations where extension categories are

dissimilar to parent brand categories and extension attribute information is inconsistent with parent brand image beliefs. Whereas Romeo's study examined the consequences (negative feedback) on the parent of negative extension information, the Milberg *et al.* study differs in that negative affect towards an extension was observed to result from the dissimilarity between extensions and their parent brand. Their study then focussed on investigating the consequences of this negative affect for the parent brand and on strategies to mitigate the consequences (negative feedback). They tested and recommended a sub-branding strategy that mitigates the negative feedback effects of dissimilar extensions or extensions that potentially could fail.

Sub-branding is described as a strategy that introduces a new brand name in conjunction with an existing brand name. Milberg *et al.* (1997: 126) suggested that subjects/consumers will selectively transfer parent brand associations that are considered relevant to the sub-brand extension while "resolving inconsistencies by differentiating the extension from the family brand". Their results indicated that a sub-branding strategy does indeed mitigate negative feedback from inconsistent extensions, and furthermore, results in either equally favourable or more favourable extension evaluations than direct extensions. Sub-branding seems to assist in differentiating an extension from its parent brand, thereby reducing or preventing negative feedback, yet is still able to provide brand equity advantages. A similar outcome may be expected with co-branding. The difference is that with co-branding a new sub-brand is not necessarily required as two or more co-brands may provide sufficient mechanism to differentiate the co-branded product from the parent brands.

Further support for strategies that encourage consumers to distinguish between an extension and its parent brand comes from the results of a study by Olavarrieta, Torres, Vásquez-Parraga and Barra (2009: 899). These authors compared subjects' evaluations of extensions that used derived brand names with extensions that used the full parent brand name. An example of a derived brand name is Nestea Iced Tea versus the full brand name that would be Nestlé Iced Tea or Iced Tea by Nestlé. The results indicated that extensions with derived brand names still benefit from the parent brand associations and will transfer any success back to the parent brand. In

addition, an attendant advantage of a derived extension brand name is that failure of an extension does not transfer negative associations to the parent brand (Olavarrieta, *et al.*, 2009: 904). These results suggested that in a co-branding context it may be preferable to use a combination of derived (part) brand names rather than use one or more full brand names.

Sood and Keller (2012:380) discussed two types of brand extension naming: family branding and subbranding. In the former strategy, the extension carries the parent brand name and a qualifying category name (e.g. Tropicana cola) while in the latter a new name is given to the extension, with the parent brand added to this (e.g. Quencher by Tropicana cola). They found that dilution effects on the parent brand due to negative perceptions of the extension were mitigated by the use of subbranding.

John, Loken and Joiner (1998: 19) extended the investigation into negative feedback (counter extension) effects by comparing the negative impact of extensions on consumer beliefs regarding highly visible, strategic products (so called flagship products) with the impact on the parent brand name in general. Their contention was that consumers develop a substantial association with flagship products over an extended period and as a result their beliefs are more resilient and less susceptible to negative changes than an overall corporate brand. The results of the study supported this. Flagship products may be expected to represent considerable brand equity so immunity to counter-extension effects is important. This too may be significant in a co-branding context if a flagship product is linked by its parent brand to the co-brand.

Morrin (1999: 517) set out to determine whether brand extensions contribute to dilution or reinforcement of parent brand positioning. She postulated that the impact of brand extensions on consumers' memories will be to reinforce memory structures associated with the parent brand and facilitate retrieval processes. Her study established that exposure to brand extensions increases the rate at which subjects can categorise parent brands correctly (categorisation speed) and that this is moderated

by parent brand dominance with non-dominant brands benefitting more from such exposure.

A possible limitation of Morrin's study is that feedback effects were defined only in terms of the impact that extensions may have on the strengthening or weakening of parent brand associations in consumers' memories (1999: 518). Strength of brand associations in memory and hence brand name awareness is an important component of brand equity but a more comprehensive understanding of the impact of brand extensions' influence on parent brand image may also be important.

The negative impact of brand extensions on parent brand image was investigated by Martinez and Pina (2003: 432). Perceived quality of the extension and the perceived fit of the extension with the parent brand are seen to affect the parent brand image. In a further study Martinez and de Chernatony (2004: 39) demonstrated that the perceived quality of the parent brand and consumers' attitudes towards the extension exert a positive influence on both the general brand image and the product brand image. The authors suggested that the general brand image refers to non-product associations with the brand whereas product brand image is associated with the product category. Consequently, an extension may be expected to have a greater influence on the product brand image than on the more general feelings, associations and attitudes consumers have with regard to the general brand image.

In this regard Dawar's (1996: 189) study has reference (see section 3.3.1 p. 47). A reasonable expectation is that with brands that have a single product association the general brand image may be closely allied to the product brand image and with brands strongly associated with more than one product the general brand image will be distinct from the product brand image. The conclusion, irrespective of brand breadth, was that marketing efforts should concentrate on developing the general brand image of the parent brand (*cf.* product brand image, extension product brand image).

The focus of a study by Salinas and Pérez (2009: 50) was the development of a model of how consumer attitudes to brand extensions transfer to brand image. The

study analysed the interrelation between the attitude to the brand and the attitude to the extension to determine if potentially successful extensions detract from existing associations. In order to conceptualise these interactions the authors developed and validated a model explaining brand/ extension attitude formation and its influence on brand image. The results (2009: 54) confirmed that extension attitude influences brand image, whereas original parent brand associations and consumers' perceptions of extension product category fit or brand image fit enhance consumer attitude.

In order to develop their model Salinas and Pérez (2009: 52-53) proposed and tested a number of hypotheses. These may have relevance in the co-branding context so are illustrated in figure 3.4 and listed below it:

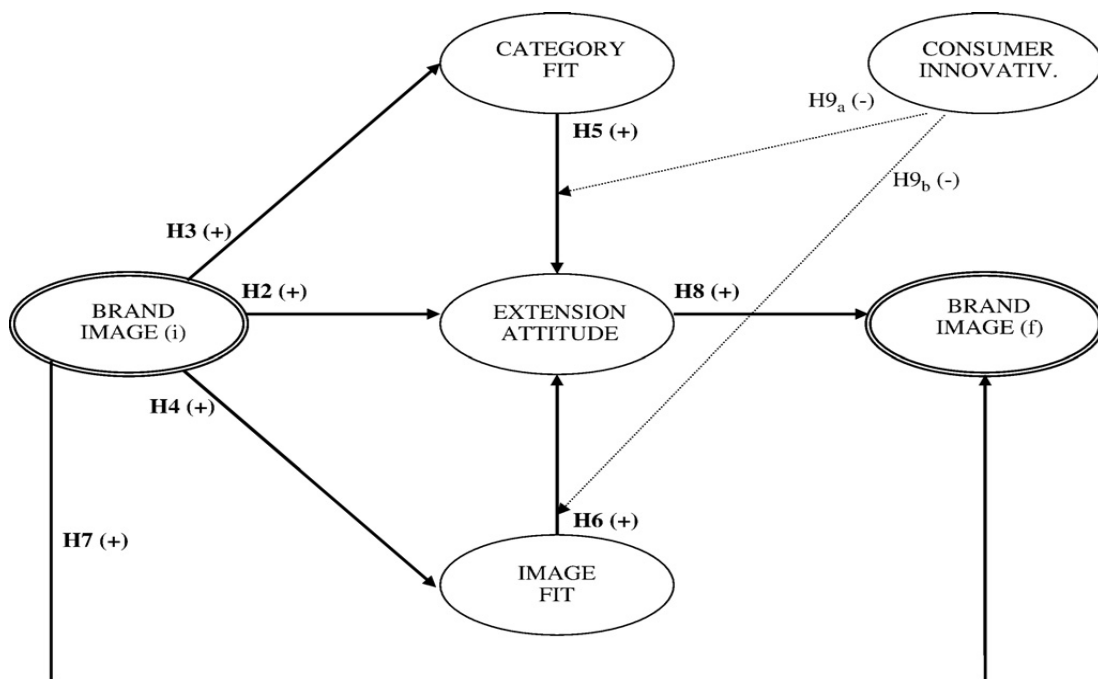


Figure 3.4 Model to analyse the effect of brand extensions on brand image. (Salinas and Pérez, 2009: 52)

H2. Initial brand image has a positive direct influence on brand-extension attitude.

H3. Initial brand image has a positive direct influence on perceived category fit.

H4. Initial brand image has a positive direct influence on perceived image fit.

H5. The higher the perceived category fit is, the more favorable the attitude to the extension.

H6. The higher the perceived image fit is, the more favorable the attitude to the extension.

H7. Initial brand image has a positive direct influence on final brand image.

H8. Extension attitude has a positive direct influence on final brand image.

H9a. The effect of perceived category fit on extension attitude is weaker when consumer innovativeness is high than when innovativeness is low.

H9b. The effect of perceived image fit on extension attitude is weaker when consumer innovativeness is high than when innovativeness is low.

As illustrated in figure 3.4, Salinas and Pérez postulated that category fit and image fit are dependent variables of initial brand image. Attitude towards the extension was postulated to be a dependent variable of initial brand image, category fit and image fit. Final brand image was suggested to be a dependent variable of both initial brand image and consumers' attitude to a brand extension.

The question of consumer innovativeness (hypotheses 9_a and 9_b) requires some explanation. Roehrich (2004: 671) defined consumer innovativeness as a consumer's tendency to buy new products. Consumers who are inclined to buy innovative new products may also be expected to be more daring and buy extensions with lower category and image fit. Salinas and Pérez (2009: 53) suggested that consumer innovativeness does not have a direct effect but instead has a moderating effect on the relationships between both perceived category fit and image fit and the dependent variable, extension attitude. These moderating effects were both anticipated to be negative *i.e.* increased consumer innovativeness will result in a reduced influence of category and image fit on the consumer's attitude to an extension.

The results of Salinas and Pérez's 2009 study validated hypotheses H2 to H8. The potential moderating effect of consumer innovativeness was not validated for hypothesis H9_b but the results do support H9_a indicating that the effect of category fit on extension attitude decreases with highly innovative consumers. This result is important as firstly it suggests that a consumer's personality is relevant to brand

extension success (Salinas and Pérez, 2009: 50) and furthermore, it suggests that in a co-branding context, where the co-brand product may be expected to be substantially different from any parent brand product categories, the nature of consumer personality will be a major mediator of co-brand product success.

Rather than examining the innovativeness of the consumer, Boisvert (2009: 39) instead investigated the effect of innovativeness of the extension product on the reciprocal transfer of image and performance associations. He determined that important considerations are the salience of the parent brand to the extension and whether the association is image-based or performance based. The results indicate that with a salient parent brand with a performance related association there will be a strong feedback effect irrespective of the innovativeness of the extension. However, when the extension's association is image related, feedback will occur only if the extension is highly innovative and that this feedback is not influenced by salience of the parent. These findings will have relevance with a co-brand where the parent brands may have both image and performance based associations. In a further study, Boisvert (2011: 546) assessed the transfer of specific brand associations between the parent brand and extensions.

3.5 DISCUSSION

As the review of literature in this chapter indicates, considerable research has been conducted in the field of brand extensions. Strategies to exploit parent brand equity by transferring brand associations and affect to extensions have been thoroughly investigated and the variables and mediators influencing consumer responses to brand extensions are now more clearly understood.

It has been shown that the factors influencing the success of brand extensions are numerous and that the interactions between them are complex. Perceived fit between parent brand and brand extension and perceptions of parent brand quality are both important deciders of brand extension success but neither of these is a simple construct. Fit may be perceived at a symbolic level, where the brand and the extension share intangible attributes or at a functional level, where the two are seen

to have similar tangible attributes. Furthermore, the way in which a new product is presented to consumers will influence which of these attributes plays a more prominent role in their evaluation of the extension.

Brand extensions involve a *single brand* being used to market *one or more new products* whereas co-branding requires *two or more brands* to market *one new product*. This added complexity must further complicate the task of understanding the factors that lead to success or failure. The review of brand extension literature and the research findings that describe consumer responses to brand extensions provide a sound theoretical framework with which to investigate the potentially similar but distinct field of co-brands and co-branding strategy.

Chapter 4 will review the co-branding research that has been conducted to date and highlight critical areas where understanding is incomplete or lacking, and where further research may be expected to contribute.

CHAPTER 4: CO-BRANDING CORPORATE ALLIANCES

4.1 INTRODUCTION

As Blackett and Russell (1999: 20) indicated, co-branding as a business strategy is relatively new. The term “co-branding” is now firmly established in the business lexicon (using the Google search engine www.google.co.za 11,500,000 matches were recorded 16/02/2010 and this increased to 31,900,000 on 01/07/14) but comparatively little research is reported in peer reviewed, academic publications (279 results in Ebsco Academic Search Complete on 01/07/2014).

That co-branding proves an effective strategy in many fields of business and under a range of circumstances is evidenced by the large number of successful co-branding alliances reported in the business literature. What is lacking, however, is any clear theoretical framework that will allow both academics and marketing practitioners insight into how best to devise, structure and understand potential co-branding alliances. The advantages of co-branding to participating enterprises can easily be qualified and may indeed even be quantified *post hoc*.

The researcher takes the view that since the success or failure of an alliance will be determined by consumer perceptions and responses, the likely performance of a co-brand will be difficult to predict with the present level of understanding of these alliances. Therefore, in order to ensure that brands involved in a co-branded product emerge enhanced, rather than compromised, it is suggested that it is important to have an understanding of consumers’ likely behaviours in this context. The review of brand extension literature presented in the previous chapter provides a firm foundation upon which to build an understanding of co-branding alliances. There remains the task of reviewing the preliminary research that has been conducted and reported on thus far. This will be the focus of the present chapter.

In an early reference to brand alliances the term joint branding was used (Rao and Ruekert, 1994: 87). These authors suggested that synergies (*i.e.* a sum greater than the sum of parts) can be achieved by combining brand names. Their contention was

that a joint brand can be a more effective signal of product quality (particularly for experience products) and can provide products with additional attributes or higher levels of existing attributes (particularly for search products).

The term co-branding began to appear in the banking industry literature in the early 1990's with particular reference to the co-branding of credit cards (Arend, 1992:84). These alliances between brands are largely at a communication level; one brand praises or supports the other. Riezebos (2003: 103) contended that alliances at the product level (where corporate alliances produce new products) take place for very different strategic reasons.

Park, Jun and Shocker (1996: 453) introduced the term composite brand extension (CBE) to describe the combination of two brands with complementary attribute levels to form a composite brand name for a new product. Their studies revealed that a CBE appears to have a better attribute profile than a conventional extension of the one main brand. They concluded that the improved attribute profile "... seems to enhance a composite's effectiveness in influencing consumer choice and preference".

4.2 OVERVIEW OF CO-BRANDING

4.2.1 Defining Co-Branding

Blackett and Russell (1999: 18) defined co-branding as:

"... a collaborative venture designed to advance the interests of two (or more) parties in a considered, strategic fashion. Legally the parties concerned are independent entities and their intention is to create something new- a product, a service or an enterprise- the scope of which falls outside their individual areas of capability or expertise."

As Kapferer (1999: 88) noted, while co-branding is not new, the corporate awareness that strategic alliances are critical to developing and maintaining a competitive advantage is a recent development. He saw co-branding as the act of making

alliances visible. Besharat and Langan (2014: 113) confirmed this in their adoption of the definition of co-branding as the creation of a new product on which the names of both branding partners are visible. These authors suggested that co-branding should also involve a long-term partnership (2014:117) and that tangible or intangible attributes of the constituent brands should be present in the new product. Furthermore, they suggested that the partner brands should continue to exist as independent entities which can be marketed independently of each other and the co-brand.

These prerequisites separate co-brands from most other forms of brand partnership.

4.2.2 Other co-operative ventures

According to Interbrand, a brand and identity consultancy, there are three other types of co-operative ventures in existence. They can be distinguished from co-branding in terms of shared value creation and the duration of the relationship (cited by Blackett and Russell, 1999: 7).

As illustrated in figure 2.3, joint promotions or co-advertising ventures (Besharat and Langan, 2014: 118) are short lived and create comparatively little shared value. Their main role is to combine non-competitive products and share marketing costs to attract a larger audience (e.g. McDonalds food and a Disney movie).

Corporate or brand alliances are also primarily formed to realise marketing synergies that create comparatively little shared value but these may last for an extended period (e.g. alliances between airlines to provide extended geographical coverage). A new product is not developed (Besharat and Langan, 2014: 116).

Joint ventures are generally long lasting and create comparatively high levels of shared value. The emphasis however is on leveraging operational opportunities rather than marketing ones. Usually a legally separate, jointly owned and managed new company is formed.

Co-branding may be of shorter duration and not create as much shared value, but in essence leverages marketing opportunities that give rise to innovation and distinctiveness.

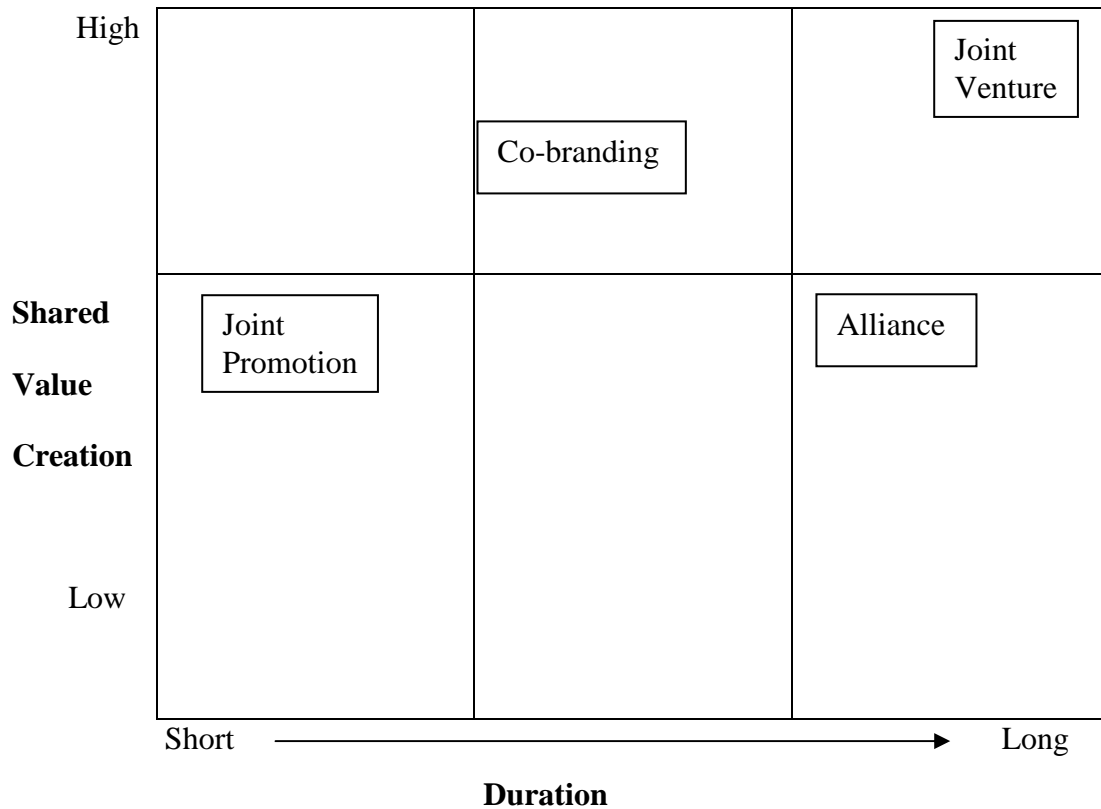


Figure 4.1. Co-operative venture matrix (Blackett and Russell, 1999: 7)

The net value creation of co-branding is generally too small to warrant development of a new brand and/or legal joint venture.

Besharat and Langan (2014: 118) cited dual branding (described in Levin and Levin, 2000:43), in which two partners share space e.g. in the case of food companies sharing a food court) as a further example of a partnership which is not co-branding since customers may buy the offering of one partner but not the other.

4.2.3 Forms of Co-Branding

Blackett and Russell (1999: 9) identified four types of co-branding alliance and again used potential shared value creation to distinguish between them (see Figure 4.2).

With reach/awareness co-branding there will be relatively little joint investment, the objective being to increase brand awareness through exposure to the partner's customer base (e.g. a credit card with an airline). Values endorsement co-branding is similar but shared value creation is greater (e.g. a charitable institution and a finance house, heart foundation and pork producers' association). Both these were not considered co-branding by Besharat and Langan (2014: 117). Bouten (2010: 37) termed these kinds of associations symbolic co-branding and she pointed out that the level of new product development and innovation is low where a second brand is added to an existing product in order to provide intangible benefits i.e. to add symbolic value.

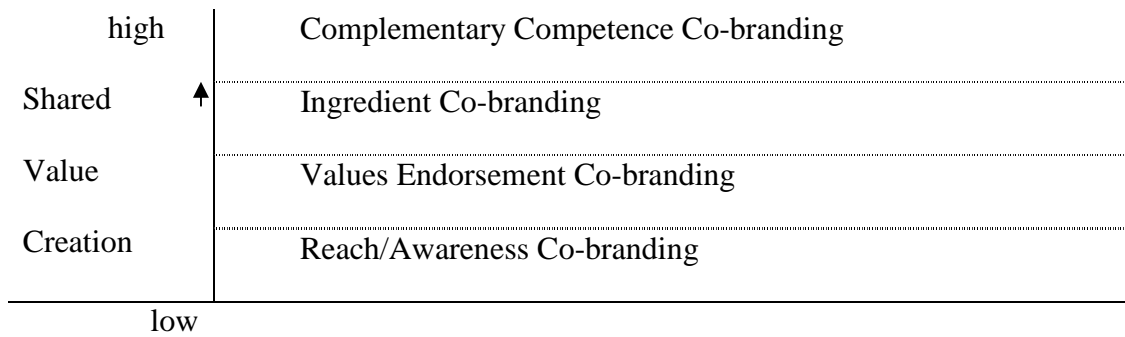


Figure 4.2 Shared value creation in co-branding relationships (Blackett and Russell, 1999: 9)

Leuthesser, Kohli and Suri, (2003: 41) preferred to separate co-brands into those in which both partners provide core benefits which are essential to the functioning of the new product and those where the complementarity between the brands is of an extended nature and one brand brings only symbolic benefits (e.g. a perception of quality) to the alliance.

Ingredient co-branding received mention in the academic literature from the early 1990's (Norris, 1992:19; Keller, 1998: 286; Simonin and Ruth, 1998: 30; Desai and Keller, 2002: 79). The relationship is between a "host" brand and an ingredient brand. The consumer may perceive or infer the branded ingredient to be a signal of value. A branded ingredient may also convey product uniformity and consistency thereby reassuring the consumer and reducing perceptions of risk. The host brand is able to add attributes or increase the levels of existing attributes while the ingredient brand is able to develop its own brand equity.

Besharat and Langan preferred ingredient branding to be separated from co-branding in that the new product is owned by the host and not the ingredient brand (2014: 116). This was not, however, a defining property in their own definition of a co-brand. Furthermore, their contention that the ingredient cannot be marketed separately from the new product is manifestly untrue in an example like Nutra-Sweet and Coca-Cola (Besharat and Langan, 2014: 119) or Sainsbury's Fresh Brandy sauce with Courvoisier VS Cognac (Boad, 1999: 28). This suggests that ingredient branding is usually a true form of co-branding.

Complementary competence co-branding represents the combination of two or more brands to produce a new product (*e.g.* SonyEricsson) that is worth more than the sum of its components (Blackett and Russell, 1999: 14). Aaker (2004: 162) called these co-master brands where both brands play a prominent role. Each brand contributes its own resources and competencies on an ongoing basis (Kapferer, 2012: 143). The Smart car produced by Swatch/Mercedes combines the Swatch features of affordability, durability and stylishness with the Mercedes features of good engineering, reliability and safety. Besharat and Langan (2014: 117) considered composite brand extensions (Park *et al.*, 1996: 453) and joint branding (Rao, Qu and Rueckert, 1999: 258) as synonymous with co-branding. Bouten (2010:35) referred to co-branded hybrids.

It may be concluded that Ingredient Co-Branding and Complementary Competence Co-branding are the two most widely accepted forms of true Co-Branding.

4.3 ADVANTAGES OF CO-BRANDING

Three advantages of a co-branding strategy were proposed by Rao and Ruekert (1994: 94):

- i. access to untapped markets for one or more of the participants,
- ii. access to new proprietary technology or expertise
- iii. an enhanced image.

Riezebos (2003: 96) observed that there may be mutual advantages afforded by other partners' distribution systems. Keller (1998: 283) saw the main advantage as increased opportunities to achieve a unique positioning.

Besharat and Langan (2014: 117) depicted successful co-branding as a value exchange between the two partner brands and the consumer. They reiterated the advantages listed below as “an enhanced product or service, an improved brand image and/or access to a new market.” They pointed out that different parties to the value exchange may gain different advantages. They suggested that in the most successful co-branding arrangements this exchange of value is balanced and benefits accrue to all concerned.

Potential advantages of co-branding are discussed further, below.

4.3.1 New markets

Co-branding may provide an opportunity for a company to access new markets, including those which are closed to it due to the associations of its own brand (Kapferer, 2012: 144). This advantage may be mutual in a co-branding arrangement. Riezebos (2003: 97) cited the example of Bailey Häagen-Dazs, where Baileys is able to persuade Häagen-Dazs consumers to buy Baileys liqueur, and Häagen-Dazs introduces Bailey's consumers to its other products.

The transfer of brand equity after mergers and acquisitions, from a well-known acquired brand to the less familiar brand of the acquiring company may be achieved through dual branding. An initial symbolic co-branding strategy may followed by phasing out of the acquired brand (Abratt and Motlana, 2002: 44).

Leuthesser *et al.* (2003: 41) divided the possible marketing strategies underpinning co-branding into four groups:

- reaching in: an improved bundle of benefits offered by the co-branded product aimed at achieving greater market penetration in the brands original target segment.

- reaching out: new markets are accessed through the alliance in which the core benefits are augmented by the co-branding partner.
- reaching up: the co-branded product appeals to more demanding consumers in the original segment through added extended benefits provided by the co-branding partner.
- reaching beyond: the co-branding partner provides access to new markets and symbolic benefits.

4.3.2 Adding benefits and opportunities for differentiation

Co-branding provides companies with an opportunity to offer benefits in addition to their core offering without incurring significant costs (Boad, 1999: 25). The link with another brand may differentiate a product by providing additional brand associations beyond those inherent in the product itself (Leuthesser *et al.*, 2003: 35). Rao and Rueckert (1999: 264) indicated that that a partner brand may provide signals of quality for products where this is not an observable trait (experience products) and where consumers are uncertain about the quality of the parent brand.

An ingredient co-brand may introduce a new attribute to the host brand and hence differentiate it from competitors even creating a new subtype or category of product in consumers' minds (Rao and Rueckert, 1994: 90; Desai and Keller, 2002: 74). Subsequently the host brand may have opportunities to expand into new markets. Desai and Keller (2002: 90) described this as enhancing the host brand's extendibility.

Ingredient co-brands often play this role, as in the example of "Intel Inside" branding of personal computers (Kapferer, 2012: 145). The brand of an ingredient may bring the assurance of quality to the whole offering.

4.3.3 Reducing barriers to entry

The obstacles to entering a new market may be financial or non-financial (Boad, 1999:26).

In a new market, a firm may encounter prohibitive costs to develop a new brand and to establish its presence (Aaker, 2004: 164). Co-branding provided firms with instant access to brand equity already associated with their co-branding partner. Costs associated with the development of new competences and manufacturing capability may also be overcome through co-branding with a partner which already has these.

Legislative barriers, such as planning permission or licensing issues, may be circumvented by a co-branding strategy, either by creating a new product which fills a different market niche or by better exploitation of an existing license held by the co-branding partner. Boad (1999: 27) gave the example of Tesco's expansion into filling station convenience stores: the difficulty obtaining planning permission for new supermarkets was avoided and the existing shops at Esso petrol stations provided an enhanced experience for customers who benefited from the strengths of a large supermarket chain.

4.3.4 Quicker returns, price premiums and other benefits

The instant credibility provided by a co-branding partner may allow a firm to speed up the process of entering a new market segment (Boad, 1999:27). Cash flow may hence be enhanced and, in addition, a higher retail price may be commanded by a co-branded product, compared with a brand extension produced by either partner (Uggla and Åsberg, 2010: 37).

4.3.5 Respond to the marketplace's expressed and latent needs.

Wright, Frazer and Merrilees (2007: 446) described the case of McDonalds' creation of the McCafé brand and subsequent co-branding with the original brand. While it is debatable if this constitutes true co-branding, the potential for the newer brand to create a more positive image for the original brand while serving a different market segment provides an example of the potential for co-brands to respond to the market in ways that the original brands may not be able to do.

4.3.6 Leverage one's own core competencies.

As its name suggests, complementary competence co-branding is the formation of a co-brand which uses the core competences of two brands. Each brand contributes its particular attributes, but benefits from the joint value created without the allied companies needing to acquire additional competencies themselves (Boad, 1999:30).

4.3.7 Positive feedback or spillover effects on the parent brands

Simonin and Ruth (1998: 39) found that a positive evaluation of co-brands resulted in a subsequent increase in positive attitudes to the parent brands. They suggest that a less well-known partner may benefit particularly from the co-branding exercise.

Geylani, Inman and Ter Hofstede (2008: 734) proposed a mathematical model for the effects of co-branding on the partner brands which explained the synergies achieved in terms of information integration theory. The brand with greater salience in an attribute exerts a "pull" on the post-alliance evaluation of the partner brand. Hence they emphasise the importance of complementarity in the choice of alliance. However they warn that if partner brands are too far apart, consumers will discount the information regarding that particular attribute.

4.3.8 Protecting brand image while entering new markets

According to Aaker (2004: 164) the strategy of co-branding allows companies to "stretch" their brand further than they might do with brand extensions. Support provided by the co-brand reduces the danger of the brand being compromised as each brand can remain true to its own image.

Co-branding can allow a company to enter new markets with a lower risk of counter-extensions, which occur when another brand from the extension category extends to the original parent brand's category (Kumar, 2005: 16). This may occur as a result of consumers perceiving a greater product category fit than before the brand extension. However, if the extension is co-branded, and particularly if the new category is attributed to the co-branding partner, consumers' schemas are not changed to encourage counter-extension by competitors.

4.4 DISADVANTAGES AND INCREASED RISK OF CO-BRANDING

4.4.1 Brand incompatibility

Besharat and Langan (2014: 121) suggested that a co-branded pair of rain boots, developed in an alliance between clothing brand DKNY and exclusive champagne producers Veuve Clicquot, was unsuccessful due to poor matching of the parent brands. Consumers did not perceive added value in this offering.

A risk in cases where partner brands are poorly chosen and show a lack of customer perceived value is that unfavourable evaluation of the co-brand will lead to a decrease in brand equity for the partner brands

4.4.2 Repositioning of partner brands

Each partner in a co-branding alliance runs the risk that future changes in the marketing strategy of their partner may affect the co-brand in a negative way (Desai and Keller, 2002: 73). Leuthesser et al. (2003: 44) used the case of the Ford Explorer – Eddie Bauer co-branded SUV which was initially successful but suffered from the repositioning of the Eddie Bauer brand to appeal to a younger generation.

These authors also warned of the danger of a partner becoming a competitor (Leuthesser *et al.*, 2003: 42). They cited the example of IBM partnering with Microsoft to produce the DOS operating system and this unknown brand hence moving to market dominance while IBM lost its position in the market.

4.4.3 Brand dilution and separation- becoming a single hybrid brand

Simonin and Ruth (1998) warned that a negative assessment of the co-brand may lead to a weakening of the parent brands. This finding is similar to the effect observed in brand extension research. Image dilution may occur through over exposure to the brand (Uggla and Åsberg, 2010: 41).

Another risk associated with co-branding is that the co-brand loses its link with the parent brand and becomes a hybrid brand identified by consumers as having its own brand image.

4.4.4 Negative feedback from a failed co-brand

The benefits of positive feedback effects are discussed in section 4.3.7, but the risk of negative feedback must also be taken into account. Radighieri, Mariadoss, Grégoire, and Johnson (2014: 135) studied feedback effects in ingredient co-branding. They found that a strong ingredient brand can emerge from the failure of the co-brand relatively unscathed, but both strong and weak host brands suffer from negative feedback, due to the level of responsibility carried by the host brand.

4.5 FACTORS AFFECTING THE SUCCESS OF CO-BRANDS

In their seminal study, Simonin and Ruth (1998: 30) developed a model of the factors which influence the success of a co-brand. They identified four factors influencing consumers' attitudes to a co-brand: pre-existing attitudes to the parent brands, product fit and brand fit. Other authors have introduced additional factors including parent – co-brand fit (Bouten, 2010: 5). Parent brand familiarity is considered as a moderating factor in most models of co-brand effects (Simonin and Ruth, 1998:30; Hadjicharalambous, 2013:22).

Simonin and Ruth's model is reproduced in Figure 4.3 and the different factors discussed hereafter.

4.5.1 Attitudes to parent brands

Simonin and Ruth (1998: 33) hypothesised that favourable (or unfavourable) associations with the parent brands will be accessed when consumers consider the co-brand. This should lead to a favourable (or unfavourable) assessment of the co-branded product. Arnett, Lavery and Wilcox (2010: 20) confirmed that the brand equity of co-branding partners influenced consumers' evaluation of the alliance between the brands.

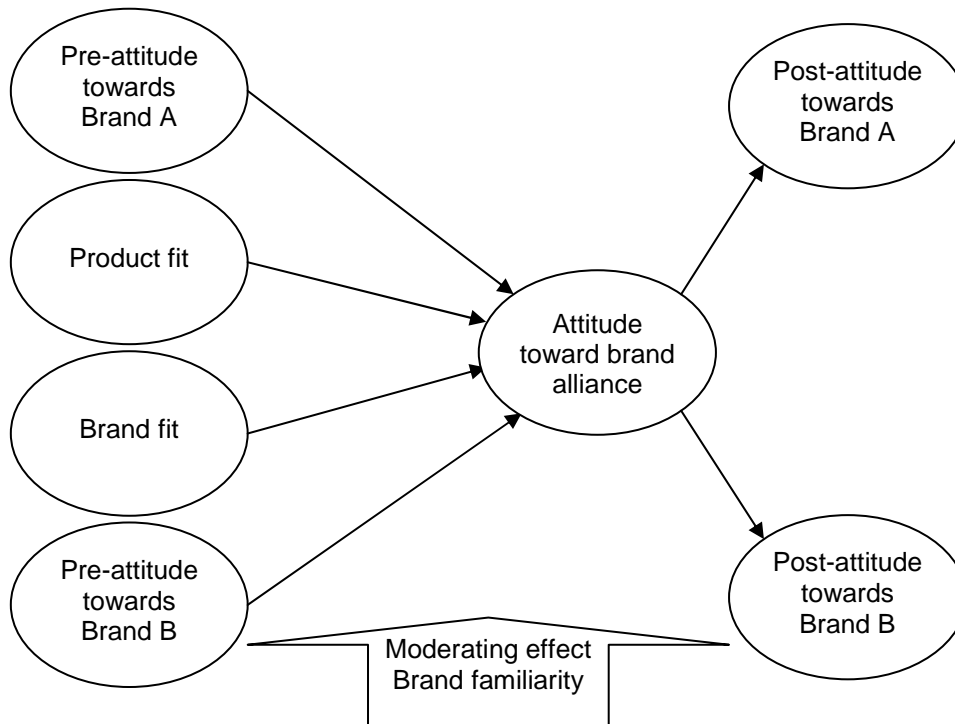


Figure 4.3 Conceptual and structural model of co-branding effects (Simonin and Ruth, 1998: 29)

Askegaard and Bengtsson (2005:322) addressed the symbolic nature of brands. They posited that attempts to quantify and evaluate brands are often based on the assumption that brands are part of an ordered and rational system. These authors contended that in fact brands are part of a symbolic universe in which they carry both intended and unintended meanings and are interpreted by consumers in personal and culturally individual ways. When brands are combined in a co-branded product, the consequences may be still less predictable. They used as their example, a Betty Crocker brownie mix ingredient co-branded with Hershey’s chocolate. These are both old, established American brand. The primary associations of Betty Crocker are of a homemaker. Hershey’s is synonymous with chocolate, and the authors suggested that chocolate is associated with self-indulgence and seduction. They proposed that

this co-brand may initiate unintended narratives in the minds of consumers. They concluded that brand managers must understand the cultural meanings of their brands if they are to achieve the desired meaning for the co-brand (Askegaard and Bengtsson, 2005:329).

Geylani *et al.* (2008: 731) defined brand image as a cluster of beliefs about the brand, each having location (expected performance on the attribute) and reliability (inverse of variance). A brand will be perceived as having high quality if it has a high mean quality value and low perceived quality variability. They proposed that changes in these properties can be interpreted as image reinforcement or image impairment. They used the two properties of location and reliability along with information integration theory to predict the effect of the brand images of the parent brands on a co-branded product. They found that it would tend to be located between the parent brand values for an attribute and would tend to show greater variance and hence be less reliable in the eyes of consumers.

4.5.2 Parent – parent category fit

Simonin and Ruth (1998: 33) noted that the meaning of category fit in the brand extension context must differ from that in the context of co-branding. A brand extension may be regarded more favourably if the category into which it is placed is similar to that of the parent brand, based on an assumed transfer of skills in its production. The parent brands in a co-brand should be complementary rather than similar since they bring different skills to the production of the co-branded product and must therefore occupy different categories. Hence the product fit between parent brands would be better described in terms of their relatedness, or the functional compatibility between the categories of product produced by the parent brands.

4.5.3 Parent-parent brand fit

Ahn and Sung (2012: 415) developed the idea of fit between parent brands as having two dimensions, functional and symbolic. These dimensions could be equivalent to parent-parent category fit and parent-parent brand fit. However, they argue that the construct brand image should not be used for symbolic brand fit as it includes

functional features. The term brand image fit was used in the evaluation of brand extensions by Bhat and Reddy (2001: 114) and of co-brands by Simonin and Ruth (1998: 33). Ahn and Sung (2012: 418) proposed the use of brand personality as a measure of the symbolic associations of a brand.

In a replication of the study of Simonin and Ruth (1998), Baumgarth (2004:121) analysed the factors giving rise to the positive evaluation of a co-brand, and found that the most important influence on the co-brand evaluation was the fit between parent brands.

The results of a study undertaken in the Netherlands by Bouten (2010: 68) indicated that a high degree of fit between parent brands resulted in a more favourable evaluation of the new, co-branded product. Ahn and Sung (2012: 417) proposed that if there was inconsistency between parent brands, consumers would engage in piecemeal processing to evaluate the co-brand and that this would result in less favourable evaluation due to the cognitive effort required.

Lanseng and Olsen (2012: 110) used Park, Jaworski and MacInnis's (1986) idea of brand concept to classify brands as functional or expressive and hence provide combinations of high and low brand concept consistency as an estimate of brand fit. They found this to be a significant influence on attitude to the alliance. They also found that brand concept interacted with product fit so that functional-functional brand combinations and mixed concept alliances showed different assessments between high and low product fit while in expressive-expressive combinations product fit evaluation was not a significant factor in evaluation of the alliance. This research indicates that brand image fit and product fit are not necessarily independent.

Both the symbolic and functional fit dimensions have an effect on consumer evaluations of co-brands (Ahn and Sung, 2012: 422). Ahn, Kim and Forney (2009: 479) used the term perceived match-up in their model of the way consumers evaluate alliances. They divided the perception of alliance match-up into perception of product and brand match-up. They further divided these into three and two

components respectively, with less emphasis on physical and technical features and more on consumer perceptions. This approach may be particularly useful in the co-branding situation where parent brands are expected to be complementary rather than similar. Monga and Lau-Gesk (2007: 390) studied brand personalities, or the human-like traits such as glamour or excitement which may be attributed to brands. They pointed out that both consistent parent brand personalities (producing single-personality co-brands) and complementary parent brand personalities (producing dual-personality co-brands) could be considered to demonstrate parent–parent brand fit. This again demonstrates the difficulty of defining brand fit in a co-branding context.

Newmeyer, Venkayesh and Chatterjee (2014: 112) contended that for functional attributes partner brands should show complementarity to achieve fit while for hedonic attributes consistency is desirable.

4.5.4 Parent – co-brand fit

Bouten (2010: 5) considered the importance of the relationship between the new, co-branded product and the existing product portfolios of the parent brands. She found that fit between the new product and the parent products did not impact significantly on the evaluation of the new, co-branded product. Bouten suggested that this might be due to the inclusion of brand information which was found to decrease the importance of product category fit in brand extensions (Broniarczyk and Alba, 1994: 227; Bhat and Reddy, 2001:121).

Hadjicharalambous (2013: 20) pointed out the difficulties with using conventional brand extension definitions of fit in co-branding scenarios. The involvement of two, rather than one, parent brands requires that there be a conceptual combination of these before their fit with the co-brand can be assessed.

There is considerably less work on parent – co-brand fit than there is on fit between parent brands which has received a greater share of the attention in co-branding studies (e.g. Ahn and Sung, 2012; Bouten *et al.*, 2011; Dickinson and Heath, 2008;

Lanseng and Olsen, 2012). This may be due to the difficulty of separating the effects between two different parent brands.

4.5.5 Parent brand familiarity

Brand familiarity is the sum of the experiences which a consumer has had with a brand (Lin, 2013: 348). These may include consumption, word-of-mouth communications and exposure to advertising. In his discussion of brand knowledge, Keller (2003:597) suggested that a consumer's response to a brand could be decomposed into components of brand familiarity and brand liking.

Simonin and Ruth (1998: 31) saw consumers' familiarity with the parent brands as exercising a moderating affect on their attitude to the co-branded product. They found that more familiar brands carry more weight in the evaluation of a co-brand. Lin (2013: 356) concluded that brand fit is the critical factor which influences consumer behaviour and that brand familiarity acts through the medium of brand fit to affect purchase intention. This supports Simonin and Ruth's model in which brand familiarity is a moderator in the development of attitudes to a co-brand rather than a direct factor.

Levin and Levin (2000: 45) investigated the cognitive and affective processes of consumers confronting a new, dual branded product. They describe the dominant brand in the partnership as the context brand and the other brand as the target brand. They found that if less was known about the target brand, then the qualities of the context brand are transferred to the target brand in a process of assimilation. The dual-branding strategy provided brand linkages which encouraged consumers to infer that the unknown brand shared the qualities of the better known brand.

4.5.6 Marketing effects and consumer characteristics

The literature on co-branding tends to report on studies in which respondents are presented with fictitious co-branded products and they assess these products without the influence of prior marketing. Fewer studies investigate the characteristics of

consumers who may be targeted by co-branding, or what effect marketing might have on the outcome of a co-branding strategy.

Helmig, Huber and Leeflang (2007: 290) suggested that “personal, specific, exogenous variables” would influence a consumer’s intention to purchase a co-brand. Their research indicated that brand-consciousness and variety-seeking tendencies influenced intentions. They also found that consumers with high product involvement in the product category of the co-brand would be inclined to try it.

One study, which focussed particularly on symbolic ingredient co-branding, indicated that consumers self-congruity with a symbolic secondary brand could influence their attitude to the co-brand (Mazodier and Merunka, 2014:1557). Self-congruity is the match between the individual’s self-image and their perception of the attributes of the brand (Aaker, 1999: 46).

A landmark study of co-branding indicated that naming a co-brand with the partner brands in a different order (e.g. “Godiva by Slim-Fast” or “Slim-Fast by Godiva”) influences both attitudes to the co-brand and feedback effects on the parent brands (Park, Jun and Shocker, 1996: 464). This and many other aspects of the marketing of a co-brand must influence its success, but extensive research has yet to be published in this particular area. A study of the relationship between the All Black rugby team and Adidas concluded that the marketing communications were critical in the development of the equity of the co-brand (Motion, Leitch and Brodie, 2003).

In a study that examined the effect of product trial on co-brand evaluation, Washburn (1999: 147) confirmed that consumers’ experience of a product would influence their assessment of both the co-branded product and the constituent brands. A positive experience impacts particularly on a low equity brand and improves ratings significantly. High equity brands were found to be more stable.

Similarly, Janiszewski and van Osselaer (2000: 346) found that product experience affected evaluations of ingredient brands. A chocolate chip of perceived high quality was used in cookies which were sampled, and the subjects were then asked about

their perception of a muffin with the branded chocolate chip. The researchers found that if the cookies were branded only with the ingredient (chocolate chip) brand the evaluation of the muffins was high, but that if the cookies were jointly branded with the ingredient and a high quality cookie brand, expectations of the muffins were not increased. They do not attempt to explain this effect, other than to comment that the benefits associated with the joint brand may still be followed by a negative effect on the constituent brands. A possible explanation might be attribution, which is “how people assign credit or blame for the observed performance” of a co-brand (Newmeyer, 2011: 56). In the case of the joint branded cookies, customers may have given credit for the quality to the cookie brand and hence not have been influenced to regard another co-brand with the chocolate chips favourably. In the case of the cookies where only the chocolate chip brand was mentioned, credit may have been attributed to this brand.

Newmeyer (2011: 60) was concerned with how the nature of the co-branding relationship might affect consumer responses and identified the duration of the co-branding arrangement, exclusivity and the level of integration required to produce the new product. She found that these factors influenced the feedback effects on the parent brands.

4.6 CAUSE RELATED MARKETING: A SPECIAL CASE OF CO-BRANDING

Cause related marketing (CrM) usually involves a brand partnering with a cause for mutual benefit. (Lafferty and Goldsmith 2005: 423). An early definition specified that this should be an arrangement where the company undertakes to donate to the cause when consumers make purchases of branded products (Varadarajan and Menon, 1988: 58). The cause also benefits through a raised profile as a result of the company’s marketing activities. In return, the company hopes to be recognised for exhibiting corporate social responsibility, which may translate into “ethical brand value” (Langen, Grebitus and Hartmann, 2013: 207).

Studies on CrM may examine similar issues to those in the broader co-branding literature. Lafferty and Goldsmith (2005: 424) referred to Cause-Based Alliances (CBA) and examined the effects of this strategy and the moderating effect of cause familiarity. While they found that attitudes to the brand improved with both high and low familiarity causes, the attitudes to the low familiarity cause improved more from the CBA than did the more familiar cause towards which consumers had positive attitudes before the alliance. This latter effect is analogous to the effects of co-branding, where brands with lower salience benefit more from the alliance. In the case of cause related marketing, donations received would possibly be the greater attraction if the cause was already well known.

Langen *et al.* (2013: 213) examined the fit between cause and brand and found that this was important to consumers. This may increase consumers' sense of trust towards the alliance, since some scepticism towards the companies' motivation was noted. Du, Bhattacharya, and Sen noted that fit may be in terms of brand image or product fit with cause (2010: 10). Lafferty (2007: 451) was unable to discern any effect of cause-brand fit and speculated that consumers may be perceiving congruency in a different way with causes or may have a generally positive attitude to CrM, regardless of fit. When customers were asked to suggest suitable products for CrM, Langen *et al.* (2013: 213) observed that the products chosen were hedonistic, particularly coffee and chocolate. They speculated that these induce feelings of guilt which might be assuaged by CrM. This preference was also influenced by consumers' previous experience with CrM. Many of these respondents also indicated that they had been prepared to switch brands as a result of CrM.

An analogy may be drawn with the shared value creation continuum which separates complementary competence co-branding from reach/awareness (symbolic) co-branding (Blackett and Russell, 1999: 9). CrM can take place on a continuum from the strategic implementation of CrM where "a line of products is built around the concept of CrM" to a tactical use of CrM in promotion (Varadarajan and Menon 1988: 68).

Cause related marketing provides an opportunity for brands to demonstrate corporate social responsibility through programs that benefit both parties to the alliance.

4.7 DISCUSSION

The studies which have been described above focus largely on the factors which lead consumers to see a proposed co-brand in a favourable light. Fit between parent brands is often cited as a major contributor to co-branding success, but little work has been done on ways in which consumers might be stimulated to perceive this fit. The attributes of the co-brand arise from both parent brands (*de facto*) with the result that a nexus or bond of connection is created between the two parent brands. The role of marketing in exploiting this bond to increase brand equity for both parent brands is yet to be elucidated.

Furthermore, the role of the co-branded product itself is often neglected as is the type of consumer being targeted. The literature suggests an interesting implication in a co-branding context. There may be little or no perceived fit between two parent brands in a co-branding relationship but high goal congruency may exist between one parent brand product and the co-branded product.

At what point and to what extent will consumer goal congruency evolve between the two parent brands? As an example, consumers may exhibit little or no goal congruency between the TacoBell Mexican takeaway food franchise and SABMiller beers. However, a co-branded venture that introduced a chain of Mexican themed microbreweries is feasible. High goal congruency may be expected with consumers transferring their knowledge and affect from takeaway TacoBell food to a sit-down Mexican themed brewpub or “gastropub”. Similarly, drinkers of premium SAB beers may transfer their attitudes and affect to a brewpub. The potential for consumers to transfer their feelings and affect to a previously unfamiliar or goal incongruent parent brand needs further investigation.

Managers may limit their search for co-branding partners to those that already possess high brand equity and where the parent brand fit is obvious. In doing so they

may miss opportunities to ally themselves with other partners that may provide greater opportunities for growth. Brand equity as a measure of value may be inappropriate in many cases, particularly where one partner is unknown.

CHAPTER 5: RESEARCH METHODOLOGY

This chapter describes the empirical research approach and methods used to measure consumers' evaluations of brands and the impact of co-branding alliances on consumers' subsequent evaluations of the resulting co-brands. In accordance with the objective of the study, "An analysis of complementary competence co-branding potential in the beer industry", beer and fast food component brands are combined to create an undefined new product/service category. Consumer evaluations are measured using a consumer-based brand equity scale and scales used to measure, quality, attitudes and purchase intent.

5.1 OVERVIEW

The empirical study is designed, primarily, to answer the central research question:

"Is co-branding a more effective strategy to provide consumers with an innovative bundle of benefits than attempting to provide equivalent benefits individually."

The research is confined to the marketing issues surrounding this question, not the operational aspects concerned with the design and production of a new product/service. As a co-brand it is distinguished from related branding strategies such as product bundling and dual branding (see summary by Helmig *et al.*, 2008: 363). For clarity, co-brand definitions cited previously in this thesis are again listed:

- "Co-branding should be accompanied by a long-term agreement and cooperation"
- "The name of both brands should appear on the product, logo or product package"
- "The primary objective is to launch a new product in a new or existing market" (Besharat, 2010: 1241)
- "... the nature of the complementarity between the brands is from the perspective of the 'total' product, a view that focuses on the entire bundle of

benefits, tangible and intangible, that the product delivers to the customer.”
(Leuthesser, Kohli and Suri, 2003: 40)

With regard to the central research question, an effective strategy in this context is defined as one that would result in increased brand equity of the co-brand *versus* the brand equities of single brands. As Cobb-Walgren, Ruble and Donthu (1995: 28) and Christodoulides and de Chernatony, (2010: 44) suggested, increased brand equity positively affects consumer preference and purchase intention. The majority of studies to date have measured consumer perceptions of brands and their extension or co-branded products in terms of their brand equity as proposed by Aaker (1991) and subsequently modified and improved by Yoo and Donthu (2001). Brand equity is assessed using consumer-based measures, rather than firm-based measures (involving predominantly financial metrics) as consumers’ cognitive and behavioural responses may provide a better indication of their subsequent attitudes and behaviour.

The multidimensional brand equity (MBE) scale developed by Yoo and Donthu (2001:2) demonstrates that this measure is reliable, valid and parsimonious. Items measuring three underlying dimensions of brand equity are operationalised by ten items unevenly distributed across the three dimensions (brand loyalty; three items, perceived quality; two items and brand awareness and brand associations collapsed into one dimension with five items). MBE is calculated by adding up the ten scores to provide an index. Firstly, Christodoulides and de Chernatony, (2010: 57) observed that brand awareness and brand associations are two theoretically distinct constructs (albeit correlated), with brand awareness having to precede brand associations. Yoo and Donthu (2001: 10) themselves questioned whether equal weighting of the scores is valid. Also, perceived quality is only represented by two items. Will this MBE be consistent across different brands and different consumer demographics, for instance?

Washburn, Till and Priluck (2000: 597) reported a high internal consistency (Cronbach’s coefficient alpha = 0.91) when employing Yoo and Donthu’s (1997) twenty-six item, five brand dimensions reflective brand equity scale. Two concerns

should be noted. Firstly, high internal consistency may not, perhaps, be unexpected with barbeque flavoured potato chips (the selected constituent products of their co-brand concept) and a comparatively homogenous sample (139 undergraduate students). However, an entirely different outcome may be expected with a more heterogeneous population. For instance, to again use the example described in Chapter 1 of this thesis, young females who do not drink at all may perceive the quality of the Heineken brand to be high but brand loyalty may be expected to be low. Secondly and further to the previous point, modelling brand equity with reflective indicators (rather than formative) is a misspecification of the model and therefore may be expected to compromise the model's validity. Jarvis, Mackenzie and Podsakoff (2003: 199) and others (Freeze and Raschke, 2007: 1482; Coltman, Devinney, Midgley and Venaik, 2008: 1250) described the adverse consequences arising from misspecifying formatively indicated models as reflective.

Besharat (2010: 1241) in his study compared the relative success of co-branding *versus* brand extensions using previously selected high and low equity constituent brands. To determine the brand equity of the constituent brands they were scored in a pre-test using Yoo and Donthu's (2001) multidimensional consumer-based brand equity scale. The co-brands were successfully manipulated to achieve each of the four possible combinations (H-H, H-L, L-H & L-L). To test the relative success of these co-branding conditions, Besharat then tested three variables: consumer attitudes (four items), product quality perceptions (four items) and purchase intentions (three items). In the present study, consumers were manipulated into high, medium or low brand equity groups, not the brands.

The study reported in this thesis presents a further difficulty not encountered, or perhaps acknowledged, in previous research. Essentially, the dimensions of brand equity that are relevant to known or little known brands are unlikely to represent a valid measure of consumer-based brand equity with completely unknown brands (as were tested in this study): consumers' assessments and attitudes are likely to be based on pre-cognitive, affective judgements. As a result, and with the concerns regarding the misspecification of measurement models in mind, this study adopted Besharat's (2010: 1248) scales used to measure consumer attitudes, product quality

perceptions and purchase intentions. These dimensions were then incorporated into a new, formatively-indicated measurement model that measures a latent variable termed overall preference; a term adopted from Lin (2010: 28).

Whereas the research objective of most previous co-branding studies has been to explore or test how consumers evaluate co-brands and what factors influence consumer evaluations of new co-branded products (see Chapter 1, section 1.6), this research adopts a more pragmatic stance and seeks to explore the potential for co-branding strategies in terms of three outcomes:

1. To increase users' overall preferences (to stimulate willingness to pay more),
2. To increase intermittent users' overall preferences (to stimulate increased frequency of purchase), and
3. To increase non-users' overall preferences whilst suppressing any existing negative perceptions (to stimulate awareness, interest and an increased probability of purchase).

For the purposes of this study consumers are categorised as potential users of a brand if their “overall preference” measure is high (H), as potential intermittent users if the measure is in the mid-range (M) and potential non-users if the measure is low (L). Consequently, when two brands are combined to produce a single co-brand there are nine possible combinations that may occur with a representative sample of a consumer population demonstrating heterogeneous preferences: (L-L), (L-M), (L-H), (M-L), (M-M), (M-H), (H-L), (H-M) and (H-H). This research explores changes in overall preference measures of component brands contributing to a new and innovative co-branded product/service.

Brands that elicit negative responses from respondents are unlikely to be extended to new products and so are not generally included in co-brand studies. However, consumers that may be categorised as “non-users” and hold negative perceptions of particular brands or product categories are considered relevant in the present study. A practical example of a co-branding strategy with a known outcome is a proprietary

Irish whiskey brand and an Irish dairy cooperative. The successful new product saw a substantial number of adherents attracted from each of the three categories listed above and Bailey's Irish Cream is testament to the potential effectiveness and scope of co-branding. The overwhelming success could scarcely have been anticipated^c. The context of the present study may be analogous to the Bailey's example as consumers that may be categorised as "non-users" and hold negative perceptions of particular brands or product categories are as relevant to the present study as non-whiskey drinkers are to Bailey's Irish Cream. Forty years later is an addendum to the Bailey's example; there is a subsequent co-brand between Bailey's (now a brand in its own right and rated the number one global liqueur brand) and Belgian Milk Chocolate (Morton, 2013: 4).

5.2 THEORETICAL FRAMEWORKS

A range of behavioural theories have been used in brand, brand extension and co-brand studies:

1. Simonin and Ruth (1998: 32) used Anderson's 1981 information integration theory to provide a theoretical basis for understanding consumers' perceptions of brand alliances. The theory suggests that attitudes or beliefs are formed and adapted as people receive, interpret, evaluate, and then integrate received information with existing beliefs or attitudes. The study was replicated by Baumgarth (2004: 117) and the importance of brand attitudes (although of lower significance) was affirmed.
2. Helmig, Huber and Leeftang, (2007: 289) cited Fazio's 1986 attitude accessibility theory that proposes that the extent to which consumers' attitudes guide their subsequent perceptions of, and behaviour toward, the attitude object will be dictated by the accessibility of those attitudes from memory.
3. Meyers-Levy and Tybout (1989: 39) used schema theory to explain the congruity represented by a match between the attributes of a product and a

^c Bailey's Irish Cream Liqueur only came into existence in 1974 and now 63 million litres are sold annually (Diageo AFS, 2013: 27 & 201).

relevant schema. Aaker and Keller's study (1990: 29) explored the importance of fit between branded products and brand extension products. The tendency is for humans to combine new impressions of products with their existing memory of related products or the overall environment. The theory suggests that to evaluate co-branded products, consumers must perceive that the schemata of the constituent brands fit well together. Walchli (2007: 952) explored the effects of between-partner congruity on consumer evaluation of co-branded products, as did Stutz and Schaffner (2011: 364).

4. Other theories include the theory of reasoned action (Ajzen and Fishbein, 1977: 888; Ajzen, 2002: 665; Helmig, Huber and Leeflang, 2007: 291), the persuasion knowledge model (Friestad and Wright, 1994: 2; Jones, 2004: 28) and associative learning (Washburn, Till and Priluck, 2000: 593; Besharat, 2010: 1241).

Signalling theory (also termed information asymmetry) provides an appropriate theoretical framework that underpins the explanatory (causal) study areas of the present study. Studies by Rao, Qu and Ruekert (1999), Jones (2004) and Besharat (2010) used signalling theory to explain the underlying mechanisms of co-branding strategies. Essentially, signalling theory explains how the decision making processes of individuals are affected by the availability of information and provides a robust explanation of how consumers make judgments about intangible or hidden quality in a range of contexts (Durcikova and Gray, 2009: 84). In a review and assessment of signalling theory, Connelly, Certo, Ireland and Reutzel (2011: 42) highlighted the importance of information asymmetry when the information concerns quality and intent.

A co-branding strategy may provide an effective means of addressing the information asymmetries relating to intangible attributes and latent quality. The theory defines the signaller as the person, product or enterprise that sends the signal to a receiver. Signallers are "insiders" in the sense that they are party to useful information (both positive and negative) not available to "outsiders". According to Connelly *et al.* (2011: 44) signalling theory principally focuses on intentionally

communicating positive information that creates perceptions of positive attributes in the minds of receivers. Equally, an unintended consequence of an insider's signal is that negative information may be communicated and negative attributes conveyed.

The critical features of an effective signal are the extent to which it is apparent to outsiders and the cost that the signal represents. (Busenitz, Fiet, and Moesel, 2005: 3) defined a signal as "new information that may change current understanding of a future state". Sending false signals or misleading signals would result in receivers learning to ignore them so the cost of signals and signal honesty (Durcikova and Gray, 2009: 84) must be managed in such a way that they remain effective.

Receivers, as outsiders, lack the information an effective signal provides and stand to gain from the decision making the information facilitates. Since the interests of signallers and receivers are to a certain extent in competition, the honesty of the signaller and veracity of the signal (Busenitz *et al.*, 2005: 3) is critical. In this regard a high brand equity brand contributing to a co-brand will have the potential to signal greater legitimacy and credibility. Other constructs described by Connelly *et al.* (2013: 52) that are relevant in the co-brand context are signal costs associated with implementing a signal, "observability" of the signal (in terms of intensity, strength, clarity and visibility), fit or the extent to which the signal represents latent quality (fit relating to the signal and honesty being that of the signaller) and frequency or the number of times the same signal is repeated.

Signalling theory applied in studies to date depict co-branding as a bilateral relationship between signaller and receiver. A more complex model, as depicted in Figure 5.1, is proposed in this study. Essentially, the receiver is scanning the signalling environment, filtering noise and receiving and interpreting signals providing sought out information of the co-branded product and/or service from several signallers. In pursuit of an efficacious co-brand strategy it is essential that the various signallers are integrated in order to provide consistent, credible, mutually-supportive signals. This then may account for the synergies that co-brands are reputed to afford.

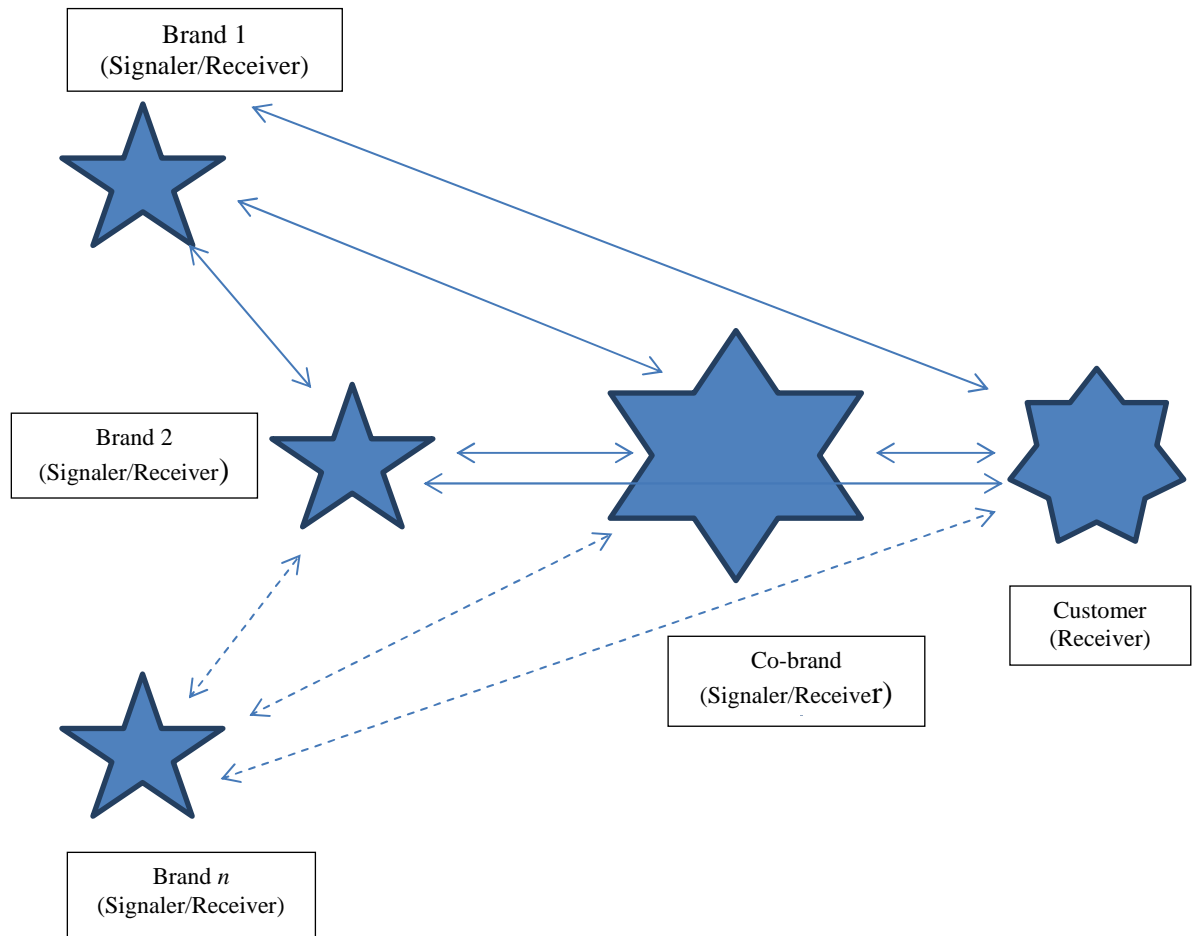


Figure 5.1 A signalling theory model representing a co-brand strategy incorporating n brands. Arrows represent the signals transmitted to address information asymmetry between signaller and receiver.

5.3 RESEARCH APPROACH

Research typically is either explanatory (causal) and adopts a hypothetico-deductive approach or is more exploratory in nature and inductive research processes are chosen (Sekaran and Bougie, 2013: 26). Exploratory studies are indicated when certain facts are understood but more information is required for the development of “a viable theoretical framework” (Sekaran and Bougie, 2013: 96). Jensen (2002: 259) introduced a third form of inference, abduction, to the more familiar deduction and induction. Furthermore, he suggested that few empirical studies rely on only one form of inference; generally, different combinations of all three are employed to

provide new insights. This study accords with Jensen's contention. Being largely an exploratory study, inductive reasoning has been used to arrive at general conclusions. Testing the difference between co-brand and individual constituent brand overall preference scores followed a hypothetico-deductive method. As recommended by Sekaran and Bougie (2013: 26) this involved defining the problem statement, developing hypotheses, determining an appropriate measure, collecting data, analysing the data and interpreting the results. The third inference, abduction, introduces a rule which may explain why one encounters particular, unexpected facts in a particular context. That is, when the outcome of the data analysis is only partly in line with the hypothesis and so gives rise to the formation of a new conjecture (Jensen, 2002: 260), as occurred in this study.

5.4 RESEARCH DESIGN

The aim of the research is to probe how consumers develop and respond to a diverse and complex range of brand associations that result from a co-branding alliance. The focus is on how, indeed if, a co-branding strategy may be used to incorporate a little known or unknown beer and restaurant/fast food brand with a relatively well know or popular complementary brand (i.e. beer/food or food/beer) to produce an overall consumption solution. The study focuses on four important research issues. Firstly, it tests a consumer-based multi-dimensional brand equity scale to measure respondents' assessments of consumer-based brand equity. The research findings (described in the next chapter) demonstrate the limitations and conceptual inconsistencies of using a conventional brand equity measurement approach. Instead, a formative scale is used to measure respondents' "overall brand preference" for the different brand concepts (whether considered individually or represented as an undefined co-brand concept).

The second research issue concerns the method with which co-brand concepts are presented to respondents and how their overall brand preferences are measured. Two experimental procedures are tested. The third area investigates how measures of the overall preference for a co-brand are affected when the original brands are evaluated variously as combinations of high, medium or low overall preference. Finally, the

research examines the effect on respondents' overall preference for a co-brand when a third cause-related modifying variable is introduced.

5.4.1 Research participants

A convenience, non-probability sample of a heterogeneous population of undergraduate and postgraduate business students attending the University of Kwa-Zulu Natal (UKZN), Pietermaritzburg was selected. The heterogeneity of the student sample refers to the different demographic variables of race, culture, socioeconomic status, religion, etc. A potential advantage of this etic approach is that the outcomes of the exploratory research may be considered relevant to, and even a basis for, later cross-cultural comparisons.

There is extensive criticism in the literature of an over-reliance on student subjects in business research but, as James and Sonner (2001: 63) pointed out, the typical undergraduate student in the past was aged between 18 and 23 years. These authors compared samples of traditional undergraduate students with working adults and older adults attending undergraduate classes. They concluded that older students are reasonable surrogates of working adults or "normal" consumers (2001: 69). Younger undergraduate students exhibit different perspectives with regard to emotional appeal, attitudes and purchase interest. The UKZN student sample used in the present study included conventional undergraduate students, older postgraduate students and working students. Furthermore, this broader age group and general demographic would be the target market for the brands and co-brands tested in the study; beverage and restaurant/fast food brands, so the findings may be relevant and generalisable to this population segment (young, better educated/professional adult).

5.4.2 Brand stimuli

Real, rather than fictitious brands were sought. As Christodoulides and de Chernatony (2010: 57) observed, there is a limitation to brand equity research that tends to rely on tangible product brands and not include service brands. This study uses beverage and restaurant/fast food brands with the latter brands representing substantial intangible, service elements. The objective was to identify specific brands

that were likely to have high brand equity and those likely to be unknown, low equity brands. To serve as an introduction to the brand evaluation procedure it was decided that motor car and motor cycle brands would be suitable candidates for a preliminary test. The categories of hospitality food and beverage brands were decided upon after an extensive review of examples observed during visits to shopping malls and through browsing magazines and websites from January to June 2011. Appropriate real brand stimuli were selected for each category using the Google internet search engine to search brand image logos in 10 different product categories as follows:

1. Motor car brands
2. Motor cycle brands
3. Steak house brands
4. Oriental food brands
5. Fast food brands
6. General hospitality food brands
7. Wine brands
8. Beer brands
9. Fruit juice brands
10. Mineral water brands

A non-probability, purposive, convenience sampling technique was used to select twelve brand logos in each category.

5.4.3 Pre-test- selection of appropriate brand stimuli

In August 2011 between 30 and 40 Honours students enrolled in the School of Management, IT and Governance on the Pietermaritzburg campus of the University of KwaZulu-Natal attended a voluntary research methodology workshop coordinated by the researcher. During the workshop these participants were served with a questionnaire. The questionnaire was developed from Besharat's (2010: 1248) twenty item, multidimensional scale that seeks to evaluate the constructs of consumer-based brand equity, consumer attitudes, quality perceptions and purchase intention. Besharat's scale, in turn, was based on the measurement scale proposed by Aaker, (1996: 118) and adapted and validated by Yoo and Donthu (2001: 14).

Ten items were selected from Besharat's twenty item scale and reworded slightly to accord with this study's measuring instrument (see Figure 5.2). The objective of the pre-test was to select potentially appropriate brand stimuli for the main study so reliability and validity of the measuring instrument were not considered critical. The questionnaire resembles a seven point Likert scale anchored by a negative 1 (strongly disagree, extremely negative, *etc.*) and positive 7 (strongly agree, extremely positive, *etc.*). However, unlike a conventional Likert scaled response sheet, in this test, respondents were required to enter the number corresponding to a particular brand logo in the block on the questionnaire that they considered best matched their evaluation of that brand. The results of the pre-test were used to select brand logos appropriate to the study (on the basis of highly familiar and unfamiliar or unknown).

A latent variable termed "familiarity" was proposed and operationalised on the basis of the average score recorded by respondents across the ten items. As the questionnaire sheet (Figure 5.2) illustrates, respondents could enter a brand logo reference number in a block corresponding to a score of 1, 4 or 7 on the Likert scale. A score of 4 was coded as 0, a score of 1 as -3 and a score of 7 as +3. A maximum of 6 of the 12 brands could be scored for each of the ten items (only 6 available squares per item) but not necessarily the same brands were evaluated against each item. For example, with slide 1, the two brands Audi and Ferrari could be selected for a score of 7 for item 1 "The likely quality of these brands is extremely high", but for item 2 "These brands would be my first choice" the two brands selected for a score of 7 might be Audi and Toyota. The average for each brand scored by each respondent was coded and the coded average scores were then totalled for each of the 12 brands in each category. The two top scoring brands in each category were designated "most familiar" and the lowest scoring brand in each category was deemed "least familiar or unknown brand". These three brands in each product category were then used as brand logo stimuli in the main study. The analysis by which the brand logos were selected is obviously biased (a score averaged over one or two items counts the same as a score averaged over ten items) but was considered adequate for identifying most familiar and least familiar brand logos. The content, criterion-related and construct validity are not critical in this context; a certain amount of error is not material.

SLIDE NO.	
Product Category	

	1=strongly disagree 7=strongly agree						
	1	2	3	4	5	6	7
1. The likely quality of these brands is extremely high							
2. These brands would be my first choice							
3. I recognise these brands clearly							
4. Some characteristics of these brands come readily to mind							
5. It is likely that I would be loyal to these brands							
	1= extremely negative 7= extremely positive						
6. My attitude towards these brands is....							
	1= extremely inferior 7= extremely superior						
7. Relative to other brands I believe these brands are likely to be.....							
	1= definitely not 7= definitely yes						
8. I like to/ would like to try these brands							
9. I would be willing to pay for these brands							
10. I would go out of my way to pay for these brands							

Figure 5.2 Pre-test measuring instrument used to evaluate potential brands to be used in main study.

No further analysis of pre-test data was performed as the levels of validity and reliability were only considered sufficient to serve as a relatively crude brand logo stimuli selection tool. Note that to avoid confusing a nebulous construct with a tested and valid construct such as “consumer-based brand equity” the term “familiarity” was used to describe an appropriate construct to use as a brand selection tool where the objective was to simply identify likely candidate brands for most familiar and least familiar..



Figure 5.3 Slide 1- Brand logos of 12 automotive brands presented to respondents in the pre-test.

The pre-test was conducted by presenting the twelve brand stimuli in each product category to the student respondents in a sequence of PowerPoint slides (see example, Figure 5.3 and complete series Appendix A, Study 1 Pre-test). Respondents were given time to read and complete informed consent documents and then were asked to complete the first round that required them to view 12 brand logos and to complete questionnaire 1 by responding to the ten statements. They were then asked to view

twelve brand logos in each of the remaining eight product categories (four food categories and four beverage categories; a total of ninety-six brands). The respondents were given the following instructions prior to commencing the pre-test:

“Please check that you have 9 questionnaire sheets in front of you. Each questionnaire will relate to 12 brand logos projected onto the screen at the front of the room. For each statement recorded on the questionnaire sheet please consider the twelve brand logos shown on the screen. Select two of the brands that you consider best match the column 7 response. Then, select two brand logos that best match column 1. Finally, please select 2 brand logos that you consider are half way between 1 and 7 and best match column 4. We’ll use the same approach for each of the 10 statements. Please use the number appearing in the box beneath each brand logo to indicate your choice on the questionnaire. Let’s begin by completing questionnaire sheet 1 that will probe your perceptions of 12 automotive brand logos. ”

5.5 MAIN STUDY

The three brands selected in each product category (most ‘familiar’, second most ‘familiar’ and least ‘familiar/unknown’) were included in the main study. The latent variable ‘familiar’ is presented in inverted commas to indicate that it is used in this context as a term of convenience rather than as a literal definition. The dimensions of this construct include perceived quality, respondent’s attitudes and intention to purchase. The ten product categories selected for the study were reduced to the following eight categories:

1. Motor car brands (not used in co-brands)
2. Motor cycle brands (not used in co-brands)
3. Steak house brands
4. Oriental food brands (not used in co-brands)
5. Fast food brands
6. General hospitality food brands (not used in co-brands)
7. Beer brands
8. Mineral water brands (not used in co-brands)

Five of the eight product categories were not tested as constituent co-brands. As the beer brands are central to the objectives of the study they were selected as potential co-brand constituent brands. A subjective assessment of the food category brands was made and the two categories of food judged by the researcher to be the most homogenous were selected (to reduce potential product association effects). The steak house and fast food brands were considered to represent the most homogenous product categories. The beer/food co-brands were matched, firstly, on the basis of most familiar beer brand (Heineken) with least familiar steak house brand (Zebras) and least familiar fast food brand (Wendy's). Then the least familiar beer brand (Samuel Adams) was matched with the most familiar steak house brand (Spur) and most familiar fast food brand (McDonalds). Lastly, the second most familiar beer brand (Windhoek) was matched with the two second most familiar food brands (Steers and KFC).

The manipulation of fictitious co-brands sought to achieve co-brands that represented High-Low, Low-High, and potentially, with the combination of the two second most familiar co-brands, High-High, High-Medium, Medium-High and Medium-Medium outcomes. Given the heterogeneous nature of the sample population, it was anticipated that the six co-brands would elicit diverse responses and, overall, result in a substantial number of participants represented in each one of the nine possible subgroups; that is H-H, H-M, H-L, M-H...L-L.

The ten item multidimensional "brand familiarity" measurement scale was modified to include a further two items from Besharat's (2010: 1248) twenty item, multidimensional scale, to create a twelve item scale (see Figure 5.4). The twelve items seek to operationalise the four dimensions: consumer based brand equity (items 2, 3 & 4), quality perceptions (items 1, 5 & 7), attitude (items 6, 8 & 9) and purchase intention (items 10, 11 & 12).

Sections 5.5.1 and 5.5.2 that follow describe how the main study was conducted in two stages: stage 1 in October 2011 and stage 2 in October 2012. The timing of the

main studies was planned to coincide with the end of the academic year when students had completed their module lectures and were free to participate in revision and other activities.

5.5.1 Stage 1 of main study

In stage 1 three classes of students were invited to participate in the study. The first class comprised 147 conventional undergraduate students, the second 56 evening, part-time undergraduate students and the third class 55 evening, part-time postgraduate students. All 258 students were enrolled in business studies modules. Some students were absent from class, others declined to take part in the study, and a third group did not complete the questionnaires or left sections blank. Only the responses from participants where all questionnaire sheets had been attempted were retained. Eighty responses were retained (31% response rate) and data from these questionnaires were then captured and analysed. Participants were only asked to record their age and gender. No other demographic data were requested due to the heterogeneous nature of the UKZN student population. Conventional designations such as Black, Indian, White and Other would be largely meaningless. “Black” students range from Black South Africans from at least nine separate cultural groups, from backgrounds in destitute informal settlements to upper income privileged backgrounds. Non-South African Blacks originate from neighbouring states, central Africa and Francophone West African states. Indians include Muslim, Hindu, Christian and other religions. Whites may be from Afrikaans, South African English or expatriate backgrounds.

The most widely used marketing research tool used to segment the South African market is the South African Audience Research Foundation (SAARF) LSM (Living Standards Measure) that divides the population into 10 LSM groups; 10 (highest) to 1 (lowest). Twenty variables are used to differentiate between consumers (SAARF, 2012: 12). For the purposes of this study the researcher concluded that any attempt to categorise respondents by LSM would be problematic in terms of validity (the feasibility of measuring all the relevant variables) and in terms of requiring students to divulge personal information.

The questionnaire response sheet (see Figure 5.4) lists the twelve items with a seven point Likert scale anchored by a negative 1 (strongly disagree, extremely negative, etc.) and positive 7 (strongly agree, extremely positive, etc.).

SLIDE	
-------	--

		1=strongly disagree 7= strongly agree						
		1	2	3	4	5	6	7
1. The likely quality of these brands is extremely high	Brands A							
	Brands B							
2. These brands would be my first choice	Brands A							
	Brands B							
3. I recognise these brands clearly	Brands A							
	Brands B							
4. Some characteristics of these brands come readily to mind	Brands A							
	Brands B							
5. It makes sense to buy these brands instead of other brands	Brands A							
	Brands B							
6. It is likely that I would be loyal to these brands	Brands A							
	Brands B							
7. These brands are likely to be reliable	Brands A							
	Brands B							
		1= extremely negative 7= extremely positive						
8. My attitude towards these brands is.....	Brands A							
	Brands B							
		1= extremely inferior 7= extremely superior						
9. Relative to other brands I believe these brands are likely to be.....	Brands A							
	Brands B							
		1= definitely not yes 7= definitely yes						
10. I like to/ would like to try these brands	Brands A							
	Brands B							
11. I would be willing to pay for these brands	Brands A							
	Brands B							
12. I would go out of my way to pay for these brands	Brands A							
	Brands B							

Figure 5.4 Main study, stage 1 brand evaluation response sheet

The column of block 4s were highlighted to provide a visual cue of a neutral response; neither agree nor disagree. Adjoining each item are two rows of blocks (corresponding to the seven point Likert scale) with the rows labelled brands A and B. In this test, respondents were required to enter the number corresponding to each of the three brands A and the three brands B (i.e. a total of six brands per slide) in the block on the questionnaire that they considered best matched their evaluation of that brand.

Respondents were given time to read and complete informed consent documents and then were asked to complete the first round requiring them to view a PowerPoint slide with 6 brand logos in 2 product categories; the first with 3 motor vehicle brands (Brands A) and the second with 3 motor cycle brands (Brands B) They completed the questionnaire sheet 1 by responding to the 12 statements. They were then asked to view 3 brand logos in 6 product categories (4 food categories and 2 beverage categories; a total of 18 brands). The brands were presented to respondents category by category on PowerPoint slides (4 slides with 2 x 3 brands (A & B) appearing on each slide). Respondents were asked to do the following:

“Please check that you have 8 questionnaire sheets in front of you before you begin. Each questionnaire records 12 statements. For each statement recorded on the questionnaire sheet please consider the first 3 brand logos (Brands A) shown on the screen and indicate where you consider each brand is positioned on the scale 1 to 7. Then consider the second 3 brand logos (Brands B) and indicate where you consider each of these brands is positioned on the scale 1 to 7. Use the same approach for each of the 10 statements. Let’s begin by completing questionnaire sheet 1 that will probe your perceptions of 3 motor vehicle brands and 3 motor cycle brands.”

When the respondents had completed the 4 questionnaire sheets the concept of co-branding was described to them as follows:

“Co-branding is a business strategy that seeks to integrate the value chains of participating businesses in order to bring consumers better products, cheaper products, innovative products or even completely unexpected products and

services. We want to understand what your perceptions of co-branded products are. Please evaluate the brand logos that will participate and contribute to a new and innovative co-branded product/service combination. The following 2 slides will show you pairs of brand logos incorporating 1 beer brand and 1 food brand.”

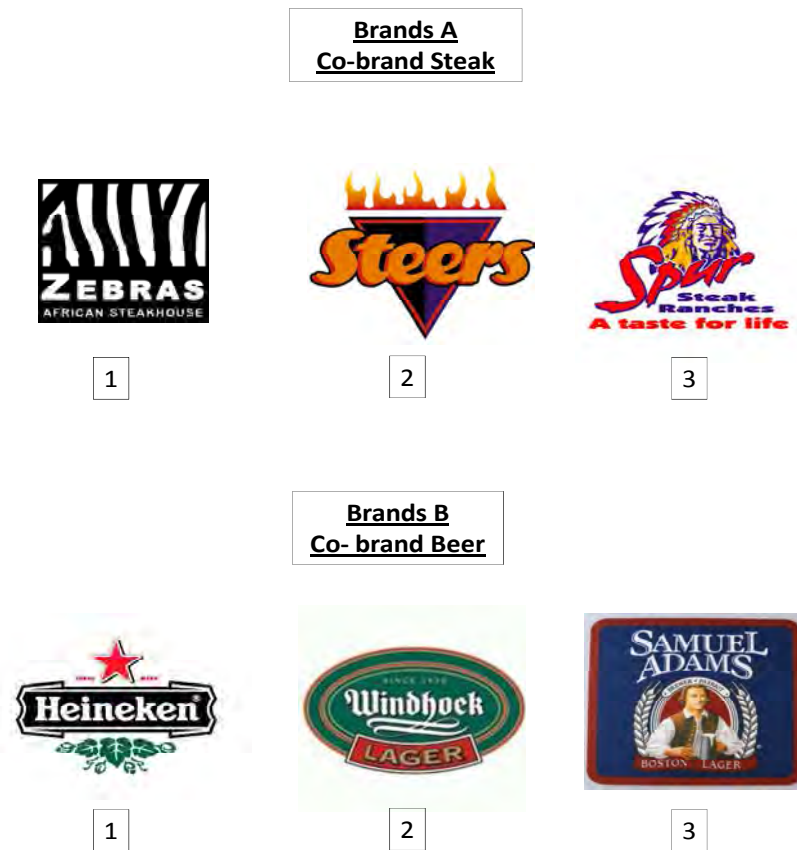


Figure 5.5 Main study, stage 1 co-brand pairs- individual brand evaluations

The co-brand pairs presented in the PowerPoint slides were screened pair-by-pair. As illustrated in Figure 5.5, respondents were first shown images of the Zebras and Heineken brand logos and asked to evaluate each brand individually in terms of the 12 items. Having completed the evaluation of co-brand concept 1, respondents were then shown co-brand 2 (Steers and Windhoek). This was repeated for co-brand 3 and the following PowerPoint slide depicting three fast-food/beer co-brands.



Figure 5.6 Main study, stage 1 co-brand pairs- composite brand evaluations

No details of the fictitious co-brand concepts were provided and the co-branded products were hypothetical in order to control for prior experience with the co-branded products. The focus of the research is on participants' initial responses to co-brand images rather than their possible prior experiences of the product.

Having completed these 2 questionnaires, respondents were then asked to evaluate the same co-brands, but instead of evaluating the component brands individually (as brands A and Brands B), the 3 steakhouse/beer co-brands were presented as a

composite co-brand; respondents recorded evaluations of each item for the composite co-brand. The co-brands were screened individually in the order brands A1, A2, A3, B1...B3 (see Figure 5.6).

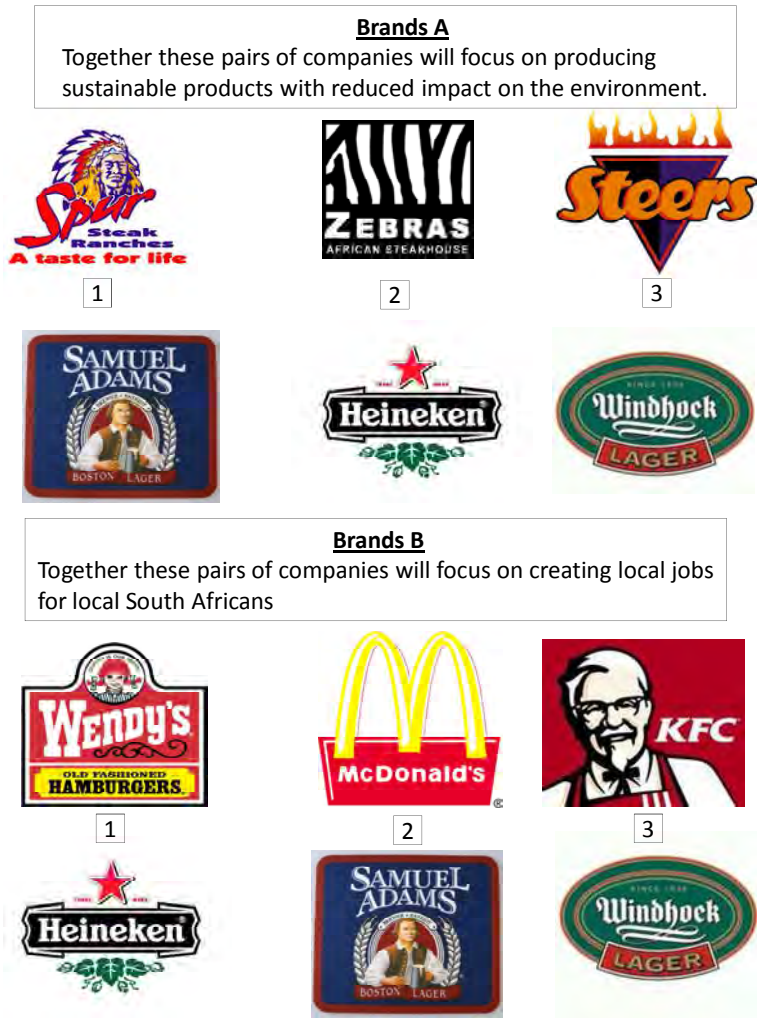


Figure 5.7 Main study, stage 1 co-brand pairs- composite brand evaluations presented in a cause-related context.

Before screening the final PowerPoint slide (slide 8, see Figure 5.7), it was explained to respondents that companies participating in a co-branding venture wished to demonstrate their joint corporate social responsibility in one of 2 ways, as follows:

1. Together, pairs of companies would focus on producing sustainable products with reduced impact on the environment, or;

2. Together pairs of companies would focus on creating local jobs for local South Africans.

Respondents were then asked to complete the final (8th) questionnaire.

The study comprised 8 questionnaire sheets and 8 PowerPoint slides. A time of 5-6 minutes was allowed for the screening of each slide and to answer each sheet of the questionnaire i.e. 40-50 minutes or a standard lecture session. In practice, the researcher found that the respondents requested that explanations be repeated and were slower to respond initially than anticipated. The three tests conducted in stage 1 took between 70 and 80 minutes to complete.

Respondents handed in their questionnaire sheets at the end of the session. A research assistant was subsequently responsible for sorting the questionnaires and discarding any respondent's questionnaires where one or more of the sheets were not completed. If some, but not all of the items evaluating the brands were answered the respondent's questionnaires were retained. The research assistant was then responsible for capturing the questionnaire data and recording it on a MS Excel spreadsheet.

5.5.2 Stage 2 of main study

In stage 2 four classes of students were invited to participate in the study. The first class comprised 166 conventional undergraduate students, the second 43 evening, part-time undergraduate students, the third class 55 evening, part-time postgraduate students and the fourth class 189 conventional undergraduate students. All 453 students were enrolled in business studies modules. Some students were absent from class, others declined to take part in the study, and a third group did not complete the questionnaires or left sections blank. Only the responses from participants where all questionnaire sheets had been attempted were retained. Again, participants were only asked to record their age and gender; no other demographic data were requested. Two hundred and fifty one responses were retained (55% response rate) and data from these questionnaires were then captured and analysed.

The second stage of the main study followed the same procedure as the first stage, with two exceptions. The stage 1 tests were found to take longer than anticipated and ultimately the response rate was low (31%). Consequently, firstly, the number of product categories was reduced from eight to four brands as follows:

1. Motor car brands (not used in co-brands)
2. Steak house brands
3. Fast food brands
4. Beer brands

Secondly, the number of dimensions and underlying items were reduced from four to three dimensions and twelve to nine items. Analysis of the stage 1 data indicated that the dimension, consumer-based brand equity (CBE) was conceptually inconsistent with the theoretical model proposed. Data analysis now centred on a formatively-indicated measurement scale that seeks to measure a proposed construct described as participants' overall preference. As a formative scale, inter-item consistency was no longer a requirement. Overall preference was operationalised in terms of the following three dimensions and measured as an un-weighted average of the nine underlying items:

1. Quality perceptions-
 - i. The likely quality of these brands is extremely high
 - ii. It makes sense to buy these brands instead of other brands
 - iii. These brands are likely to be reliable
2. Attitude-
 - i. It is likely that I would be loyal to these brands
 - ii. My attitude towards these brands is.....
 - iii. Relative to other brands I believe these brands are likely to be.....
3. Purchase intention-
 - i. I like to/ would like to try these brands
 - ii. I would be willing to pay for these brands
 - iii. I would go out of my way to pay for these brands

The first two of the four classes participating in stage 2 of the main study were required to evaluate the brand logos and co-brands on seven slides (vs. the eight in stage 1). The time taken to complete the entire task was reduced from between 70 and 80 minutes to approximately 60-70 minutes. This was considered to still be excessive as it did not fit into the 45-50 minute window of a standard lecture session. Consequently, with the final two classes the evaluation of co-brand concepts, where the component brands in the co-brand were evaluated separately, was omitted. This reduced the slides screened from seven to five and the time required for participants to complete their evaluations reduced to 45 minutes.

A research assistant was again responsible for sorting the questionnaires and discarding any respondent's questionnaires where one or more of the sheets were not completed. If some, but not all of the items evaluating the brands were answered the respondent's questionnaires were retained. The research assistant was then responsible for capturing the questionnaire data and recording it on a MS Excel spreadsheet.

5.6 DATA ANALYSES

Statistical analyses of the data were confined to the main study findings. The IBM SPSS version 21 statistical analysis package was employed. Data was imported into SPSS from the MS Excel data files. Four principal analyses were carried out in SPSS.

5.6.1 Interitem consistency reliability

To test the consistency of respondents' answers to the items measured on a seven point Likert scale, Cronbach's coefficient alpha was used. The results of these analyses were used to evaluate the research instrument and the reliability with which it measured the latent variables under investigation.

5.6.2 Tests for differences in distributions (medians)

The data recorded using Likert scaled measurements has an ordinal basis so comparison of medians using non-parametric tests was preferred. The comparisons

of two or more groups of participants in the study were performed using the Kruskal-Wallis test that does not have the requirement for normality that the ANOVA procedure has. The Kruskal-Wallis test permits the dependant variable to be measured at the ordinal level whilst the independent variables are categorical, independent groups/samples. The null hypotheses state that “*The distributions or median test scores (M) are equal*” for the different groups/samples, that is:

$$H_0: M_1 = M_2 = M_3 \dots = M_x$$

The alternate hypotheses are “*The distributions or median test scores are not all equal*” i.e. H_a : Not all the medians are equal. A significance level of $\alpha = 0.05$ was adopted. If p value ≤ 0.05 the null hypothesis was rejected.

Group comparisons were made between the different groups of participants that took part in the study and between different age groups of study participants. Ages ranged from 18 to 39 and four age groups were recognised:

- Group 1 Aged ≤ 20
- Group 2 21 – 24
- Group 3 25 – 29
- Group 4 Aged ≥ 30

The Mann-Whitney U test was employed to compare two independent groups, based on gender (i.e. female/male). A further assumption of the Mann-Whitney U test is that not only are the two variables not normally distributed but that the two distributions have the same shape. If the data violates this assumption then only mean ranks rather than medians may be compared. The null hypotheses state that:

$$H_0: M_F = M_M$$

The alternate hypotheses are “*The mean ranks or median test scores of females and males are not equal*” i.e. H_a : The mean ranks/medians of female and male groups are

not equal. A significance level of $\alpha = 0.05$ was adopted. If p value ≤ 0.05 the null hypothesis was rejected.

5.6.3 Testing hypotheses about two related samples

A major objective of the present study was to investigate the impact of co-branding on respondents' evaluations of the component brands. The null hypothesis is that there is no effect on respondents' evaluations. Where similar studies have involved a demographically more homogeneous sample population profile and pre-tests have identified brand stimuli that consistently demonstrate either high or low brand equity, the present study sampled a demographically heterogeneous population and tested high equity brands and virtually unknown brands (~no brand equity).

The latent variable, 'overall preference' after Lin (2010: 28) was operationalised as the summative average of the three dimensions, perceived quality, attitude and purchase intention, with each dimension measured on a three item 7-point Likert scale. Firstly, the median differences in overall preference of paired samples of the heterogeneous population of business students were tested. The Wilcoxon signed rank test does not assume normality of the data so is the non-parametric equivalent of the dependent t -test. The following hypotheses were developed and tested:

Hypothesis 1. H_0 : The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed individually (separately from) the corresponding component brand in the co-brand.

Hypothesis 2. H_0 : The overall preference score for a beer brand is the same as the overall preference score for a composite beer/food co-brand containing that beer brand.

Hypothesis 3. H_0 : The overall preference score for a beer co-brand when the beer brand is assessed individually in the co-brand is no different from an assessment that considers the overall (composite) co-brand.

Hypothesis 4. H_0 : The overall preference score for a beer brand is not affected by co-branding with a food brand when the co-brand is presented in a cause-related context.

Hypothesis 5. H_0 : The overall preference score for a beer/food co-brand is not affected by presenting that co-brand in a cause-related context.

Having tested the median differences of paired samples of the heterogeneous population of business students, sub samples of the heterogeneous population were drawn. Using the latent variable, 'overall preference', participants in the study were grouped into subsamples according to their evaluations of component brands. Three groups were specified and arbitrarily designated as follows:

Group 1 High overall preference score ≥ 5.1

Group 2 Medium overall preference score 3.0 – 5.0

Group 3 Low overall preference score ≤ 2.9

Firstly, three subgroups were identified for each beer brand according to respondents' overall preference score (*i.e.* H, M and L). Next, each subgroup was further divided according to respondents' overall preference score for the partnering food brand component of the hypothetical co-brand. This produced nine sub-subgroups (*i.e.* H-H, H-M, H-L, M-H... and L-L). If the number of study participants in each of the groups exceeded thirty, the median differences in overall preference of paired samples were tested in accordance with the following hypothesis (from hypothesis 2 above):

Hypothesis 2_(a) H_0 : The overall preference score for a beer brand is the same as the overall preference score for a composite beer/food co-brand containing that beer brand,

Secondly, this testing procedure was repeated with the component brands to the co-brand reversed. That is, three subgroups of each of the six food brands were identified and sub-subgroups were then formed according to the overall preference evaluations of the corresponding beer brands making up the co-brand.

Hypothesis 2_(b) H_0 : The overall preference score for a food brand is the same as the overall preference score for a composite food/beer co-brand containing that food brand.

5.7 DISCUSSION

The methodology described in this chapter indicates that both inductive and deductive processes have been applied in the research. Whereas deductive processes have contributed to the causal (explanatory) aspects of the study, inductive research processes have contributed to the exploratory areas of the study. Although the present study shares common elements with similar, previous studies, it departs in a number of areas. Firstly, where other studies have sampled comparatively homogenous populations (generally business studies students) the population sampled in the present study reflects a heterogeneous demographic profile. Secondly, where other studies have investigated co-brands that incorporate combinations of high and low equity brands this study selected high equity brands and unknown but real brands likely to have little or no equity. Thirdly, this study deviates from previous studies in that it specifies a formatively-indicated (composite latent variable) measurement model rather than the oft used (misspecified) reflective measurement model. Fourthly, where other studies have used pre-tests to manipulate brands to achieve high or low equity co-brand component brands, the present study manipulates a heterogeneous sample population to provide subsamples evidencing low, medium and high levels of brand preference. Fifthly, as Christodoulides and de Chernatony (2009; 57) observed, most studies have focussed on tangible product brands rather than service brands. Brodie, Glynn and Little (2006: 375) suggest that more attention should be directed at the service brand. Consequently, this study explores and tests brands and undefined, hypothetical co-brand concepts that incorporate both tangible and service-dominant (S-D) attributes. Sixthly, the majority of studies develop realistic co-brands that respondents may be able to visualise and define. As a result product association and even experience effects may be expected to influence respondents' evaluations of co-brands. The purpose of this study is to investigate the effects of, and on, the brands participating in a co-brand alliance and seeks to minimise product effects by using real brands but by proposing unspecified, hypothetical product/service co-brands. Lastly, this study investigates the effects of introducing a third cause-related modifying variable on respondents' evaluations of co-brands.

CHAPTER 6: RESEARCH FINDINGS AND ANALYSES

The findings of the empirical research reported in this chapter are described under separate headings in accordance with the two major phases of the study. The first phase served as a pre-test to determine appropriate stimuli (brand logos) that were then used in the second phase. Appropriate brand logos (selected on the basis of most familiar, second most familiar and least familiar/unknown) identified in the pre-test, were used in the two stages of the main study.

6.1 PRE-TEST

The non-probability, purposive, convenience sampling technique used to select appropriate real brand stimuli on the internet yielded numerous examples for each brand. A subjective assessment of the brand logos was made in order to select images that appeared to have the same resolution and colour contrast. A total of twelve different brands were selected for each of ten different product categories as follows:

1. Motor car brands
2. Motor cycle brands
3. Steak house brands
4. Oriental food brands
5. Fast food brands
6. General hospitality food brands
7. Wine brands
8. Beer brands
9. Fruit juice brands
10. Mineral water brands

The brand logos in each category were randomly allocated numbers 1 – 12 and then inserted into MS PowerPoint slides corresponding to the ten product categories. Care was taken to size each logo uniformly. The brand logo slides may be viewed in Appendix A, Study 1,c. Brand image logos.

From a total of 40 questionnaires distributed to postgraduate students aged 21 to 27 years at an August 2011 research methodology workshop, 24 completed questionnaires were returned. The multi-item (10 item) questionnaire sheets enabled respondents to select different brands to evaluate in response to each item. Negative responses (corresponding to 1 on a Likert measurement scale) were scored -3, neutral responses (4) were scored 0 and positive responses (7) were scored +3. The scores were averaged according to the number of items against which they were evaluated and were rounded to either -3, 0 or +3. This introduced a biased result *e.g.* a respondent who rated a brand positively in terms of only 1 item would contribute the same score (+3) as a respondent who rated that brand positively in terms of all ten items (also +3).

Similarly, a respondent could record several brands per product category with the same scores *e.g.* the two brands Audi and Ferrari could be selected for a score of 7 for item 1 “The likely quality of these brands is extremely high”, but for item 2 “These brands would be my first choice” the two brands selected for a score of 7 might be Audi and Toyota. Despite these biases the selection process was considered adequate for the purpose it was designed for; the instrument was not required to achieve a high level of stability and consistency. Suitable brand stimuli, in the context of a heterogeneous sample population, were required to be either highly familiar on the one hand or unknown/little-known on the other.

The summed scores across all respondents for each brand were used to estimate a latent variable that was termed brand familiarity. The brand in each product category that achieved the highest score was deemed most familiar and the lowest score, least familiar or unknown. These two brands and the brand with the second highest score were then incorporated into the main study. Figure 6.1 records the results of the selection process to identify co-brand component brands in the three product categories that were tested in the main study as component brands of a hypothetical co-brand. Again, operationalisation of the construct ‘brand familiarity’ was not intended to be too rigorous. The objective was to rate brands using a multi-item scale that provided a reasonable representation of relevant dimensions (brand equity, quality, attitude and purchase intention) and could be considered reasonably valid.

PRETEST SELECTION OF BRAND LOGO STIMULI																										
Slide Number	Brand Number	Respondent Number																			Total					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20	21	22	23	24
Steak house	1	-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	-21	
	2	3	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	48	
	3	0					3																		9	
	4	0	3				3																			-21
	5	3	0	3			3																			0
	6	0																								0
	7	-3	3																							-30
	8	0	0	3																						3
	9	0	3	3																						0
	10	3	3	3																						39
	11	0																								-6
	12	-3																								-18
Fast food	1	3	0	-3																					0	
	2	0	3	3																					30	
	3	-3																							-36	
	4	3	0	3																						30
	5	0	0																							0
	6	0																								0
	7	3	-3																							-3
	8	3	3	3																						54
	9	0	-3																							-36
	10	3	3	3																						27
	11	-3																								-39
	12	-3	3	3																						-18
Deer	1	3	-3																						-18	
	2	0	3																						-9	
	3	-3	3																						-21	
	4	3	0	3																						21
	5	-3	3	0																						12
	6	0																								-3
	7	0	3	3																						33
	8	-3	3	3																						71
	9	0																								21
	10	3	3	0																						15
	11	0	3	3																						-3
	12	-3																								-9

Figure 6.1 Pre-test selection of co-brand component brand logo stimuli (steakhouse, fast food and beer brands). See Appendix A, 2 Study 1,d (p. 207, 208) Pre-test selection of brand logo stimuli, for full results.

6.2 MAIN STUDY

The limitations of the construct ‘brand familiarity’ were recognised in the pre-test but identifying an appropriate consumer based multidimensional scale to measure consumers’ assessments of brands and co-brands proved more difficult than anticipated. As described in previous chapters, the majority of similar studies employ multi-item scales representing some or all of Aaker’s (1991: 269) five brand equity dimensions. Yoo and Donthu (1997) proposed a 26 item brand equity measurement scale where the items were evaluated on a seven point Likert scale, added and divided by 26 to provide a mean brand equity score. Washburn, Till and Priluck (2000: 597) used this scale to measure the mean brand equity score of co-brands and their component brands. A high inter-item consistency reliability was recorded (Cronbach’s coefficient alpha = 0.91). With all items expected to correlate, an implicit assumption is that this measurement scale is reflective (*i.e.* direction of ‘causality’ is from construct to items, Sekaran and Bougie, 2013: 230).

Two aspects of this study are cause for concern. Firstly, with certain brands the multi-item correlations may be high, indeed convergent validity may be established using a different instrument, but with other brands this may not be observed. A company that has been implicated in a corporate scandal, for instance, may still enjoy high brand awareness levels and a high quality reputation but have extremely negative brand associations. Similarly, a brand that has positive associations and high quality perceptions may record low levels of loyalty due to unreliable supply. Greater heterogeneity of both the sample population and/or the brands under investigation may be expected to exacerbate this effect. The need for more discriminating indicators is acknowledged by Washburn and Plank (2002: 60).

The second cause for concern relates to the researchers’ use of fictitious brands to manipulate strong high/low brand equities. On face value alone, a fictitious (therefore unknown) brand is not an equivalent of a low equity brand. Returning to Aaker’s (1991: 15) definition of brand equity as “a set of brand assets *and liabilities* linked to a brand”, negative associations and poor quality reputation are far removed from a brand that is simply unknown but has no pre-existing negative connotations.

An unknown brand is also not one with no brand equity; a consumer presented with two unknown brands may be expected to select one ahead of another on the basis of immediate, perhaps, precognitive judgment.

Whether using the 26-item scale of Washburn, Till and Priluck (2000: 597), the 10-item multidimensional consumer-based brand equity (MBE) scale developed and validated by Yoo and Donthu (2001: 14), the 19-item scale of Washburn, Till and Priluck (2004: 499), the 19-item scale of Pappu, Quester and Cooksey (2005: 146) or the 21 item scale of Buil, de Chernotony and Martínez (2008: 387), the measure of consumer-based brand equity of unknown brands (fictitious and real) may lack discriminant validity and may be expected to show excessive kurtosis and skewness.

Whereas the principal objective of consumer-based brand equity measurements was to evaluate the intangible assets represented by a brand, the present study (and the majority of other co-brand studies) are more interested in how co-branding strategies may influence consumers' subsequent attitudes and behaviour (purchasing and otherwise). Consequently, this study proposed a multidimensional construct, overall brand preference (taken from Lin, 2010: 28), that seeks to overcome the practical and conceptual limitations of the consumer-based brand equity measurement model. Whilst a consumer-based brand equity scale may be considered reflective (all items have a common basis) the construct 'overall preference' is proposed as a formatively-indicated measurement model viewed as an explanatory combination of its various dimensions (*i.e.* direction of causality is reversed).

6.2.1 A measuring instrument for 'overall preference'

Cobb-Walgren, Ruble and Donthu (1995: 370) examined the effect of brand equity on consumer preferences and purchase intentions and concluded that brands with higher equities fostered greater preference and purchase intentions. Besharat (2010: 1244) included measures for consumer attitudes, product quality perceptions and purchase intentions in his study. As a result a further two items from Besharat's (2010: 1248) twenty item, multidimensional scale were included in this study. For the purposes of this study, the construct 'overall brand preference' was operationalised on the basis

of four dimensions and twelve items. The research instrument initially comprised the following:

1. Consumer-based brand equity:
 - These brands would be my first choice (strongly disagree [1] → strongly agree [7])
 - I recognise these brands clearly (strongly disagree [1] → strongly agree [7])
 - Some characteristics of these brands come readily to mind (strongly disagree [1] → strongly agree [7])
2. Quality perceptions
 - The likely quality of these brands is extremely high (strongly disagree [1] → strongly agree [7])
 - It makes sense to buy these brands instead of other brands (strongly disagree [1] → strongly agree [7])
 - These brands are likely to be reliable (strongly disagree [1] → strongly agree [7])
3. Attitudes
 - It is likely that I would be loyal to these brands (strongly disagree [1] → strongly agree [7])
 - My attitude towards these brands is.....(extremely negative [1] → Extremely positive [7])
 - Relative to other brands I believe these brands are likely to be.....(strongly disagree [1] → strongly agree [7])
4. Purchase intention
 - I like to/ would like to try these brands (definitely not [1] → definitely yes [7])
 - I would be willing to pay for these brands (definitely not [1] → definitely yes [7])
 - I would go out of my way to pay for these brands (definitely not [1] → definitely yes [7])

With the addition of two items to the research instrument, in order to reduce the time taken to serve the questionnaire, it was decided to reduce the ten product categories selected for the pre-test to eight. Wine brands and fruit juice brands were considered least relevant to the study, so were excluded. The first stage of study 2 was carried out in October 2011. From the three classes of business studies students (totalling 258 individuals) invited to participate in the study, 80 responses were retained (31%) and data from these questionnaires were then captured and analysed. The criterion for retaining a questionnaire was that each questionnaire sheet was at least partially completed. Two of the respondents had omitted to record their genders and ages. Of the 78 remaining respondents, 43 were female and 35 male. Their ages ranged from 20 to 38 years with the frequency distribution illustrated in figure 6.2. The median age of participants is 22 years.

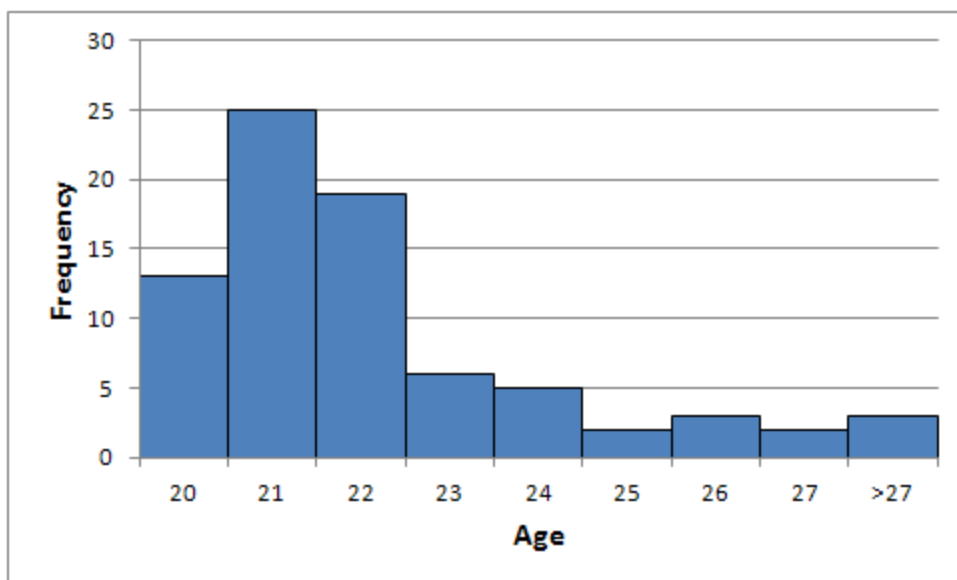


Figure 6.2 Age distribution of participants in stage 1 of Study 2 (N = 78)

6.2.2 Evaluation of measuring instrument

To measure the inter-item consistency reliability of the measuring instrument a Cronbach's Alpha test in SPSS Version 21 was employed. Participants' evaluations of motor vehicle brands were inspected. Of the 80 respondents 45 had evaluated the 3 vehicle brands in terms of all 12 'overall preference' items. This was considered sufficient data to permit a pragmatic approach that rejected all incomplete

evaluations (rather than using item averaging/substitution techniques for incomplete datasets). The manipulations of most familiar, 2nd most familiar and least familiar/unknown brands proved successful with corresponding mean item score evaluations of 6.49 (Audi), 5.93 (Toyota) and 2.57 (Accura). The inter-item consistencies across all 12 items for Audi (see table 6.1), Accura and Toyota brands were high; 0.946, 0.923 and 0.900 respectively (see Appendix B,1,1 – B,1,3 Evaluation of measuring instrument).

Table 6.1, (i) Cronbach's Alpha Brand A1 (Audi) Study 1 Stage 1 Slide 1

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.946	.947	12

Table 6.1, (ii) Cronbach's Alpha item statistics Brand A1 (Audi)

	Mean	Std. Deviation	N
@1	6.556	1.0125	45
@2	6.622	.9364	45
@3	6.800	.9195	45
@4	6.444	1.1192	45
@5	6.422	1.1578	45
@6	6.311	1.0622	45
@7	6.422	1.0973	45
@8	6.422	1.0551	45
@9	6.467	.8944	45
@10	6.667	1.0445	45
@11	6.378	1.3533	45
@12	6.356	1.1313	45

The evaluations of the Audi brand showed high consistency across all items (mean item score range 6.3 – 6.8) with all items showing a high degree of correlation with the total score (>0.486). The Toyota brand exhibited much less consistency (mean item score range 5.3 – 6.7) and a degree of correlation with the total score as low as 0.363. The average corrected item total correlation for Audi was 0.752 and for Toyota 0.619 suggesting that reasonable discriminant validity was established. The respondents indicated that they recognised the Audi and Toyota brands and characteristics of these brands came readily to mind but their desire to try the brands

or be willing to pay for the brands differed. Audi recorded higher levels of purchase intentions.

Table 6.1, (iii) Cronbach's Alpha inter-item correlation matrix Brand A1 (Audi)

	@1	@2	@3	@4	@5	@6	@7	@8	@9	@10	@11	@12
@1	1.000	.466	.708	.479	.629	.512	.745	.626	.611	.652	.689	.498
@2	.466	1.000	.597	.359	.654	.646	.535	.487	.568	.287	.420	.666
@3	.708	.597	1.000	.596	.743	.577	.716	.604	.641	.284	.446	.551
@4	.479	.359	.596	1.000	.589	.359	.417	.338	.447	.246	.307	.303
@5	.629	.654	.743	.589	1.000	.815	.769	.707	.639	.476	.665	.785
@6	.512	.646	.577	.359	.815	1.000	.821	.813	.705	.526	.659	.814
@7	.745	.535	.716	.417	.769	.821	1.000	.824	.744	.562	.701	.682
@8	.626	.487	.604	.338	.707	.813	.824	1.000	.702	.626	.729	.709
@9	.611	.568	.641	.447	.639	.705	.744	.702	1.000	.462	.677	.708
@10	.652	.287	.284	.246	.476	.526	.562	.626	.462	1.000	.879	.487
@11	.689	.420	.446	.307	.665	.659	.701	.729	.677	.879	1.000	.756
@12	.498	.666	.551	.303	.785	.814	.682	.709	.708	.487	.756	1.000

Table 6.1, (iv) Cronbach's Alpha item total statistics Brand A1 (Audi)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@1	71.311	88.265	.755	.790	.941
@2	71.244	91.371	.638	.614	.945
@3	71.067	90.064	.731	.782	.942
@4	71.422	91.977	.486	.529	.950
@5	71.444	84.025	.862	.866	.937
@6	71.556	86.071	.835	.898	.938
@7	71.444	84.934	.867	.865	.937
@8	71.444	86.343	.827	.783	.939
@9	71.400	89.473	.791	.751	.940
@10	71.200	90.027	.633	.907	.945
@11	71.489	82.256	.798	.949	.940
@12	71.511	85.619	.801	.885	.939

At this juncture the researcher realised that the measurement model in use suffered an unfortunate drawback. One of the underlying dimensions of consumer-based brand equity is perceived quality, yet separate to CBE, as a further dimension of

overall brand preference, 'quality perceptions' was specified. To avoid this duplication/conflict, the two dimensions of CBE and quality perceptions were collapsed into one dimension. To avoid a misspecification of CBE, the descriptor, perceived quality, was retained for this dimension. In stage 2 of study 2, conducted in October 2012, the measurement model was then reduced to 9-items representing three dimensions of the construct overall brand preference. This achieved the further advantage of reducing the time required for respondents to evaluate the brands (from 12 items per brand to 9 items). The dimensions and items were as follows:

1. Quality perceptions-
 - i. The likely quality of these brands is extremely high
 - ii. It makes sense to buy these brands instead of other brands
 - iii. These brands are likely to be reliable
2. Attitude-
 - i. It is likely that I would be loyal to these brands
 - ii. My attitude towards these brands is.....
 - iii. Relative to other brands I believe these brands are likely to be.....
3. Purchase intention-
 - i. I like to/ would like to try these brands
 - ii. I would be willing to pay for these brands
 - iii. I would go out of my way to pay for these brands

With a re-specification of the measurement model, no further overall inter-item consistency assessments were conducted. Instead Cronbach's coefficient alpha was tested for the four constructs, consumer-based brand equity (CBE), perceived quality, attitudes and purchase intention. Finally, quality perceptions, the substitute underlying construct of overall brand preference formed by collapsing CBE and perceived quality was tested. The Cronbach's coefficient alpha across 3 items and the three vehicle brands for each construct are tabled in Table 6.2.

The internal consistencies of the measures of each of the constructs in Table 6.2 are high (>.86) and the reliability if a particular item is removed is only increased if item

@2 is removed from the construct consumer-based brand equity or item @1 is removed from the construct quality perceptions.

Table 6.2 Interitem consistency reliability (Cronbach’s coefficient alpha) across 3 vehicle brands (see Appendix B,1,4 – B,1,1,8).

Construct	Item	N	N of items	Cronbach's Alpha	Cronbach's Alpha if Item Deleted
CBE	@2	135	3	.929	.942
	@3	135			.863
	@4	135			.875
Perceived quality	@1	135	3	.936	.917
	@5	135			.905
	@7	135			.899
Attitudes	@6	135	3	.945	.930
	@8	135			.909
	@9	135			.923
Purchase intention	@10	135	3	.959	.939
	@11	135			.923
	@12	135			.956
Quality perceptions	@1	135	3	.932	.942
	@3	135			.870
	@4	135			.880

Overall brand preference was proposed as an explanatory combination of its indicators; a formatively-indicated construct with three underlying dimensions of quality perceptions, attitudes and purchase intention. There is consequently no requirement that these underlying dimensions show any internal consistency but Cronbach’s coefficient alpha was calculated for the Audi vehicle brand and three beer brands to assess the extent of any latent consistency. The Cronbach’s alpha measures are recorded in Table 6.3.

Table 6.3 Interitem consistency reliability (Cronbach’s coefficient alpha) of the underlying dimensions of overall brand equity (each dimension represented by the unweighted average of 3 items) (see Appendix B,1,9 – B,1,12).

Overall brand preference	Dimension	N	N of items	Cronbach's Alpha	Cronbach's Alpha if Item Deleted
Audi	Quality perception	67	3	.742	.622
	Attitudes	67			.607
	Purchase intention	67			.761
Heineken	Quality perception	72	3	.866	.889
	Attitudes	72			.705
	Purchase intention	72			.807
Windhoek	Quality perception	70	3	.863	.895
	Attitudes	70			.712
	Purchase intention	70			.775
Samuel Adams	Quality perception	69	3	.841	.846
	Attitudes	69			.676
	Purchase intention	69			.793

The internal consistencies of the three dimensions underlying overall brand preference recorded in table 6.3 (all >.70) suggests homogeneity of the items in the measure. However, the same overall meaning cannot be attached to each dimension; for example, a respondent may have a high quality perception of Heineken but as a non-drinker may have no intention of purchasing Heineken.

6.2.3 Comparison of independent groups

The overall brand preference score for each brand or co-brand evaluated by each respondent participating in both stages 1 and 2 of the main study was calculated by averaging the scores of the three items representing each of the three underlying constructs of overall brand preference; that is quality perceptions, attitude and purchase intention. A respondent’s data was included provided at least 1 item per underlying construct was scored. If there was no score for any one of the three underlying constructs, that respondent’s data was excluded from the test. Overall

brand preference scores were recorded for 243 of the 311 respondents for each of the 18 brands or co-brands listed in Table 6.4.

Table 6.4 Descriptive statistics of the overall brand preference scores for vehicle, food, beer and co-brand brands, stages 1 and 2 of study 2 (main study, App. B,2,1)

Brands/Co-brands		N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
							25th	50th (Median)	75th
Vehicle	Audi	243	6.39	0.724	3.0	7.0	6.0	6.7	7.0
	Accura	243	2.93	1.297	1.0	7.0	2.0	3.0	4.0
	Toyota	243	5.76	0.927	3.0	7.0	5.3	6.0	6.3
Food	Steers	243	5.59	1.164	1.0	7.0	5.0	6.0	6.3
	Spur	243	6.03	1.152	2.0	7.0	5.3	6.3	7.0
	Zebra's	243	3.25	1.415	1.0	6.7	2.0	3.3	4.0
	McDonald	243	6.13	1.125	1.0	7.0	6.0	6.7	7.0
	KFC	243	5.45	1.350	1.0	7.0	4.7	5.7	6.3
	Wendys	243	3.24	1.494	1.0	7.0	2.0	3.0	4.3
Beer	Samuel Adams	243	2.85	1.468	1.0	7.0	1.7	3.0	4.0
	Windhoek	243	4.24	1.625	1.0	7.0	3.0	4.5	5.7
	Heineken	243	4.95	1.833	1.0	7.0	3.3	5.3	6.7
Co-brands	Spur/Samuel Adams	243	4.56	1.551	1.0	7.0	3.7	4.7	5.7
	Steers/Windhoek	243	4.89	1.533	1.0	7.0	4.0	5.0	6.0
	Zebra's/Heineken	243	4.15	1.660	1.0	7.0	3.0	4.0	5.3
	KFC/Windhoek	243	4.42	1.858	1.0	7.0	3.0	5.0	6.0
	McDonalds/Samuel Adams	243	4.51	1.604	1.0	7.0	3.3	4.7	6.0
	Wendys/Heineken	243	3.88	1.646	1.0	7.0	2.7	4.0	5.0

As the data summarised in Table 6.4 indicates, the test brands selected in study 1 for each product category were successfully manipulated to achieve two brands with high overall brand preference scores and one brand with low scores.

The data summarised in Table 6.4 was tested for group effects using the Kruskal-Wallis comparison of more than 2 independent groups. This test is the non-parametric equivalent of the parametric ANOVA procedure to test if sample populations originate from the same population. Three groups participated in the first stage of study 2 but all respondents' questionnaires were inadvertently mixed into one group, thus introducing a potential limitation. Questionnaires from the four groups that participated in the second stage of study 2 were kept separate. The respondents' evaluations of the brands listed in table 6.4 were compared across the 5 groups. The null hypothesis is that the distributions across groups for each brand or co-brand tested are the same. The results of this test are presented in Table 6.5.

The results of the Kruskal-Wallis comparison of independent groups presented in Table 6.5 indicate that the distributions of 9 of the brand evaluations across the 5 groups were the same and, at $\alpha = 0.05$ level of significance, 9 were not (rejection of the null hypothesis).

Table 6.5 Results of Kruskal-Wallis comparison of independent groups to test if the groups originate from the same population (main study, see Appendix. B,2,1).

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.231	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.011	Reject the null hypothesis.
3	The distribution of Toyota is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.988	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.180	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
6	The distribution of Zebras is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
7	The distribution of McDonald is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
8	The distribution of KFC is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.029	Reject the null hypothesis.
9	The distribution of Wendys is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
10	The distribution of SamAdam is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 6.5 (cont.) Results of Kruskal-Wallis comparison of independent groups to test if the groups originate from the same population (main study, see App. B,2,1).

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Windhoek is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.037	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.221	Retain the null hypothesis.
13	The distribution of SpurSada is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.371	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.408	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.170	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.004	Reject the null hypothesis.
17	The distribution of McDSad is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.282	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.256	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The Kruskal-Wallis test does not indicate which specific groups were significantly different from one other, merely that at least two groups were different. SPSS's version 21 permits *post-hoc* tests to determine where differences lie between groups but for the purposes of this study this was not required; only that certain between-group differences may exist and that their existence is acknowledged. There does not appear to be a pattern to the tests that suggest that the null hypothesis should be rejected. Both low overall preference brands (Accura, Zebras and Samuel Adams) and high overall preference brands (Spur, McDonalds and Windhoek) evidence inter-group differences. The business student population sampled is heterogeneous

and certain demographic profiles could differ between the sample groups, thereby influencing within-group distributions.

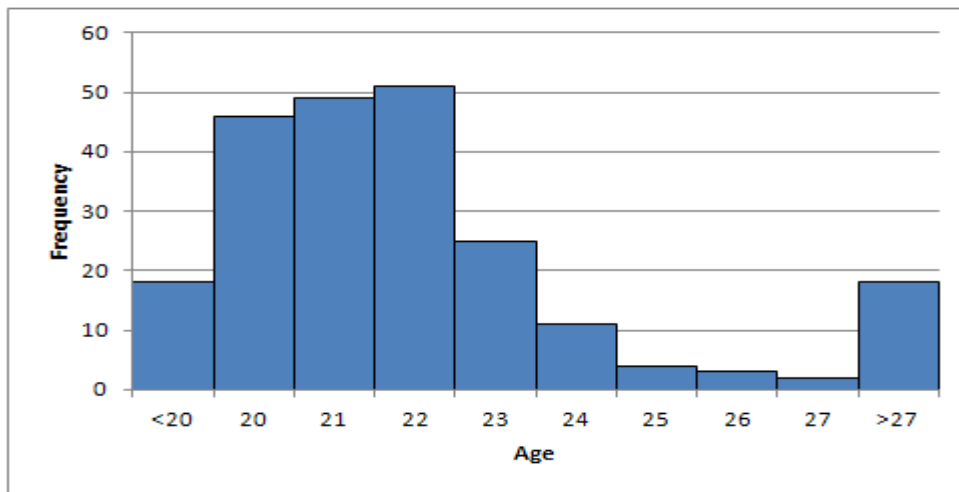


Figure 6.3 Age distribution of participants in stage 1 & 2 of Study 2 (N = 227)

The Kruskal-Wallis test was used to compare the distributions of overall brand preferences across different age groups. The age range of respondents was from 18 years to 39 years with the age distribution recorded in figure 6.3. The respondents were grouped into four groups as shown in Table 6.6.

Table 6.6 Respondents in study 2 (stages 1 & 2) grouped according to age.

<i>Group</i>	<i>Age Range</i>	<i>Number of Respondents</i>
1	18-19	18
2	20	46
3	21	49
4	22	51
5	23-26	43
6	27-39	20

227

Table 6.7 Test for differences in distributions of the overall brand preference scores for six different age groups using the Kruskal-Wallis H test (see App. B,2,2,(i))

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.481	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.206	Retain the null hypothesis.
3	The distribution of Toyota is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.572	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.843	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.093	Retain the null hypothesis.
6	The distribution of Zebras is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.889	Retain the null hypothesis.
7	The distribution of McDonald is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.246	Retain the null hypothesis.
8	The distribution of KFC is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.331	Retain the null hypothesis.
9	The distribution of Wendys is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.703	Retain the null hypothesis.
10	The distribution of SamAdam is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.222	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 6.7(cont.) Test for differences in distributions of the overall brand preference scores for six different age groups using the Kruskal-Wallis H test (App. B,2,2,(i))

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Windhoek is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.043	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.265	Retain the null hypothesis.
13	The distribution of SpurSada is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.943	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.963	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.284	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.404	Retain the null hypothesis.
17	The distribution of McDSad is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.541	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.250	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

As the results in Table 6.7 indicate, with the exception of Windhoek (the significance of .043 is a borderline rejection of the null hypothesis) there are no apparent differences between overall brand preferences across the six age groups. A more meaningful result may be obtained using more even group sizes so the Kruskal-Wallis tests were repeated with group 1 (18 respondents aged 18 or 19) and group 6 (20 respondents aged 27 to 39) omitted. The distributions across groups 2-5 and all brands and co-brands were the same (see Appendix B,2,2,(ii)). A final age-test across groups 1 and 6 was conducted using the Mann-Whitney U test of 2 independent groups. The distributions across groups 1 and 6 for 15 of the 18 brands and co-brands were the same (see Appendix B,2,2,(iii)). Three exceptions were

differences recorded between the two age groups for McDonalds and Windhoek brands and the Wendy's/Heineken co-brand. Again, there does not appear to be any underlying cause for this difference.

The Mann-Whitney U test of 2 independent groups was used to assess potential differences between respondents' evaluations of overall preferences on the basis of their gender. A summary of the results is presented in table 6.8.

Table 6.8 The Mann-Whitney U test for a difference in distributions of the overall brand preference scores between female and male respondents (see App. B, 2, 3)

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.061	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.432	Retain the null hypothesis.
3	The distribution of Toyota is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.822	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.667	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.927	Retain the null hypothesis.
6	The distribution of Zebras is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.816	Retain the null hypothesis.
7	The distribution of McDonald is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.565	Retain the null hypothesis.
8	The distribution of KFC is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.918	Retain the null hypothesis.
9	The distribution of Wendys is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.308	Retain the null hypothesis.

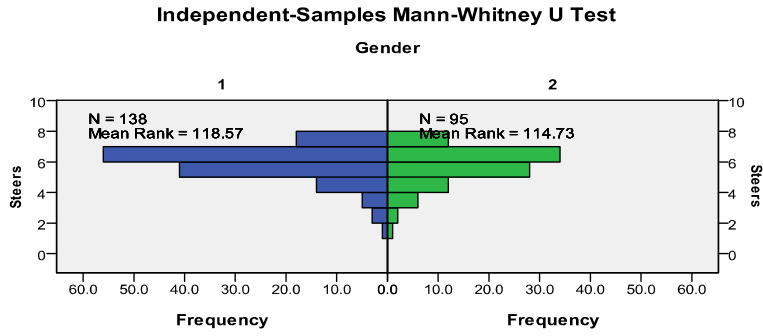
Asymptotic significances are displayed. The significance level is .05.

Table 6.8 (cont.) The Mann-Whitney U test for a difference in distributions of the overall brand preference scores between female and male respondents

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
10	The distribution of SamAdam is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.263	Retain the null hypothesis.
11	The distribution of Windhoek is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
13	The distribution of SpurSada is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.999	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.287	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.135	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.087	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Graphic representations of the two groups' (138 female and 95 male) distributions for most of the brands and co-brands indicate similar shapes and mean ranks (the example of the Steers brand is illustrated in figure 6.4). However, the overall preference distributions of males and females in response to the Heineken and Windhoek brands are entirely different. The female distribution shows a lower mean rank and a flatter spread of responses. The male distribution shows a higher mean rank and is heavily skewed towards high overall preference scores (see illustration of Heineken brand, figure 6.5, left). This finding is consistent with the assumption that substantially more males are beer drinkers whilst females on average show lower overall preferences but are more ambivalent towards beer.



Total N	233
Mann-Whitney U	6,339.000
Wilcoxon W	10,899.000
Test Statistic	6,339.000
Standard Error	502.670
Standardized Test Statistic	-.430
Asymptotic Sig. (2-sided test)	.667

Figure 6.4 Distributions of female and male overall preference scores for the Steers brand

The Samuel Adams brand has low perceived preference scores for both female and males, similar mean ranks (the null hypothesis is retained) but an interesting distribution is illustrated (see figure 6.5, right).

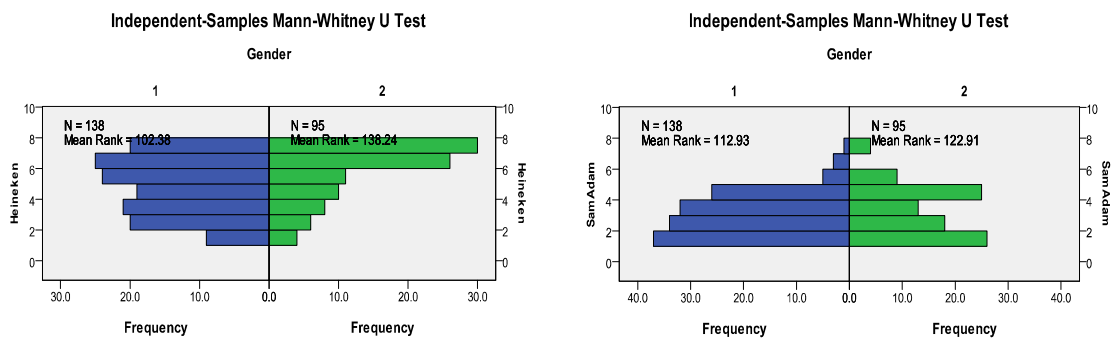


Figure 6.5 Distributions of female (1) and male (2) overall preference scores for the Heineken and Samuel Adams beer brands

The data suggests that a few male respondents show high overall preferences for Samuel Adams, but that there are a substantial number of males who are neutral towards the brand or have very low preference scores (bimodal). Again, females are more ambivalent towards the brand and show a more even spread of preference scores. Interestingly, the data tend to suggest that overall preference is not a simple reflection of extent of usage. The influence of beer brands on female overall brand preferences would appear to be more symbolic as opposed to males, where on average, beer has more experience attributes. With males, as described in sections 2.2.2 - 2.2.4, brand image as an extrinsic attribute, may exert more of an influence on males' overall preference evaluations.

6.2.4 Measuring consumers' responses to co-brand concepts

An important research issue concerns the method with which co-brand concepts are presented to respondents and how their overall brand preferences are measured. Two experimental procedures were tested. Respondents were asked to record their preferences for the two component brands in a co-brand, firstly, by rating the two brands individually (the two component brands measured separately in the co-brand) and, secondly, by recording single responses to the composite co-brand (one measure of the co-brand).

To analyse the two procedures, the Wilcoxon signed-rank test for examining differences between two related samples was employed using SPSS version 21. The data for three beer brands co-branded with six food brands were analysed, as were the data of the six food brands co-branded with the three beer brands. The anchor in each comparison was the overall brand preference score of one of the component brands. For example, the OBP score for Heineken for each respondent was listed and then compared, firstly, with the OBP score of Heineken evaluated individually in the co-brand and then, secondly, with the OBP of the composite co-brand.

The results of the Wilcoxon signed-rank test are presented in Appendix B,3, a, (i)-(xii) and summarised in table 6.9. The terms header and modifier brand require explanation.

Table 6.9 Comparison of methods used to measure consumers' evaluations of co-brand overall preferences (using Wilcoxon signed-rank test for examining differences between two related samples)

COMPARISON OF OBP EVALUATION (INDIVIDUAL BRAND ASSESSMENT IN CO-BRAND vs EVALUATION OF COMPOSITE CO-BRAND)					
Overall Brand Preference ^a (OBP) Header-Modifier	Header Brand ^b Mean OBP	Modifier Brand ^b Mean OBP		OBP Header Brand In Co-brand	OBP Overall Co-brand
H - L	McDonalds OBP = 6.13	Samuel Adams OBP = 2.85	N= Effect ^c p=	139 ↓ 0.965	215 ↓ 0.000
H - L	Spur OBP = 6.03	Samuel Adams OBP = 2.85	N= Effect p=	135 ↑ 0.378	246 ↓ 0.000
H - H	Steers OBP = 5.59	Windhoek OBP = 4.24	N= Effect p=	144 ↑ 0.392	250 ↓ 0.000
H - H	KFC OBP = 5.45	Windhoek OBP = 4.24	N= Effect p=	154 ↓ 0.006	216 ↓ 0.000
H - L	Heineken OBP = 4.95	Zebras OBP = 3.25	N= Effect p=	141 ↓ 0.083	236 ↓ 0.000
H - L	Heineken OBP = 4.95	Wendy's OBP = 3.24	N= Effect p=	137 ↓ 0.030	212 ↓ 0.000
H - H	Windhoek OBP = 4.24	Steers OBP = 5.59	N= Effect p=	131 ↑ 0.504	238 ↑ 0.000
H - H	Windhoek OBP = 4.24	KFC OBP = 5.45	N= Effect p=	137 ↓ 0.000	217 ↑ 0.416
L - H	Zebras OBP = 3.25	Heineken OBP = 4.95	N= Effect p=	153 ↑ 0.000	240 ↑ 0.000
L - H	Wendy's OBP = 3.24	Heineken OBP = 4.95	N= Effect p=	144 ↑ 0.000	209 ↑ 0.000
L - H	Samuel Adams OBP = 2.85	McDonalds OBP = 6.13	N= Effect p=	129 ↑ 0.099	215 ↑ 0.000
L - H	Samuel Adams OBP = 2.85	Spur OBP = 6.03	N= Effect p=	118 ↑ 0.014	239 ↑ 0.000

^a Overall brand preference (OBP) was deemed high if > 4.0 and low if < 4.0

^b The mean OBP of the header and modifier brands as recorded in Table 6.4

^c The effect ↑ indicates that the OBP increases in the co-brand context and ↓ that the OBP decreases

Park, Jun and Shocker (1996: 454) first suggested the concept of composite branding alliances comprising two brands representing a noun-noun composite. Their contention was that the first noun used is the modifier of the second main, or header, noun (as in an adjective-noun conjunction, *e.g.* a red apple). In this study the relative contributions of header and modifier brands was not under investigation. However, the terms header and modifier have been used as a convenient indicator of the brand that is under investigation in a specific analysis. It should be noted that this nomenclature is for convenience sake only and does not suggest relative importance from a consumer's perspective. Indeed, the co-brands were deliberately introduced to respondents as "pairs of brand logos".

In Table 6.9 the column 'OBP Header Brand In Co-brand' records the significance and effect on OBP of co-branding in terms of the component brand evaluated individually in the co-brand. Of the twelve results only five are significant (significance level .05). Conversely, when a single evaluation of the OBP of the co-brand was recorded, this score was significantly different from the header brand's original OBP in eleven of the twelve tests. Therefore, although there is some evidence supporting convergent validity, the single response to a composite co-brand was identified as a more reliable measure. Practically too, a single evaluation of the composite co-brand was preferable as this resulted in fewer brands having to be evaluated by participants in the study. A preliminary analysis of the results revealed this finding and therefore, subsequently, the final two groups were not required to evaluate the component brands in a co-brand individually (hence the difference in number of participants recorded in table 6.9 for OBP header brand in co-brand N = 118- 154 and OBP overall co-brand N = 209- 250).

The results summarised in table 6.9 accord with expectations. The four analyses of high OBP header brands combined with low OBP modifier brands show a significant reduction in OBP. Conversely, the four analyses of low OBP header brands combined with high OBP modifier brands show a significant increase in OBP. An interesting outcome is observed with the four high-high analyses. Two show a decrease in OBP and two an increase, with 3 of the four differences significant. The two tests that show a reduction in OBP have header brands showing marginally

higher OBPs than their matching modifier brands (mean OBPs of 5.59 and 5.45 vs. 4.24 respectively). Where the two tests show an increase in OBPs the header brand shows a marginally lower OBP than its matching modifier brands (mean OBP of 4.24 vs. 5.59 and 5.45 respectively). The implications of these observations will be discussed in the following chapter, but it should be noted at this stage that these findings are not in themselves conclusive nor necessarily generalisable. The distribution of responses in a heterogeneous population will be influenced by the relative levels of heterogeneity between different populations and may be influenced by the product categories under investigation.

6.2.5 Measuring the effect on respondents' overall preference for a co-brand when a third cause-related modifying variable is introduced

The explanation to respondents that companies participating in a co-branding venture wished to demonstrate their joint corporate social responsibility could be interpreted differently by respondents. For example they could interpret this context as a subsequent objective of an existing co-branding alliance or as the rationale for forming the co-branding alliance. No effort was made to manipulate the interpretation but the existence of potentially differing effects is acknowledged. The two cause-related contexts introduced were:

1. Together, pairs of companies will focus on producing sustainable products with reduced impact on the environment, or;
2. Together pairs of companies will focus on creating local jobs for local South Africans.

The effects were tested in two ways. Firstly, the differences between component brand OBPs and OBPs of the composite co-brands presented in a cause related context were examined. These analyses are not discussed further as co-brand and cause-related effects can't be separated. The second procedure was to compare the OBPs of composite co-brands with the OBPs of the same co-brands presented in a cause related context. As the analyses presented in Appendix B,3,b illustrate, of the six co-brand concepts developed, five showed increases in OBPs (three significant differences, two NS) and one a slight decrease in OBP, but not significant. The three

non-significant differences were recorded for the cause related context:

Together, pairs of companies will focus on producing sustainable products with reduced impact on the environment.

The three significant differences were increased OBPs recorded in the context:

Together pairs of companies will focus on creating local jobs for local South Africans.

With only six co-brands tested in cause-related contexts, the findings cannot be considered conclusive. However, there is certainly an indication that introducing a cause-related context as a third modifying variable may be an effective technique to increase OBPs. Furthermore, there is evidence that the nature of the cause-related context may be an important consideration too.

6.2.6 Differences in respondents' overall preference scores of co-brands (high, medium or low OBP for header brand with high, medium or low OBP for modifier brand)

To gain a better understanding of how different sub segments (subgroups) in a heterogeneous population respond to co-branding, the respondents were grouped according to their assessments of individual component brands (high, medium or low overall preference scores). Using the nomenclature adopted in section 6.2.4, there were nine possible combinations of header and modifier brands. The combinations were tested as H-H, H-M, H-L, M-H, *etc.*). Although the mean scores of OBP recorded in Table 6.4 indicate a successful manipulation of high and low overall preferences for the nine brands tested, in practice, with a heterogeneous population there were sufficient respondents in most co-brand categories to enable statistical analyses.

The respondents were firstly segmented (H, M, & L) according to their OBPs for the header brand. Each of the three segments was then sub-segmented according to OBPs for the corresponding modifier brand, for example Zebras; resulting in a 3 X 3 matrix. This process was then reversed with the header brand becoming the modifier brand and the previous modifier brand, now the header brand.

As described in section 5.6.3, the three groups were specified and arbitrarily designated as follows, with the dimensions of the 3 group ranges identical:

- Group 1 High overall preference score > 5.0
- Group 2 Medium overall preference score 3.0 – 5.0
- Group 3 Low overall preference score < 3.0

To repeat, firstly, three subgroups were identified for each beer brand according to respondents' overall preference score (*i.e.* H, M and L) for the brand when evaluated as a single brand (*i.e.* not in a co-brand). These groups were considered to represent the “header” brand. Next, each subgroup was further divided according to respondents' overall preference score for the partnering food brand component of the hypothetical co-brand; that is the “modifier” brand. This produced nine sub-subgroups (*i.e.* H-H, H-M, H-L, M-H... and L-L). If the number of study participants in each of the groups exceeded twenty, the median differences in overall preference of paired samples were tested in accordance with the following hypothesis:

Hypothesis 2_(a) H₀: The overall preference score for a beer brand is the same as the overall preference score for a composite beer/food co-brand containing that beer brand,

Secondly, this testing procedure was repeated, but with the component brands to the co-brand reversed. That is, the modifier brands were regarded as header brands and *vice versa* with the header brands. This process produced three subgroups of each of the six food brands and sub-subgroups were then formed according to the overall preference evaluations of the corresponding beer brands making up the co-brand. The hypothesis then became:

Hypothesis 2_(b) H₀: The overall preference score for a food brand is the same as the overall preference score for a composite food/beer co-brand containing that food brand.

Table 6.10 Change in respondents' overall brand preferences- header brands Heineken, Windhoek & Samuel Adams, with the co-brand modifier brands Zebras, Wendy's, etc.

* Note, where less than 20 respondents' responses were recorded, the results of the statistical analyses should be treated with caution. No *p* values are recorded in the table below when there are less than 20 respondents

	Heineken			Windhoek			Samuel Adams		
	H	M	L	H	M	L	H	M	L
Zebras	H	20 ↓	5	1					
		0.004							
	M	68 ↓	60 ↓	21 ↑					
	0.000	0.352	0.002						
	L	55 ↓	27 ↓	23 ↑			a ↑		
		0.000	0.520	0.010			b		
Wendys	H	16 ↓	5	1			a ↓		
							b		
	M	67 ↓	48 ↓	16 ↑					
	0.000	0.024							
	L	48 ↓	29 ↓	24 ↑					
		0.000	0.018	0.004					
Steers	H				69 ↓	77 ↑	52 ↑		
					0.230	0.000	0.000		
	M				26 ↓	36 ↑	10 ↑		
				0.012	0.043				
	L				1	4	4		
KFC	H				64 ↓	68 ↑	38 ↑		
					0.082	0.005	0.000		
	M				21 ↓	36 ↓	20 ↑		
				0.001	0.451	0.003			
	L				3	8 ↓	5		
Spur	H						17 ↓	89 ↑	119 ↑
							0.000	0.000	
	M						5	31 ↑	17
							0.001		
	L						1	3	3
McDonalds	H						12 ↓	89 ↑	109 ↑
							0.000	0.000	
	M						3	19 ↑	17 ↑
	L						0	7 ↓	1
<p>a Indicates the number of respondents</p> <p>b Asymptotic significance. The significance level is 0.05</p> <p>c The vertical arrow up ↑ indicates that the respondents' overall preferences for the cobrand were increased ($p < 0.05$)</p> <p>d The horizontal arrow → indicates that the respondents' overall preferences for the cobrand were unchanged ($p > 0.05$)</p> <p>e The vertical arrow down ↓ indicates that the respondents' overall preferences for the cobrand were decreased ($p < 0.05$)</p>									

Table 6.11 Change in respondents' overall brand preferences- header brands Zebras, Wendy's, etc. with the co-brand modifier brands Heineken, Windhoek & Samuel Adams

* Note, where less than 20 respondents' responses were recorded, the results of the statistical analyses should be treated with caution. No *p* values are recorded in the table below when there are less than 20 respondents

		Zebras						Wendys					
		H		M		L		H		M		L	
Heineken	H	20	↓	68	↑	55	↑	16	↓	67	↑	48	↑
		0.089		0.000		0.000				0.003		0.000	
	M	5		60	↓	27	↑	5		48	↓	29	↑
				0.964		0.000				0.570		0.000	
	L	1		21	↓	23	↑	1		16	↓	24	↑
				0.556		0.002						0.000	
		Steers						KFC					
		H		M		L		H		M		L	
Windhoek	H	69	↓	26	↑	1		64	↓	21	↓	3	
		0.057						0.001		0.432			
	M	77	↓	36	↓	4		68	↓	36	↓	8	
		0.000		0.765				0.000		0.056			
	L	52	↓	10	↓	4		38	↓	20	↓	5	
		0.000						0.000		0.009			
		Spur						McDonalds					
		H		M		L		H		M		L	
Samuel Adams	H	17	↓	5		1		12	↓	3		0	
		0.156											
	M	89	↓	31	↑	3		89	↓	19	↓	7	
		0.000		0.083				0.000					
	L	119	↓	17	↓	3		109	↓	17		1	
		0.000		0.020				0.000					
	a	↑	a	↓	d								
		c											
	b		b										
a	Indicates the number of respondents												
b	Asymptotic significance. The significance level is 0.05												
c	The vertical arrow up ↑ indicates that the respondents' overall preferences for the co-brand were increased												
d	The vertical arrow down ↓ indicates that the respondents' overall preferences for the co-brand were decreased												

The Wilcoxon signed-rank test procedure in IBM SPSS version 21 was again used to test these hypotheses. The full analyses and results are presented in appendices B, 3,c, (i) and (ii) with summaries of the results listed in tables 6.10 and 6.11 respectively. To assist interpretation of the results summarised in tables 6.10 and 6.11, these results are further summarised and presented in table 6.12.

Table 6.12 The effect of the overall brand preference score (OBP) of component brands on the evaluation of subsequent co-brands

		Header Brand		
		High	Medium	Low
Modifier Brand	High		7 x ↑	6 x ↑
		12 x ↓	1 x ↓	
	Medium		8 x ↑	8 x ↑
		8 x ↓	4 x ↓	
	Low			4 x ↑
		6 x ↓	9 x ↓	

The summary of results presented in table 6.12 suggests that respondent evaluations of co-brands will generally be significantly different from their evaluations of the component brands. A number of observations are noted:

1. In all cases where there were sufficient respondents to validate analysis, respondents recording a high OBP score for the header brand were more likely to record a lower score for a co-brand, irrespective of whether the modifier brand had a high, medium or low OBP.
2. Respondents recording a medium OBP score for the header brand show a higher score for the co-brand if the modifier brand has a high OBP score. Seven tests showed an increase in OBPs and one a reduction. The latter test was not significant ($p = 0.432$).

3. Respondents recording a low OBP score for the header brand show a higher score for the co-brand irrespective of the OBP score of the modifier brand. Most noteworthy, is that respondents who record low OBP scores for both header and modifier brands may be expected to record higher OBP scores for a co-brand.
4. Conversely, but in line with expectations, respondents recording a medium OBP score for the header brand show a lower score for the co-brand if their evaluation of the modifier brand is low.
5. Lastly, the outcomes of respondents recording a medium OBP score for the header brand and a medium score for the modifier brand were mixed. Eight of the tests showed higher OBP scores for the co-brand and four lower scores. However, of these tests, only two provided significant results (one increase and one decrease) whilst the remaining ten results were not significant ($p > 0.05$).

Potential implications of this largely exploratory research will be discussed in the following chapter. The research instrument has demonstrated discriminant validity and sufficient reliability to achieve the objectives defined at the outset of this study.

CHAPTER 7: DISCUSSION

This concluding chapter of the thesis discusses the key findings of the research and explores possible implications of these findings. There are implications in terms of theory and also implications from a managerial perspective. Certain limitations of the study and the research methods used are described and directions for future research are proposed.

7.1 INTRODUCTION

The original motivation for this study was the desire to explore potential strategies that new entrants and other entrepreneurs could leverage to gain entry into highly competitive, mature industries. There is, in particular, a critical need for effective strategies to address the challenges confronting emerging enterprises in post-apartheid South Africa and in other developing economies worldwide. Established corporate enterprises in oligopolistic mature industries enjoy a range of benefits derived from their scale economies. How can low budget start-ups compete in this environment?

Co-branding was identified as a potential contender. More usually co-branding is exploited as a strategy to produce innovative products with more attributes than can be achieved cost effectively by any one enterprise on its own. The emphasis in the study reported here, however, changes to; *is co-branding a more effective strategy to provide consumers with an innovative bundle of benefits than attempting to provide equivalent benefits individually*. The focus is on the response of consumers to the co-branding concept; that is, does the co-brand achieve a marketing synergy where the result is greater than the sum of its component parts. If so, what circumstances give rise to this phenomenon and what variables are important. If the outcome is unfavourable or there is no response, then why is this so?

The specific context of the research was to investigate how consumers respond to a co-branding alliance between a little known or unknown beer or restaurant/fast food brand with a relatively well know or popular complementary brand (i.e. beer/food or

food/beer) producing an undefined overall consumption solution. A non-probability, convenience sample of a heterogeneous population of undergraduate students attending the University of Kwa-Zulu Natal, Pietermaritzburg was selected. A number of limitations associated with using student subjects have been recorded in the literature, but in the largely exploratory context of this study two advantages may be noted. Firstly, students, as younger people, normally have a higher level of diffusion of innovation than older people and secondly, the UKZN student population is highly diverse. This heterogeneity of the sample refers to the different demographic variables of race, culture, socioeconomic status, religion, etc. A potential advantage of this etic (*c.f.* emic) approach is that the outcomes of the exploratory research may be considered relevant to, and even a basis for, later cross-cultural comparisons.

The potential managerial implication is that a successful co-brand may encourage new categories of usage and new users. For example, in the context of the present study, this could contribute to a reconfiguration of the hospitality industry with significant opportunities created by and for new entrants to offer innovative new goods and services. Although this study was confined to new entrants in one industry entering into a co-brand alliance with an established participant in another industry, there may be potential opportunities for synergies to be created between established participants and new entrants in the same industry. SABMiller and a start-up craft brewery could derive considerable mutual benefit through forming a co-branding alliance. At a later stage this alliance could even be extended to include a food/restaurant partner to create a chain of “Gastropubs”, for example.

This study defines the potential contribution of an effective co-brand alliance in terms of delivering the following three distinct outcomes:

1. To increase users' overall preferences (to stimulate willingness to pay more),
2. To increase intermittent users' overall preferences (to stimulate increased frequency of purchase), and

3. To increase non-users' overall preferences whilst suppressing any existing negative perceptions (to stimulate awareness, interest and an increased probability of purchase).

In order to explore consumer responses to co-brand concepts and to evaluate the potential for co-brand strategies to contribute to firm-based brand equity a reliable, valid and parsimonious measurement scale was required. Developing an appropriate measurement scale and designing an effective research instrument became the initial objectives of the study.

7.2 CONTRIBUTION

The first challenge, as noted, was to identify an appropriate research instrument that could be used to measure consumer responses. The customer-based perspective described by Keller (1993:1) and used extensively in studies to date, initially seemed suitable. This brand equity measure is used to evaluate customers' responses to the marketing of a brand and provides an indication of how well the needs and wants of consumers are perceived to be satisfied by a brand, relative to competing brands. Yet as Aaker (1991: 15) had pointed out, brand equity is "A set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service". The present research concluded that a little known or unknown brand cannot necessarily be equated with a low equity brand. A low equity brand may have negative associations that detract from its brand equity whereas an unknown brand (evaluated as having low brand equity) in this study was observed to elicit favourable responses in certain co-branding contexts.

Three of Aaker's five components of brand equity (namely brand loyalty, awareness and associations) incorporate measures reliant on consumers' prior experience of a brand. Unknown brands were unlikely to have featured in previous studies with consequently there being no need to establish universal validity of multidimensional consumer-based brand equity scales. The present study indicates that brand attitudes and purchase intention don't enjoy a simple monotonic relationship with increasing brand equity when little known or unknown brands are included in the consideration

set. This study suggests instead that consumers' overall preferences for a brand or co-brand will be influenced not only by the conventional components of brand equity but also by various other exogenous variables, for example regulatory fit, defined by Avnet and Higgins (2006: 24) as comprising a "feeling-right" component and a strength-of-engagement component.

A convenient operational definition of overall brand preference in this study involved three underlying dimensions, namely perceived quality, attitude and intention to purchase. It may be argued that conceptually preference precedes attitudes and intention to purchase but a counter argument is that overall brand preference is a formatively indicated composite latent variable rather than a construct measured on a reflective scale where all items are expected to correlate. A suitable co-brand model would represent increasing overall brand preference for a co-brand reflecting increased perceptions of quality, improved attitudes or increased intention to purchase. This then would be expected to result in a possible increase in consumer-based brand equity subject to consumer experiences with the co-brand product over time. Brand equity may then be measured in terms of brand loyalty, awareness, etc.

The research adds to a platform from which further research may be launched in order to gain a better understanding of the role of attribute fit, imputed attributes, categorisation processes, brand affect, brand-specific associations, marketing mix effects, preference analysis in the implementation of effective co-branding strategies and potential feedback or spillover effects of the co-brand on its constituent brands.

The second research issue concerned the method with which co-brand concepts are presented to respondents and how their overall brand preferences are measured. Two experimental procedures were tested but overall, measurement of a single response to a composite co-brand was identified as a more reliable measure than respondents being asked to evaluate participating brands in a co-brand separately.

Whereas other studies have successfully manipulated component brands in a co-brand in order to achieve different levels of consumer-based brand equity

combinations, this study placed more emphasis on manipulating a heterogeneous sample population to test the effects of different brand equity levels on consumers' assessments of a co-brand. Although not a perfect representation, consumers grouped as high, medium or low (in terms of their brand equity appraisals) were considered appropriate surrogates for consumers described as users, intermittent users and non-users of a particular branded product or service. The categorisation of consumers into high, medium or low groups was based on an arbitrary and equidistant division of the measurement scale so no definitive conclusions could be drawn. Nonetheless, a reasonable interpretation of a consumer who rates a co-brand highly when one of the constituent brands is considered to have high equity and the other low would be that a user of one brand and a non-user of the other may become a likely user of the co-brand. A further example that would suggest the existence of brand synergies would be a consumer who is recorded as "medium" for both brands *i.e.* an intermittent user of both, but then goes on to record a high score (user) for the co-brand.

Certain of the outcomes, in terms of respondent evaluations to co-brands were in line with expectations. For example, a high OBP header brand score is decreased when co-branded with a modifier brand of any OBP score (H, M or L), suggesting that no synergies are realised. However, when the header brand is evaluated as having a medium or low OBP score, any highly rated modifier brand will tend to elevate the OBP score of the co-brand.

More unexpectedly, were the results that indicated that respondents who record low OBP scores for both header and modifier brands may be expected to record higher OBP scores for a co-brand. This tends to suggest the existence of substantial synergies. Signalling theory argues that the receiver scans the signalling environment, filters noise and receives and interprets signals that provide sought out information. In the situation where the co-branded product and/or service have low OBP component brands the receiver may be predisposed to respond more favourably to several signallers. To enhance this effect, a co-brand strategy should seek to integrate the various signallers in order to provide consistent, credible, mutually-supportive signals.

As has been stated, these conclusions should be regarded warily because as Janiszewski and van Osselaer (2000: 342) point out, predictions and evidence in support of co-branded product superiority is generally expectation based, not experience based. There is scope for future research to record actual consumer buying behaviour with real co-brands and an adequate sample size (where means and variances can be calculated).

The final contribution of this research was to examine the effect on respondents' overall preference for a co-brand when a third cause-related modifying variable was introduced. There is not a primary cause-brand alliance: unlike studies by Lafferty and Goldsmith (2005: 423) or Lafferty (2007: 447) the cause itself served only as a modifying variable, not a component brand contributing to the co-brand. As previous studies in both the brand extension and co-brand arenas have highlighted, perceived fit between constituent brands is important. Other than obviously contributing to self-congruity, a cause-related feature may also, in terms of Schema Theory (Meyer-Levy and Tibout, 1989: 41), allow respondents to use this additional information to resolve any moderate incongruity between partner brands and hence improve fit. Walchli (2007; 968) demonstrated that subjects responded to moderate incongruence by exhibiting higher involvement which in turn resulted in more favourable evaluations. Increased customer involvement may result in increased analytical judgements as opposed to low involvement that results in exemplar-based and non-analytic judgements. Greater involvement may contribute to improved regulatory fit and an assessment of increased product value (Avnet and Higgins, 2006: 1; Aaker and Lee, 2006: 15).

Using, cause-related marketing in this co-branding context is not reported in the literature but according to Ahn and Sung (2012: 422) the act of resolving incongruity adds further to consumers' satisfaction. Resolving moderate incongruity may be inherently satisfying or the act of seeking resolution may bias subjects to provide positive explanations of the incongruity (Walchli, 2007; 950). The results indicated that respondents were sensitive to the nature of the cause; a greater positive response was observed when respondents were informed, "Together pairs of companies would focus on creating local jobs for local South Africans" rather than the information

that, “Together, pairs of companies would focus on producing sustainable products with reduced impact on the environment”.

7.4 LIMITATIONS OF THE RESEARCH STUDY

Ideally the research should have investigated consumers' responses to real co-branded hospitality products with an analysis that compared the effectiveness of the strategy with that of conventional marketing strategies, rather than a study relying on undefined co-brand concepts. As this was not feasible caution should be exercised when attempting to generalise findings from this study. The purpose of the study was, however, largely exploratory with the emphasis on gaining new insights rather than on establishing causal relationships. The primary objective of the study was to analyse the *potential* of complementary competence co-branding in the beer industry.

Reliability of the findings should be viewed in a similar fashion. Many exemplar and category-defining cues are suppressed in the study so, in a real situation or in another experimental one, even seemingly minor changes could result in significant differences in consumer behaviour. Again, as a largely exploratory study, the emphasis was on establishing if co-branding is a potentially successful strategy to achieve positive changes in consumer responses and perceptions as measured in terms of consumers' overall brand preferences, rather than to predict and quantify responses. The latter objective in any instance would not be possible, as in the real situation other elements of the marketing mix (price, promotion and services) and consumers' different experiences and heuristics would influence responses.

The UKZN student sample was considered representative of the local student population and it was assumed that UKZN students weren't substantially different from the South African tertiary student population in general. This could not, however, be verified and geographic factors may have exerted an influence. The convenience sampling method used may have introduced bias. Instrumentation effects resulting from the decrease in brand stimuli and the number of items evaluated may have threatened internal validity of the study.

The participants varied in their interest and commitment to the study so some may have contributed unreliable evaluations resulting in measurement errors. In the first stage of the main study participants were asked to evaluate eight slides with a twelve item measurement scale but this was then reduced to seven slides with a nine item scale. The respondents may be expected to have suffered greater fatigue in the earlier stage than the later stage. The co-brand concepts were presented only after the component brands had been evaluated and this sequential process may also have introduced bias.

7.5 FUTURE RESEARCH

A structural model could be developed using additional data gathered from a similar test procedure. Although structural equation modelling is not an appropriate exploratory technique, SEM would be suitable for validating a model built using a more extensive data source. Future research objectives may include:

- Determining what product features (attributes) are important to undergraduate hospitality consumers, and how utility values of these attributes may vary and cluster within the sample (sub segmentation),
- Determining whether co-branded composite products are perceived more favourably than existing component products in terms of quality and performance,
- Determining if the introduction of favourable attributes via a co-brand suppresses negative perceptions that consumers may have as a result of certain existing category attributes,
- Determining if target segments of original brands are encouraged to try the products of co-brands (extension success) and to determine if customers of an original brand are encouraged to try the original products of the other brands (counter-extension effect)
- Determining if co-branding contributes to attribute fit that in turn contributes to attribute salience (differentiation is only effective if consumers consider the attributes to be salient)

- Determining if new attributes (innovation) leads to redefinition of product categories with increased salience of information relevant to the new category and corresponding suppression of information relevant to other categories,
- Determining if increased salience of information increases customer involvement and results in increased analytical judgements as opposed to low involvement that results in exemplar-based and non-analytic judgements,
- Determining if greater customer satisfaction levels and greater involvement contribute to improved regulatory fit and an assessment of increased product value (after Avnet and Higgins, 2006: 1; Aaker and Lee, 2006: 15)

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APPENDIX A

- 1. Ethical Consideration**
- 2. Study 1 (Pretest) Methodology**
 - a. Instructions to respondents**
 - b. Questionnaire response sheet**
 - c. Brand image logos**
 - d. Pre-test selection of brand logo stimuli**
- 3. Study 2 Methodology**
 - a. Instructions to respondents**
 - b. Questionnaire response sheet**
 - c. Brand image logos**

APPENDIX B

RESULTS OF STATISTICAL ANALYSES

- 1. Evaluation of measuring instrument- Cronbach's Alpha test of interitem consistency reliability**
- 2. Comparison of independent groups- Kruskal-Wallis comparison of more than 2 independent groups and Mann-Whitney U test of 2 independent groups**
- 3. Testing of two related means- Wilcoxon signed-rank test**
 - a. Measuring consumers' responses to co-brand concepts**
 - b. Comparing consumers' responses to co-brand concepts- testing of two related means; all respondents**
 - c. Selected respondents (high, medium or low header brand with high, medium or low modifier brand)**

APPENDIX C

Ethical clearance approval

APPENDIX A

1. ETHICAL CONSIDERATION

University of KwaZulu-Natal
School of Management, Pietermaritzburg
Informed Consent Document

I, Roger Salisbury, am currently registered for studies leading to the Doctor in Philosophy degree. One of the requirements to be met for the awarding of the degree is that I should undertake an approved research project leading to the submission of a thesis. The approved topic which I have chosen is:

“An Analysis of Complementary Competence Co-branding in the Beer Industry”

Please note that this investigation is being conducted in my personal capacity. Should you need to contact me regarding any aspect of this research, you can do so either by e-mail on Salisbury@ukzn.ac.za or telephonically on 033 260 5458

My academic supervisor is Prof O'Neill, based at the British University of Egypt. He can be contacted by e-mail at Charles.Oneill@bue.edu.eg

Information gathered in this study will include data retrieved from the questionnaire that I request you to complete. Please note that only summary data will be included in the report and that your name will not be included. Your anonymity and confidentiality is of utmost importance and will be maintained throughout the study.

Your participation in completing the questionnaire is completely voluntary. You also have the right to withdraw at any time during the study.

I appreciate the time and effort it will take you to participate in this study. I would highly appreciate your participation, as it would help me to complete this research project.

This page can be retained by the respondent

Please turn over

This page must accompany the returned questionnaire.

Please complete the section below:

I (Full names of participant)
hereby confirm that I understand the contents of this document and the nature of the
research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so
desire.

Signature of Participant.....

Date.....

2. STUDY 1 (PRETEST)

a. Instructions to respondents

BRAND ASSESSMENTS

Respondents were given time to read and complete informed consent documents and then were asked to complete the first round requiring them to view 12 brand logos and to complete questionnaire 1 by responding to 10 statements. They were then asked to view 12 brand logos in 8 product categories (4 food categories and 4 beverage categories; a total of 96 brands). The brands were presented to respondents category by category on PowerPoint slides (8 slides with 12 brands appearing on each slide- see preview below). Respondents were asked to do the following:

“Please check that you have 9 questionnaire sheets in front of you. Each questionnaire will relate to 12 brand logos projected onto the screen at the front of the room. For each statement recorded on the questionnaire sheet please consider the 12 brand logos shown on the screen. Select 2 of the brands that you consider best match the column 7 response. Then, select 2 brand logos that best match column 1. Finally, please select 2 brand logos that you consider are half way between 1 and 7 and best match column 4. We’ll use the same approach for each of the 10 statements. Please use the number appearing in the box beneath each brand logo to indicate your choice on the questionnaire. Let’s begin by completing questionnaire sheet 1 that will probe your perceptions of 12 automotive brand logos. ”

After completing the first round, respondents were asked to engage with the next slide. Each slide displaying 12 brands was projected for approximately 5-6 minutes. The entire exercise (9 slides) was completed in a little over a standard 45 minute lecture session.

b. Questionnaire Response Sheet

SLIDE NO.	
Product Category	

	1=strongly disagree				7= strongly agree		
	1	2	3	4	5	6	7
1. The likely quality of these brands is extremely high							
2. These brands would be my first choice							
3. I recognise these brands clearly							
4. Some characteristics of these brands come readily to mind							
5. It is likely that I would be loyal to these brands							
	1= extremely negative				7= extremely positive		
6. My attitude towards these brands is....							
	1= extremely inferior				7= extremely superior		
7. Relative to other brands I believe these brands are likely to be.....							
	1= definitely not				7= definitely yes		
8. I like to/ would like to try these brands							
9. I would be willing to pay for these brands							
10. I would go out of my way to pay for these brands							

c. Brand Image Logos

slide 1

Motor Car Brands



1



2



3



4



5



6



7



8



9



10



11



12

¹

slide 2

Steak House Brands



1



2



3



4



5



6



7



8



9



10



11



12

2

Oriental Food Brands



1



2



3



4



5



6



7



8



9



10



11



12

3

slide 4

Fast Food Brands



1



2



3



4



5



6



7



8



9



10



11



12

4

slide 5

General Food Brands



1



2



3



4



5



6



7



8



9



10



11



12

5

Wine Brands



1



2



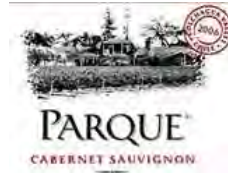
3



4



5



6



7



8



9



10



11



12

6

slide 7

Beer Brands



1



2



3



4



5

ROBSON'S



6



7



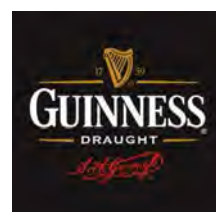
8



9



10



11



12

7

Fruit Juice Brands



1



2



3



4



5



6



7



8



9



10



11



12

8

Mineral Water Brands



1



2



3



4



5



6



7



8



9



10



11



12

9

3. STUDY 2

a. Instructions to respondents

BRAND ASSESSMENTS

A. Respondents were given time to read and complete informed consent documents and then were asked to complete the first round requiring them to view a PowerPoint slide with 6 brand logos; 2 product categories with 3 motor vehicle brands (Brands A) and 3 motor cycle brands (Brands B), and to complete questionnaire sheet 1 by responding to the 12 statements. They were then asked to view 3 brand logos in 6 product categories (4 food categories and 2 beverage categories; a total of 18 brands). The brands were presented to respondents category by category on PowerPoint slides (4 slides with 2 x 3 brands appearing on each slide). Respondents were asked to do the following:

“Please check that you have 8 questionnaire sheets in front of you before you begin. Each questionnaire records 12 statements. For each statement recorded on the questionnaire sheet please consider the first 3 brand logos (Brands A) shown on the screen and indicate where you consider each brand is positioned on the scale 1 to 7. Then consider the second 3 brand logos (Brands B) and indicate where you consider each of these brands is positioned on the scale 1 to 7. Use the same approach for each of the 10 statements. Let’s begin by completing questionnaire sheet 1 that will probe your perceptions of 3 motor vehicle brands and 3 motor cycle brands.”

B. When the respondents had completed the 4 questionnaire sheets the concept of co-branding was described to them as follows:

“Co-branding is a business strategy that seeks to integrate the value chains of participating businesses in order to bring consumers better products, cheaper products, innovative products or even completely unexpected products and services. We want to understand what your perceptions of co-branded products are. Please evaluate the brand logos that will participate and contribute to a new and innovative co-branded product/service combination. The following 3 slides will show you pairs of brand logos incorporating 1 beer brand and 1 food brand.”

C. Having completed these 4 questionnaires it was then explained to respondents that companies participating in a co-branding venture wished to demonstrate their joint corporate social responsibility in one of 2 ways, as follows:

3. Together, pairs of companies will focus on producing sustainable products with reduced impact on the environment, or;
4. Together pairs of companies will focus on creating local jobs for local South Africans

Respondents were then asked to complete the final (8th) questionnaire.

The study comprised 8 questionnaire sheets and 8 PowerPoint slides. A time of 5-6 minutes was allowed for the screening of each slide and to answer each sheet of the questionnaire i.e. 50 minutes or an extended lecture session.

b. Questionnaire Response Sheet

SLIDE	
-------	--

		1=strongly disagree				7= strongly agree		
		1	2	3	4	5	6	7
1. The likely quality of these brands is extremely high	Brands A							
	Brands B							
2. These brands would be my first choice	Brands A							
	Brands B							
3. I recognise these brands clearly	Brands A							
	Brands B							
4. Some characteristics of these brands come readily to mind	Brands A							
	Brands B							
5. It makes sense to buy these brands instead of other brands	Brands A							
	Brands B							
6. It is likely that I would be loyal to these brands	Brands A							
	Brands B							
7. These brands are likely to be reliable	Brands A							
	Brands B							
		1= extremely negative				7= extremely positive		
8. My attitude towards these brands is.....	Brands A							
	Brands B							
		1= extremely inferior				7= extremely superior		
9. Relative to other brands I believe these brands are likely to be.....	Brands A							
	Brands B							
		1= definitely not				7= definitely yes		
10. I like to/ would like to try these brands	Brands A							
	Brands B							
11. I would be willing to pay for these brands	Brands A							
	Brands B							
12. I would go out of my way to pay for these brands	Brands A							
	Brands B							

c. Brand Image Logos

Slide 1

Brands A
(Motor Vehicles)



1



2



3

Brands B
(Motorcycles)



1



2



3

Slide 2

Brands A
Steak Houses



1



2



3

Brands B
Oriental



1



2



3

Slide 3

Brands A
Fast Food



1



2



3

Brands B
General



1



2



3

Slide 4

Brands A
Beer



1



2



3

Brands B
Mineral Water



1



2



3

Slide 5

Brands A
Co-brand Steak



1



2



3

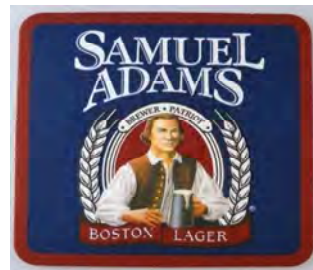
Brands B
Co-brand Beer



1



2



3

Slide 6

Brands A
Co-brand Fast Food



1



2



3

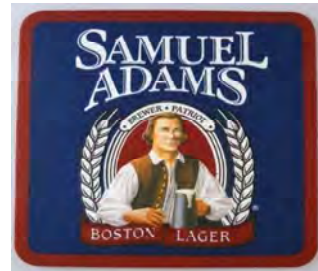
Brands B
Co-brand Beer



1



2



3

Slide 7

Brands A
Steak and Beer



1



2



3



Brands B
Fast Food and Beer



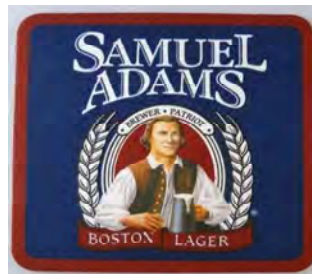
1



2



3



Slide 8

Brands A

Together these pairs of companies will focus on producing sustainable products with reduced impact on the environment.



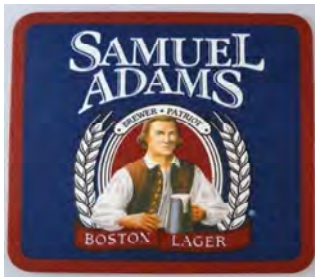
1



2



3



Brands B

Together these pairs of companies will focus on creating local jobs for local South Africans



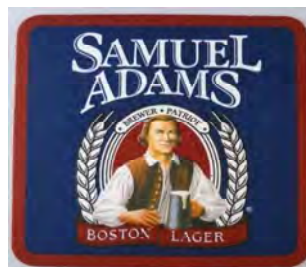
1



2



3



Slide Number	Brand Number	Respondent Number												Total											
		1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23
2	1	-3	3																						
	2	3	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0
	3	0																							48
	4	0																							Spur
	5	3	0	3																					-9
	6	0																							-21
	7	-3	3																						-3
	8	0	0	3																					0
	9	0		3																					0
	10	3	3	3	3	3	3	0	0	3	3	0	3	0	3	0	3	-3	3	0	0	3	3	0	39
	11	0																							Steers
	12	-3																							-6
																									-18
3	1	-3																							-15
	2																								-9
	3	0																							21
	4	-3																							-18
	5																								-9
	6																								-3
	7	-3																							3
	8																								6
	9	0																							3
	10	3																							3
	11	3																							15
	12	0																							-6
4	1	3	0	-3																					0
	2	0	3	3	0	3	3	0	0	0	3	3	3	3	3	3	3	3	3	0	3	0	3	0	30
	3	-3																							KFC
	4	3	0	3	3																				-36
	5	0	0																						30
	6	0																							-9
	7	3	-3	-3																					-3
	8	3	3	3	3																				-27
	9	0	-3	-3																					54
	10	-3	3	-3																					McDonald's
	11	-3	3	-3																					-36
	12	-3	3	-3																					-27
																									-39
																									Wendy's
																									-18

Pretest selection of brand logo stimuli

Slide Number	Brand Number	Respondent Number																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	
General food	5	1	3	3	3	3	0	3	3	3	3	3	3	0	0	-3	3	3	0	3	0	3	0	3	3	42	
		2	3	3	0	3	-3	3	3	0	3	3	-3	3	3	0	3	0	3	0	3	3	3	3	-3	39	
		3	3	0	0	3	3	3	-3	-3	0	0	0	0	0	0	0	0	0	0	-3	-3	-3	-3	-9		
		4	-3	3	0	3	3	-3	-3	-3	-3	3	0	0	0	-3	3	3	0	0	-3	3	3	-3	-15		
		5	3	0	3	3	-3	-3	0	-3	3	3	3	0	3	3	3	3	0	0	0	0	0	0	-3	-3	
		6	0	3	3	3	-3	-3	0	3	3	3	3	3	3	-3	3	0	0	0	0	0	0	0	-3	15	
		7	-3	3	0	0	0	0	0	-3	-3	-3	-3	-3	-3	-3	-3	-3	0	0	-3	0	0	0	0	-15	
		8	0	0	0	3	0	0	0	-3	-3	0	0	0	0	0	-3	0	0	0	0	3	0	0	0	0	
		9	0	0	3	0	3	3	0	-3	3	0	0	0	0	0	0	0	0	0	0	0	-3	0	0	3	
		10	0	0	3	0	-3	3	0	3	0	0	0	0	0	0	3	3	3	0	3	0	-3	-3	3	15	
		11	0	0	-3	0	3	0	3	-3	0	3	3	-3	-3	-3	-3	-3	-3	-3	-3	0	0	0	0	-12	
		12	-3	3	-3	0	-3	-3	0	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-30	
America																											
Wine	6	1	3	3	3	3	-3	-3	0	0	0	0	0	0	0	-3	3	3	0	3	0	3	0	3	-9		
		2	3	3	3	3	-3	-3	0	-3	-3	-3	-3	-3	-3	3	3	3	-3	-3	0	3	0	-3	-15		
		3	3	0	3	0	0	0	0	-3	-3	-3	-3	-3	-3	0	0	0	0	0	0	0	0	0	-9		
		4	3	3	3	3	3	3	3	-3	-3	0	0	-3	-3	0	0	0	0	0	0	0	0	-3	0	-9	
		5	3	3	0	3	3	3	3	3	3	3	3	3	3	0	3	0	3	0	-3	0	3	3	3	42	
		6	3	3	3	3	-3	3	0	-3	3	0	-3	3	0	0	0	0	0	0	0	0	0	0	0	3	
		7	3	3	3	3	0	0	3	3	3	3	-3	0	0	0	3	0	0	0	0	0	0	0	0	15	
		8	0	0	0	0	0	0	0	-3	0	0	0	0	0	0	3	0	0	0	0	0	-3	-3	-3	-3	
		9	0	0	3	3	3	3	0	0	-3	-3	3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-12	
		10	3	3	3	3	3	3	0	-3	3	0	3	0	3	0	3	0	3	0	0	0	3	3	3	36	
		11	0	0	-3	0	3	0	3	0	0	-3	-3	0	0	0	0	0	0	0	0	0	0	0	0	-12	
		12	0	0	0	0	0	0	0	-3	3	0	0	0	0	0	0	0	0	0	0	3	3	3	6		
America																											
Beer	7	1	3	3	-3	0	-3	0	-3	-3	-3	-3	-3	-3	0	-3	0	-3	3	0	3	0	3	3	-18		
		2	0	3	3	0	-3	-3	0	-3	-3	3	0	0	-3	-3	-3	-3	-3	3	0	0	0	0	-9		
		3	-3	3	-3	0	-3	-3	0	-3	-3	0	-3	-3	-3	-3	3	3	-3	-3	3	3	3	3	-21		
		4	3	0	-3	-3	0	-3	-3	-3	-3	-3	-3	-3	0	0	0	0	0	-3	3	3	3	3	-21		
		5	-3	3	0	3	3	3	0	3	0	0	0	0	0	3	0	3	0	3	0	0	0	-3	12		
		6	0	0	0	0	0	0	0	-3	-3	-3	-3	3	3	3	3	3	3	0	0	0	0	0	-3		
		7	0	3	3	3	3	0	3	3	3	3	3	3	3	0	0	0	0	0	0	3	-3	3	33		
		8	-3	3	3	3	0	0	3	0	3	0	3	3	3	-3	3	0	3	3	0	-3	3	3	21		
		9	0	0	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-21		
		10	3	3	0	0	3	-3	0	3	3	0	3	0	0	3	3	0	3	0	3	0	0	-3	15		
		11	0	3	3	3	-3	-3	0	0	3	0	3	0	0	0	0	0	-3	0	0	0	0	0	-3		
		12	-3	3	3	3	-3	-3	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	-3		
Sam Adams																											

Pretest selection of brand logo stimuli

		Respondent Number																									
Slide Number	Brand Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	
8																											
	1	0	3	-3	-3	-3	-3	-3	-3	0	0	0	0	3					0	3	3	-3	0			-3	
	2		3		-3					0		3	0							-3	-3	0				-3	
	3		3	-3		-3		-3	-3	-3	-3	0	-3	3	3			3	3			-3	3	-3		-12	
	4	3	3	3	0	0	3	3	3	3	3	3	0						3	0	3	3	0			33	Appletiser
	5	0	-3	3	-3	-3	-3	-3	-3	-3	-3	0	-3						-3	-3	-3	3	-3			-27	Iguana
	6	0	-3	-3	0	0		0	0	0	3	-3	0						0	0	3	-3	3			-3	
	7	3	0	3		3	3	3	3	3	0	3	3						0	3	0	3				33	Ceres
	8	3			-3	3		3		-3	-3		-3				3	3	3		0					-3	
	9	3	0	3	3		3	0	-3	-3	-3		-3						-3			-3				-3	
	10	3	3	3	3	3	3	0	0	0	3		3	3					3	-3	3	-3	3			27	
	11	-3		-3	0	-3	0	-3	-3		-3		-3						-3		0	-3				-18	
	12	-3		-3	-3	-3	-3	-3	-3	0		-3	0						-3		0	0				-21	
9																											
	1	0	-3					0	3		-3		-3							-3			3	-3		-9	
	2	3	3	0	0	3	3	3	0	0	3	3								0		-3				18	
	3	3	3		3	3	0	3	3	3	3	0	3	3					3	3	3	0	3			42	aQuelle
	4		3	-3		3	0			0		0	3									0				6	
	5	-3		-3		-3		-3		0	-3	-3	3							-3		-3				-18	Iceni
	6									-3		0	-3	-3						-3		0				-12	
	7	-3		-3	3		-3					-3	-3	-3							-3	0				-18	
	8	3	3	3	3	3	3	3	3	3	3	0	3							3	3	3	0	3		51	Valpre
	9	0	3	0	-3	0	3	-3	0	-3	0		0	3						0	0	0	-3	0		-3	
	10	3								0	-3	0										3				3	
	11				-3			-3	-3	0	-3		-3							0	0	3				-6	
	12				-3	-3	3	-3	-3	-3	0		0							-3	0					-12	

Pretest selection of brand logo stimuli

APPENDIX B: RESULTS OF STATISTICAL ANALYSES

- 1. Evaluation of measuring instrument- Cronbach's Alpha test of interitem consistency reliability**
- 2. Comparison of independent groups- Kruskal-Wallis comparison of more than 2 independent groups and Mann-Whitney U test of 2 independent groups**
- 3. Testing of two related means- Wilcoxon signed-rank test**
 - a. Measuring consumers' responses to co-brand concepts**
 - b. Comparing consumers' responses to co-brand concepts- testing of two related means; all respondents**
 - c. Selected respondents (high, medium or low header brand with high, medium or low modifier brand)**

Appendix B,1: Evaluation of measuring instrument- Cronbach's Alpha test of interitem consistency reliability

B1,1 STUDY 2 Stage 1 Slide 1 Cronbach's Alpha Brand A1- Audi

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded ^a	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.946	.947	12

Item Statistics

	Mean	Std. Deviation	N
@1	6.556	1.0125	45
@2	6.622	.9364	45
@3	6.800	.9195	45
@4	6.444	1.1192	45
@5	6.422	1.1578	45
@6	6.311	1.0622	45
@7	6.422	1.0973	45
@8	6.422	1.0551	45
@9	6.467	.8944	45
@10	6.667	1.0445	45
@11	6.378	1.3533	45
@12	6.356	1.1313	45

Inter-Item Correlation Matrix

	@1	@2	@3	@4	@5	@6	@7	@8	@9	@10	@11	@12
@1	1.000	.466	.708	.479	.629	.512	.745	.626	.611	.652	.689	.498
@2	.466	1.000	.597	.359	.654	.646	.535	.487	.568	.287	.420	.666

@3	.708	.597	1.000	.596	.743	.577	.716	.604	.641	.284	.446	.551
@4	.479	.359	.596	1.000	.589	.359	.417	.338	.447	.246	.307	.303
@5	.629	.654	.743	.589	1.000	.815	.769	.707	.639	.476	.665	.785
@6	.512	.646	.577	.359	.815	1.000	.821	.813	.705	.526	.659	.814
@7	.745	.535	.716	.417	.769	.821	1.000	.824	.744	.562	.701	.682
@8	.626	.487	.604	.338	.707	.813	.824	1.000	.702	.626	.729	.709
@9	.611	.568	.641	.447	.639	.705	.744	.702	1.000	.462	.677	.708
@10	.652	.287	.284	.246	.476	.526	.562	.626	.462	1.000	.879	.487
@11	.689	.420	.446	.307	.665	.659	.701	.729	.677	.879	1.000	.756
@12	.498	.666	.551	.303	.785	.814	.682	.709	.708	.487	.756	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@1	71.311	88.265	.755	.790	.941
@2	71.244	91.371	.638	.614	.945
@3	71.067	90.064	.731	.782	.942
@4	71.422	91.977	.486	.529	.950
@5	71.444	84.025	.862	.866	.937
@6	71.556	86.071	.835	.898	.938
@7	71.444	84.934	.867	.865	.937
@8	71.444	86.343	.827	.783	.939
@9	71.400	89.473	.791	.751	.940
@10	71.200	90.027	.633	.907	.945
@11	71.489	82.256	.798	.949	.940
@12	71.511	85.619	.801	.885	.939

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
77.867	103.664	10.1815	12

B1,2 STUDY 2 Stage 1 Slide 1 Cronbach's Alpha Brand A2- Accura

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded ^a	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.923	.922	12

Item Statistics

	Mean	Std. Deviation	N
@1	3.089	1.0406	45
@2	2.689	1.3622	45
@3	2.067	1.5725	45
@4	2.156	1.4453	45
@5	2.422	1.3897	45
@6	2.111	1.3688	45
@7	3.022	1.4692	45
@8	2.933	1.4678	45
@9	2.778	1.3962	45
@10	2.778	1.5505	45
@11	2.600	1.6569	45
@12	2.156	1.2605	45

Inter-Item Correlation Matrix

	@1	@2	@3	@4	@5	@6	@7	@8	@9	@10	@11	@12
@1	1.000	.293	.413	.383	.366	.408	.534	.421	.327	.252	.482	.370
@2	.293	1.000	.456	.545	.611	.628	.378	.433	.465	.591	.518	.572
@3	.413	.456	1.000	.525	.652	.651	.383	.494	.545	.547	.534	.339
@4	.383	.545	.525	1.000	.476	.428	.448	.305	.479	.421	.549	.336
@5	.366	.611	.652	.476	1.000	.680	.418	.571	.588	.582	.569	.507
@6	.408	.628	.651	.428	.680	1.000	.394	.569	.489	.654	.691	.530
@7	.534	.378	.383	.448	.418	.394	1.000	.612	.412	.371	.555	.391
@8	.421	.433	.494	.305	.571	.569	.612	1.000	.591	.553	.540	.313
@9	.327	.465	.545	.479	.588	.489	.412	.591	1.000	.523	.599	.550
@10	.252	.591	.547	.421	.582	.654	.371	.553	.523	1.000	.814	.600
@11	.482	.518	.534	.549	.569	.691	.555	.540	.599	.814	1.000	.607
@12	.370	.572	.339	.336	.507	.530	.391	.313	.550	.600	.607	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@1	27.711	143.756	.516	.467	.922
@2	28.111	134.465	.677	.615	.916
@3	28.733	130.655	.684	.629	.916
@4	28.644	135.462	.599	.543	.920
@5	28.378	131.831	.750	.628	.913
@6	28.689	131.765	.766	.714	.913
@7	27.778	135.268	.593	.592	.920
@8	27.867	132.982	.667	.701	.917
@9	28.022	133.477	.691	.638	.916
@10	28.022	129.159	.742	.807	.913
@11	28.200	124.982	.809	.835	.910
@12	28.644	137.598	.626	.624	.918

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
30.800	157.709	12.5582	12

B1,3 STUDY 2 Stage 1 Slide 1 Cronbach's Alpha Brand A3- Toyota

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded ^a	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.900	.899	12

Item Statistics

	Mean	Std. Deviation	N
@1	5.644	1.1110	45
@2	5.267	1.3718	45
@3	6.711	.5055	45
@4	6.400	.9630	45
@5	5.933	1.1947	45
@6	5.911	1.2760	45
@7	6.311	1.0622	45
@8	6.089	1.1246	45
@9	5.800	1.1985	45
@10	5.733	1.4206	45
@11	5.844	1.2424	45
@12	5.556	1.4231	45

Inter-Item Correlation Matrix

	@1	@2	@3	@4	@5	@6	@7	@8	@9	@10	@11	@12
@1	1.000	.481	.339	.327	.564	.410	.481	.517	.492	.428	.420	.415
@2	.481	1.000	.343	.175	.566	.416	.488	.470	.448	.352	.412	.435

@3	.339	.343	1.000	.476	.419	.241	.298	.326	.240	.143	.289	.228
@4	.327	.175	.476	1.000	.182	.215	.231	.281	.189	.412	.357	.182
@5	.564	.566	.419	.182	1.000	.622	.644	.563	.498	.378	.330	.437
@6	.410	.416	.241	.215	.622	1.000	.390	.481	.434	.588	.694	.729
@7	.481	.488	.298	.231	.644	.390	1.000	.585	.550	.177	.261	.364
@8	.517	.470	.326	.281	.563	.481	.585	1.000	.688	.470	.433	.352
@9	.492	.448	.240	.189	.498	.434	.550	.688	1.000	.529	.467	.506
@10	.428	.352	.143	.412	.378	.588	.177	.470	.529	1.000	.749	.704
@11	.420	.412	.289	.357	.330	.694	.261	.433	.467	.749	1.000	.796
@12	.415	.435	.228	.182	.437	.729	.364	.352	.506	.704	.796	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@1	65.556	81.707	.636	.458	.891
@2	65.933	79.291	.595	.430	.893
@3	64.489	91.437	.415	.480	.901
@4	64.800	88.209	.363	.507	.902
@5	65.267	79.791	.679	.734	.888
@6	65.289	77.983	.714	.725	.886
@7	64.889	83.419	.575	.651	.894
@8	65.111	80.737	.678	.652	.889
@9	65.400	79.836	.674	.607	.889
@10	65.467	76.891	.674	.771	.889
@11	65.356	78.462	.714	.774	.887
@12	65.644	76.098	.708	.791	.887

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
71.200	95.709	9.7831	12

B1,4 Slide 1 Vehicle Brands X3- Consumer based BE (3 items)

Case Processing Summary

		N	%
Cases	Valid	135	100.0
	Excluded ^a	0	.0
	Total	135	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.929	.930	3

Item Statistics

	Mean	Std. Deviation	N
@2	4.859	2.0485	135
@3	5.193	2.4692	135
@4	5.000	2.3404	135

Inter-Item Correlation Matrix

	@2	@3	@4
@2	1.000	.792	.766
@3	.792	1.000	.891
@4	.766	.891	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@2	10.193	21.873	.801	.645	.942
@3	9.859	17.017	.899	.823	.863
@4	10.052	18.303	.881	.804	.875

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.052	41.423	6.4360	3

B1,5 Slide 1 Vehicle Brands X3- Quality perceptions (3 items)

Case Processing Summary

		N	%
Cases	Valid	135	100.0
	Excluded ^a	0	.0
	Total	135	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.936	.939	3

Item Statistics

	Mean	Std. Deviation	N
@1	5.096	1.8074	135
@5	4.926	2.1773	135
@7	5.252	1.9952	135

Inter-Item Correlation Matrix

	@1	@5	@7
@1	1.000	.831	.831
@5	.831	1.000	.850
@7	.831	.850	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@1	10.178	16.102	.864	.747	.917
@5	10.348	13.244	.878	.772	.905
@7	10.022	14.544	.879	.773	.899

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.274	31.902	5.6482	3

B1,6 Slide 1 Vehicle Brands X3- Attitudes (3 items)

Case Processing Summary

		N	%
Cases	Valid	135	100.0
	Excluded ^a	0	.0
	Total	135	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.945	.948	3

Item Statistics

	Mean	Std. Deviation	N
@6	4.778	2.2648	135
@8	5.148	1.9945	135
@9	5.015	1.9925	135

Inter-Item Correlation Matrix

	@6	@8	@9
@6	1.000	.863	.841
@8	.863	1.000	.869
@9	.841	.869	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@6	10.163	14.854	.881	.779	.930
@8	9.793	16.688	.902	.815	.909
@9	9.926	16.905	.885	.787	.923

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
14.941	35.370	5.9472	3

B1,7 Slide 1 Vehicle Brands X3- Purchase intentions (3 items)

Case Processing Summary

		N	%
Cases	Valid	135	100.0
	Excluded ^a	0	.0
	Total	135	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.959	.959	3

Item Statistics

	Mean	Std. Deviation	N
@10	5.059	2.1398	135
@11	4.941	2.1948	135
@12	4.689	2.2242	135

Inter-Item Correlation Matrix

	@10	@11	@12
@10	1.000	.916	.857
@11	.916	1.000	.884
@12	.857	.884	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@10	9.630	18.399	.913	.849	.939
@11	9.748	17.682	.934	.876	.923
@12	10.000	18.000	.890	.796	.956

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
14.689	39.738	6.3038	3

B1,8 Slide 1 Vehicle Brands X3- Quality perceptions (3 items)

Case Processing Summary

		N	%
Cases	Valid	135	100.0
	Excluded ^a	0	.0
	Total	135	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.932	.939	3

Item Statistics

	Mean	Std. Deviation	N
@1	5.096	1.8074	135
@3	5.193	2.4692	135
@4	5.000	2.3404	135

Inter-Item Correlation Matrix

	@1	@3	@4
@1	1.000	.824	.796
@3	.824	1.000	.891
@4	.796	.891	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@1	10.193	21.873	.833	.697	.942
@3	10.096	15.476	.908	.830	.870
@4	10.289	16.714	.890	.806	.880

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.289	39.222	6.2627	3

Consistency of 3 Dimensions:

1. Quality perceptions
2. Attitude
3. Purchase intention

B1,9 Slide 1 Vehicle BrandA1 Cronbach's Alpha 3 dimensions Audi

Case Processing Summary

		N	%
Cases	Valid	67	100.0
	Excluded ^a	0	.0
	Total	67	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.742	.759	3

Item Statistics

	Mean	Std. Deviation	N
Audi Qual	6.52	.927	67
Audi Attit	6.37	.982	67
Audi Int Pur	6.39	1.267	67

Inter-Item Correlation Matrix

	Audi1	Audi2	Audi3
Audi Qual	1.000	.615	.457
Audi Attit	.615	1.000	.466
Audi Int Pur	.457	.466	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of items
Inter-Item Correlations	.513	.457	.615	.158	1.345	.006	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Audi Qual	12.76	3.730	.612	.415	.622
Audi Attit	12.91	3.537	.617	.421	.607
Audi Int Pur	12.90	2.943	.514	.264	.761

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
19.28	6.782	2.604	3

B1,10 Slide 4 Beer BrandA3 Cronbach's Alpha 3 dimensions Heineken

Case Processing Summary

		N	%
Cases	Valid	72	100.0
	Excluded ^a	0	.0
	Total	72	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.866	.870	3

Item Statistics

	Mean	Std. Deviation	N
Hein Qual	5.819	1.6558	72
Hein Attit	5.069	2.1118	72
Hein Int Pur	4.611	2.2985	72

Inter-Item Correlation Matrix

	Heineken1	Heineken2	Heineken3
Hein Qual	1.000	.696	.573
Hein Attit	.696	1.000	.804
Hein Int Pur	.573	.804	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Inter-Item Correlations	.691	.573	.804	.230	1.401	.011

Summary Item Statistics

	N of Items
Inter-Item Correlations	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted

Hein Qual	9.681	17.544	.666	.486	.889
Hein Attit	10.431	12.389	.852	.728	.705
Hein Int Pur	10.889	12.072	.762	.646	.807

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.500	29.521	5.4333	3

B1,11 Slide 4 Beer BrandA2 Cronbach's Alpha 3 dimensions Windhoek

Case Processing Summary

		N	%
Cases	Valid	70	100.0
	Excluded ^a	0	.0
	Total	70	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.863	.866	3

Item Statistics

	Mean	Std. Deviation	N
Wind Qual	5.114	1.5654	70
Wind Attit	4.471	2.0268	70
Wind Int Pur	4.243	2.1898	70

Inter-Item Correlation Matrix

	Windhoek1	Windhoek2	Windhoek3
Wind Qual	1.000	.654	.584
Wind Attit	.654	1.000	.813
Wind Int Pur	.584	.813	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Inter-Item Correlations	.684	.584	.813	.229	1.393	.011

Summary Item Statistics

	N of Items
Inter-Item Correlations	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted

Wind Qual	8.714	16.120	.649	.436	.895
Wind Attit	9.357	11.247	.836	.710	.712
Wind Int Pur	9.586	10.710	.783	.666	.775

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.829	26.724	5.1695	3

B1,12 Slide 4 Beer BrandA1 Cronbach's Alpha 3 dimensions Samuel Adams

Case Processing Summary

		N	%
Cases	Valid	69	100.0
	Excluded ^a	0	.0
	Total	69	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.841	.854	3

Item Statistics

	Mean	Std. Deviation	N
Quality	3.78	1.454	69
Attit	3.32	1.827	69
IntPur	3.38	2.263	69

Inter-Item Correlation Matrix

	Quality	Attit	IntPur
Quality	1.000	.674	.562
Attit	.674	1.000	.749
IntPur	.562	.749	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.493	3.319	3.783	.464	1.140	.064	3
Item Variances	3.524	2.114	5.121	3.007	2.422	2.286	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Quality	6.70	14.656	.654	.462	.846
Attit	7.16	10.930	.809	.655	.676
IntPur	7.10	9.034	.727	.568	.793

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.48	24.047	4.904	3

Appendix B, 2: Comparison of independent groups- Kruskal-Wallis comparison of more than 2 independent groups and Mann-Whitney U test of 2 independent groups

B, 2.1. Comparison of sample groups (5 groups)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25 th	50 th (Median)	75 th
Audi	243	6.38957475	.723818280	3.00000000	7.00000000	6.00000000	6.66666666	7.00000000
		9945228	940225	00001000	00001000	0000100	6666767	0000100
Accura	243	2.93278463	1.29660490	1.00000000	7.00000000	2.00000000	3.00000000	4.00000000
		6488441	1537359	00001000	00001000	0000100	0000100	0000100
Toyota	243	5.76268861	.926682172	3.00000000	7.00000000	5.33333333	6.00000000	6.33333333
		4540565	548716	00001000	00001000	3333433	0000100	3333433
Steers	243	5.59396433	1.16369955	1.00000000	7.00000000	5.00000000	6.00000000	6.33333333
		4705174	8183526	00001000	00001000	0000100	0000100	3333433
Spur	243	6.03360768	1.15216884	2.00000000	7.00000000	5.33333333	6.33333333	7.00000000
		1755934	0652190	00001000	00001000	3333433	3333433	0000100
Zebras	243	3.25377229	1.41529367	1.00000000	6.66666666	2.00000000	3.33333333	4.00000000
		0809429	5716189	00001000	66667670	0000100	3333433	0000100
McDonald	243	6.12551440	1.12464590	1.00000000	7.00000000	6.00000000	6.66666666	7.00000000
		3292283	8216914	00001000	00001000	0000100	6666767	0000100
KFC	243	5.44581618	1.35015715	1.00000000	7.00000000	4.66666666	5.66666666	6.33333333
		6557028	4765868	00001000	00001000	6666767	6666767	3333433
Wendys	243	3.24005486	1.49447577	1.00000000	7.00000000	2.00000000	3.00000000	4.33333333
		9684598	7059249	00001000	00001000	0000100	0000100	3333433
SamAdam	243	2.85185185	1.46836865	1.00000000	7.00000000	1.66666666	3.00000000	4.00000000
		1851952	9343823	00001000	00001000	6666767	0000100	0000100
Windhoek	243	4.24485596	1.62469600	1.00000000	7.00000000	3.00000000	4.50000000	5.66666666
		7078292	5983784	00001000	00001000	0000100	0000100	6666767
Heineken	243	4.94993141	1.83336682	1.00000000	7.00000000	3.33333333	5.33333333	6.66666666
		2894482	7857410	00001000	00001000	3333433	3333433	6666767
SpurSada	243	4.55829903	1.55076580	1.00000000	7.00000000	3.66666666	4.66666666	5.66666666
		9780621	9874168	00001000	00001000	6666766	6666767	6666767
SteerWin	243	4.88614540	1.53347259	1.00000000	7.00000000	4.00000000	5.00000000	6.00000000
		4664027	6047674	00001000	00001000	0000100	0000100	0000100
ZebHein	243	4.15294924	1.65957008	1.00000000	7.00000000	3.00000000	4.00000000	5.33333333
		5541942	1262651	00001000	00001000	0000100	0000100	3333433
KFCWind	243	4.41563786	1.85798418	1.00000000	7.00000000	3.00000000	5.00000000	6.00000000
		0082402	3828840	00001000	00001000	0000100	0000100	0000100
McDSad	243	4.50823045	1.60382231	1.00000000	7.00000000	3.33333333	4.66666666	6.00000000
		2674996	8499484	00001000	00001000	3333433	6666767	0000100
WenHein	243	3.87585733	1.64616108	1.00000000	7.00000000	2.66666666	4.00000000	5.00000000
		8820402	3241575	00001000	00001000	6666766	0000100	0000100
Group	243	2.765	1.4049	1.0	5.0	1.000	2.000	4.000

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
Audi	1.0	61	136.25
	2.0	62	122.15
	3.0	22	124.82
	4.0	69	116.80
	5.0	29	101.95
	Total	243	
Accura	1.0	61	142.17
	2.0	62	105.94
	3.0	22	93.70
	4.0	69	129.90
	5.0	29	116.59
	Total	243	
Toyota	1.0	61	124.35
	2.0	62	120.44
	3.0	22	117.75
	4.0	69	124.15
	5.0	29	118.48
	Total	243	
Steers	1.0	61	116.96
	2.0	62	138.34
	3.0	22	110.05
	4.0	69	123.11
	5.0	29	104.10
	Total	243	
Spur	1.0	61	126.16
	2.0	62	140.36
	3.0	22	75.02
	4.0	69	133.41
	5.0	29	82.48
	Total	243	
Zebras	1.0	61	153.96
	2.0	62	98.48
	3.0	22	94.50
	4.0	69	121.88
	5.0	29	126.19
	Total	243	
McDonald	1.0	61	126.53
	2.0	62	134.06
	3.0	22	76.98
	4.0	69	139.14
	5.0	29	80.07
	Total	243	

KFC	1.0	61	121.34
	2.0	62	145.28
	3.0	22	115.20
	4.0	69	112.13
	5.0	29	102.26
	Total	243	
Wendys	1.0	61	167.33
	2.0	62	98.35
	3.0	22	89.82
	4.0	69	113.77
	5.0	29	121.22
	Total	243	
SamAdam	1.0	61	148.00
	2.0	62	92.54
	3.0	22	127.30
	4.0	69	116.93
	5.0	29	138.33
	Total	243	
Windhoek	1.0	61	136.22
	2.0	62	104.40
	3.0	22	122.82
	4.0	69	115.28
	5.0	29	145.10
	Total	243	
Heineken	1.0	61	132.26
	2.0	62	105.47
	3.0	22	123.34
	4.0	69	122.12
	5.0	29	134.47
	Total	243	
SpurSada	1.0	61	136.71
	2.0	62	113.24
	3.0	22	116.61
	4.0	69	122.37
	5.0	29	112.98
	Total	243	
SteerWin	1.0	61	114.88
	2.0	62	121.07
	3.0	22	118.20
	4.0	69	135.25
	5.0	29	110.31
	Total	243	
ZebHein	1.0	61	139.16
	2.0	62	108.98
	3.0	22	121.95

	4.0	69	116.27
	5.0	29	127.40
	Total	243	
KFCWind	1.0	61	96.52
	2.0	62	139.59
	3.0	22	116.07
	4.0	69	135.21
	5.0	29	111.07
	Total	243	
McDSad	1.0	61	122.02
	2.0	62	124.01
	3.0	22	96.25
	4.0	69	132.36
	5.0	29	112.55
	Total	243	
WenHein	1.0	61	131.15
	2.0	62	108.31
	3.0	22	128.09
	4.0	69	117.62
	5.0	29	137.83
	Total	243	

Test Statistics ^{a,b}																		
	Audi	Accura	Toyota	Steers	Spur	Zebras	McDona	KFC	Wendy	SamAda	Windho	Heinek	SpurSa	SteerW	ZebHei	KFCWi	McDSa	WenHe
							ld		s	m	ek	en	da	in	n	nd	d	in
Chi-Square	5.598	12.998	.321	6.268	26.491	23.229	26.954	10.781	38.309	21.631	10.198	5.719	4.268	3.982	6.419	15.280	5.053	5.319
df	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Asymp. Sig.	.231	.011	.988	.180	.000	.000	.000	.029	.000	.000	.037	.221	.371	.408	.170	.004	.282	.256

a. Kruskal Wallis Test

b. Grouping Variable: Group

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.231	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.011	Reject the null hypothesis.
3	The distribution of Toyota is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.988	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.180	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
6	The distribution of Zebras is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
7	The distribution of McDonald is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
8	The distribution of KFC is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.029	Reject the null hypothesis.
9	The distribution of Wendys is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
10	The distribution of SamAdam is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Windhoek is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.037	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.221	Retain the null hypothesis.
13	The distribution of SpurSada is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.371	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.408	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.170	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.004	Reject the null hypothesis.
17	The distribution of McDSad is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.282	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Group.	Independent-Samples Kruskal-Wallis Test	.258	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

B, 2,2,(i). Comparison of age groups 1-6

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.481	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.206	Retain the null hypothesis.
3	The distribution of Toyota is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.572	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.843	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.093	Retain the null hypothesis.
6	The distribution of Zebras is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.889	Retain the null hypothesis.
7	The distribution of McDonald is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.246	Retain the null hypothesis.
8	The distribution of KFC is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.331	Retain the null hypothesis.
9	The distribution of Wendys is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.703	Retain the null hypothesis.
10	The distribution of SamAdam is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.222	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Windhoek is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.043	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.265	Retain the null hypothesis.
13	The distribution of SpurSada is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.943	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.963	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.284	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.404	Retain the null hypothesis.
17	The distribution of McDSad is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.541	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.250	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Audi	227	6.398678414 097017	.7184964744 07266	3.000000000 0001000	7.000000000 0001000	6.000000000 000100	6.666666666 666767	7.000000000 000100
Accura	227	2.957415565 345180	1.301197382 571072	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	3.000000000 000100	4.000000000 000100
Toyota	227	5.760646108 663831	.9413624164 91318	3.000000000 0001000	7.000000000 0001000	5.333333333 333433	6.000000000 000100	6.500000000 000100
Steers	227	5.606461086 637397	1.175293581 109788	1.000000000 0001000	7.000000000 0001000	5.000000000 000100	6.000000000 000100	6.333333333 333433
Spur	227	6.115271659 324630	1.105675784 365612	2.000000000 0001000	7.000000000 0001000	5.666666666 666767	6.666666666 666767	7.000000000 000100
Zebras	227	3.227606461 086738	1.399125832 503849	1.000000000 0001000	6.666666666 6667670	2.000000000 000100	3.333333333 333433	4.000000000 000100
McDonald	227	6.185022026 431819	1.095503833 838744	1.000000000 0001000	7.000000000 0001000	6.000000000 000100	6.666666666 666767	7.000000000 000100
KFC	227	5.446402349 486155	1.378900752 336135	1.000000000 0001000	7.000000000 0001000	4.666666666 666767	5.666666666 666767	6.333333333 333433
Wendys	227	3.251101321 586002	1.497159720 315511	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	3.000000000 000100	4.333333333 333433
SamAdam	227	2.872246696 035343	1.482055295 709545	1.000000000 0001000	7.000000000 0001000	1.666666666 666767	3.000000000 000100	4.000000000 000100
Windhoek	227	4.219530102 790112	1.634015080 900811	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.333333333 333433	5.333333333 333433
Heineken	227	4.940528634 361335	1.840629652 253005	1.000000000 0001000	7.000000000 0001000	3.333333333 333433	5.333333333 333433	6.666666666 666767
SpurSada	227	4.596182085 168969	1.568863428 836521	1.000000000 0001000	7.000000000 0001000	3.666666666 666766	4.666666666 666767	6.000000000 000100
SteerWin	227	4.882525697 503770	1.559190434 776484	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	5.000000000 000100	6.000000000 000100
ZebHein	227	4.113803230 543420	1.672745661 372285	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.000000000 000100	5.333333333 333433
KFCWind	227	4.445668135 095548	1.854923709 493593	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	5.000000000 000100	6.000000000 000100
McDSad	227	4.554331864 904653	1.611852175 325454	1.000000000 0001000	7.000000000 0001000	3.666666666 666766	4.666666666 666767	6.000000000 000100
WenHein	227	3.870778267 254138	1.649973251 854904	1.000000000 0001000	7.000000000 0001000	2.666666666 666766	4.000000000 000100	5.000000000 000100
Age	227	3.507	1.4309	1.0	6.0	2.000	4.000	5.000

Kruskal-Wallis Test

Ranks

	Age	N	Mean Rank
Audi	1.0	18	138.86
	2.0	46	106.50
	3.0	49	119.62
	4.0	51	110.12
	5.0	43	114.64
	6.0	20	103.63
	Total	227	
Accura	1.0	18	108.44
	2.0	46	111.84
	3.0	49	134.24
	4.0	51	104.76
	5.0	43	114.28
	6.0	20	97.33
	Total	227	
Toyota	1.0	18	133.81
	2.0	46	115.33
	3.0	49	106.06
	4.0	51	121.67
	5.0	43	108.85
	6.0	20	104.10
	Total	227	
Steers	1.0	18	133.33
	2.0	46	110.09
	3.0	49	112.27
	4.0	51	116.68
	5.0	43	110.48
	6.0	20	110.60
	Total	227	
Spur	1.0	18	122.50
	2.0	46	126.51
	3.0	49	113.32
	4.0	51	123.69
	5.0	43	99.52
	6.0	20	85.68
	Total	227	
Zebras	1.0	18	118.17
	2.0	46	108.46
	3.0	49	116.99
	4.0	51	106.92
	5.0	43	120.87
	6.0	20	118.95
	Total	227	

	1.0	18	139.03
	2.0	46	119.57
	3.0	49	107.36
McDonald	4.0	51	118.48
	5.0	43	110.53
	6.0	20	90.98
	Total	227	
	1.0	18	108.31
	2.0	46	108.20
	3.0	49	110.11
KFC	4.0	51	133.20
	5.0	43	106.79
	6.0	20	108.55
	Total	227	
	1.0	18	96.19
	2.0	46	115.80
	3.0	49	121.02
Wendys	4.0	51	116.26
	5.0	43	105.47
	6.0	20	121.25
	Total	227	
	1.0	18	116.28
	2.0	46	99.18
	3.0	49	114.39
SamAdam	4.0	51	112.71
	5.0	43	115.56
	6.0	20	145.03
	Total	227	
	1.0	18	99.14
	2.0	46	98.71
	3.0	49	103.61
Windhoek	4.0	51	120.66
	5.0	43	125.31
	6.0	20	146.70
	Total	227	
	1.0	18	107.19
	2.0	46	101.15
	3.0	49	105.61
Heineken	4.0	51	123.18
	5.0	43	118.70
	6.0	20	136.73
	Total	227	
	1.0	18	112.44
SpurSada	2.0	46	117.72
	3.0	49	116.52

	4.0	51	108.23
	5.0	43	110.12
	6.0	20	123.75
	Total	227	
	1.0	18	124.03
	2.0	46	116.53
	3.0	49	108.92
SteerWin	4.0	51	116.24
	5.0	43	112.69
	6.0	20	108.73
	Total	227	
	1.0	18	116.53
	2.0	46	93.25
	3.0	49	123.56
ZebHein	4.0	51	118.22
	5.0	43	115.34
	6.0	20	122.40
	Total	227	
	1.0	18	131.50
	2.0	46	116.82
	3.0	49	100.54
KFCWind	4.0	51	124.25
	5.0	43	110.45
	6.0	20	106.23
	Total	227	
	1.0	18	140.42
	2.0	46	118.29
	3.0	49	108.48
McDSad	4.0	51	108.23
	5.0	43	110.15
	6.0	20	116.88
	Total	227	
	1.0	18	95.89
	2.0	46	107.32
	3.0	49	108.21
WenHein	4.0	51	111.55
	5.0	43	127.48
	6.0	20	137.13
	Total	227	

Test Statistics^{a,b}

	Audi	Accura	Toyota	Steers	Spur	Zebras	McDona	KFC	Wendy	SamAda	Windho	Heineke	SpurSa	SteerW	ZebHei	KFCWi	McDS	WenHe
							ld		s	m	ek	n	da	in	n	nd	ad	in
Chi-Square	4.491	7.208	3.843	2.043	9.423	1.696	6.673	5.749	2.978	6.988	11.451	6.446	1.222	.993	6.239	5.100	4.058	6.627
df	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Asymp. Sig.	.481	.206	.572	.843	.093	.889	.246	.331	.703	.222	.043	.265	.943	.963	.284	.404	.541	.250

a. Kruskal Wallis Test

b. Grouping Variable: Age

B, 2,2,(ii). Comparison of age groups 2-5

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.775	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.150	Retain the null hypothesis.
3	The distribution of Toyota is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.645	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.954	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.171	Retain the null hypothesis.
6	The distribution of Zebras is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.678	Retain the null hypothesis.
7	The distribution of McDonald is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.726	Retain the null hypothesis.
8	The distribution of KFC is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.142	Retain the null hypothesis.
9	The distribution of Wendys is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.711	Retain the null hypothesis.
10	The distribution of SamAdam is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.582	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Windhoek is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.174	Retain the null hypothesis.
12	The distribution of Heineken is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.296	Retain the null hypothesis.
13	The distribution of SpurSada is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.876	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.936	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.130	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.344	Retain the null hypothesis.
17	The distribution of McDSad is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.908	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.423	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Audi	189	6.374779541 446307	.7496366504 90783	3.000000000 0001000	7.000000000 0001000	6.000000000 000100	6.666666666 666767	7.000000000 000100
Accura	189	3.001763668 430435	1.323432814 426080	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	3.000000000 000100	4.000000000 000100
Toyota	189	5.747795414 462183	.9502408033 75573	3.000000000 0001000	7.000000000 0001000	5.166666666 666766	6.000000000 000100	6.500000000 000100
Steers	189	5.575837742 504507	1.203991816 851638	1.000000000 0001000	7.000000000 0001000	5.000000000 000100	6.000000000 000100	6.333333333 333433
Spur	189	6.149029982 363418	1.103393352 771562	2.000000000 0001000	7.000000000 0001000	5.666666666 666767	6.666666666 666767	7.000000000 000100
Zebras	189	3.200176366 843133	1.372881980 823030	1.000000000 0001000	6.666666666 6667670	2.000000000 000100	3.333333333 333433	4.000000000 000100
McDonald	189	6.198412698 412797	1.077873781 050422	1.000000000 0001000	7.000000000 0001000	6.000000000 000100	6.666666666 666767	7.000000000 000100
KFC	189	5.455026455 026557	1.407995893 900246	1.000000000 0001000	7.000000000 0001000	4.666666666 666767	5.666666666 666767	6.333333333 333433
Wendys	189	3.262786596 120030	1.486053047 269707	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	3.333333333 333433	4.333333333 333433
SamAdam	189	2.783950617 284051	1.442013927 727964	1.000000000 0001000	7.000000000 0001000	1.583333333 333433	2.666666666 666766	4.000000000 000100
Windhoek	189	4.157848324 515091	1.676014164 037567	1.000000000 0001000	7.000000000 0001000	2.666666666 666766	4.333333333 333433	5.666666666 666767
Heineken	189	4.882716049 382815	1.863683636 595102	1.000000000 0001000	7.000000000 0001000	3.333333333 333433	5.000000000 000100	6.666666666 666767
SpurSada	189	4.573192239 859006	1.594656704 004884	1.000000000 0001000	7.000000000 0001000	3.666666666 666766	4.666666666 666767	6.000000000 000100
SteerWin	189	4.852733686 067118	1.610922343 535923	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	5.000000000 000100	6.000000000 000100
ZebHein	189	4.077601410 934844	1.700934351 380203	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.000000000 000100	5.333333333 333433
KFCWind	189	4.410052910 053008	1.904523372 433592	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	5.000000000 000100	6.000000000 000100
McDSad	189	4.470017636 684408	1.687366297 911717	1.000000000 0001000	7.000000000 0001000	3.166666666 666767	4.666666666 666767	6.000000000 000100
WenHein	189	3.845679012 345777	1.652196178 073297	1.000000000 0001000	7.000000000 0001000	2.666666666 666766	4.000000000 000100	5.000000000 000100
Age	189	3.481	1.0944	2.0	5.0	3.000	3.000	4.000

Kruskal-Wallis Test

Ranks

	Age	N	Mean Rank
Audi	2.0	46	89.88
	3.0	49	100.65
	4.0	51	92.82
	5.0	43	96.62
	Total	189	
Accura	2.0	46	91.17
	3.0	49	109.68
	4.0	51	85.69
	5.0	43	93.41
	Total	189	
Toyota	2.0	46	96.85
	3.0	49	89.11
	4.0	51	102.00
	5.0	43	91.43
	Total	189	
Steers	2.0	46	92.96
	3.0	49	94.87
	4.0	51	98.53
	5.0	43	93.15
	Total	189	
Spur	2.0	46	103.45
	3.0	49	92.80
	4.0	51	101.35
	5.0	43	80.94
	Total	189	
Zebras	2.0	46	91.07
	3.0	49	98.24
	4.0	51	89.82
	5.0	43	101.65
	Total	189	
McDonald	2.0	46	99.66
	3.0	49	89.34
	4.0	51	98.77
	5.0	43	91.99
	Total	189	
KFC	2.0	46	89.24
	3.0	49	90.69
	4.0	51	110.10
	5.0	43	88.16
	Total	189	

	2.0	46	95.63
	3.0	49	99.93
Wendys	4.0	51	96.45
	5.0	43	86.99
	Total	189	
	2.0	46	85.42
	3.0	49	98.28
SamAdam	4.0	51	96.83
	5.0	43	99.34
	Total	189	
	2.0	46	84.15
	3.0	49	88.52
Windhoek	4.0	51	102.16
	5.0	43	105.50
	Total	189	
	2.0	46	85.59
	3.0	49	89.68
Heineken	4.0	51	104.17
	5.0	43	100.26
	Total	189	
	2.0	46	98.66
	3.0	49	97.83
SpurSada	4.0	51	91.17
	5.0	43	92.41
	Total	189	
	2.0	46	97.30
	3.0	49	91.21
SteerWin	4.0	51	97.30
	5.0	43	94.12
	Total	189	
	2.0	46	78.90
	3.0	49	103.70
ZebHein	4.0	51	99.47
	5.0	43	97.00
	Total	189	

	2.0	46	97.84
	3.0	49	84.86
KFCWind	4.0	51	104.13
	5.0	43	92.70
	Total	189	
	2.0	46	100.14
	3.0	49	93.07
McDSad	4.0	51	93.06
	5.0	43	94.00
	Total	189	
	2.0	46	90.05
	3.0	49	90.63
WenHein	4.0	51	93.56
	5.0	43	106.98
	Total	189	

Test Statistics^{a,b}

	Audi	Accura	Toyota	Steers	Spur	Zebras	McDona	KFC	Wendy	SamAda	Windho	Heinek	SpurSa	SteerW	ZebHei	KFCWi	McDSa	WenHe
							ld	s	m	ek	en	da	in	n	nd	d	in	
Chi-Square	1.109	5.322	1.663	.330	5.007	1.518	1.313	5.437	1.376	1.952	4.975	3.702	.688	.421	5.647	3.325	.549	2.802
df	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	.775	.150	.645	.954	.171	.678	.726	.142	.711	.582	.174	.296	.876	.936	.130	.344	.908	.423

a. Kruskal Wallis Test

b. Grouping Variable: Age

B, 2,2,(iii). Comparison of age groups1 & 6

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.082 ¹	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.443 ¹	Retain the null hypothesis.
3	The distribution of Toyota is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.112 ¹	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.276 ¹	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.093 ¹	Retain the null hypothesis.
6	The distribution of Zebras is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	1.000 ¹	Retain the null hypothesis.
7	The distribution of McDonald is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.026 ¹	Reject the null hypothesis.
8	The distribution of KFC is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	1.000 ¹	Retain the null hypothesis.
9	The distribution of Wendys is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.264 ¹	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

¹Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
10	The distribution of SamAdam is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.158 ¹	Retain the null hypothesis.
11	The distribution of Windhoek is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.008 ¹	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.126 ¹	Retain the null hypothesis.
13	The distribution of SpurSada is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.633 ¹	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.361 ¹	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.696 ¹	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.196 ¹	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

¹Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
17	The distribution of McDSad is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.156 ¹	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Age.	Independent-Samples Mann-Whitney U Test	.044 ¹	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

¹Exact significance is displayed for this test.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Audi	38	6.517543859 649225	.5295891569 90231	5.000000000 000100	7.000000000 000100	6.000000000 000100	6.666666666 666767	7.000000000 000100
Accura	38	2.736842105 263258	1.175725179 673977	1.000000000 0001000	6.333333333 3334330	2.000000000 000100	2.666666666 666766	3.416666666 666766
Toyota	38	5.824561403 508872	.9053953796 13341	3.000000000 0001000	7.000000000 0001000	5.333333333 333433	6.000000000 000100	6.500000000 000100
Steers	38	5.758771929 824659	1.021317356 052249	2.333333333 3334334	7.000000000 0001000	5.333333333 333433	6.000000000 000100	6.541666666 666767
Spur	38	5.947368421 052732	1.116424784 316481	3.666666666 6667664	7.000000000 0001000	5.000000000 000100	6.333333333 333433	7.000000000 000100
Zebras	38	3.364035087 719398	1.535298027 997145	1.000000000 0001000	6.333333333 3334330	2.250000000 000100	3.333333333 333433	4.083333333 333433
McDonald	38	6.118421052 631680	1.192385686 651443	3.000000000 0001000	7.000000000 0001000	5.916666666 666767	6.666666666 666767	7.000000000 000100
KFC	38	5.403508771 929925	1.240357147 871360	2.333333333 3334334	7.000000000 0001000	4.333333333 333433	5.833333333 333434	6.333333333 333433
Wendys	38	3.192982456 140450	1.570431701 607535	1.000000000 0001000	6.666666666 6667670	2.000000000 000100	3.000000000 000100	4.000000000 000100
SamAdam	38	3.311403508 772030	1.616437270 170447	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	3.166666666 666767	4.083333333 333433
Windhoek	38	4.526315789 473785	1.385535702 487436	1.666666666 6667667	7.000000000 0001000	3.583333333 333433	4.666666666 666767	5.333333333 333433
Heineken	38	5.228070175 438698	1.715685039 306986	1.000000000 0001000	7.000000000 0001000	3.583333333 333433	5.666666666 666767	6.666666666 666767
SpurSada	38	4.710526315 789573	1.448144826 745237	1.000000000 0001000	7.000000000 0001000	3.583333333 333433	5.000000000 000100	6.000000000 000100
SteerWin	38	5.030701754 386064	1.279226060 573794	2.666666666 6667664	7.000000000 0001000	4.000000000 000100	5.000000000 000100	6.083333333 333433
ZebHein	38	4.293859649 122908	1.533134637 795190	1.666666666 6667667	7.000000000 0001000	3.333333333 333433	4.000000000 000100	5.666666666 666767
KFCWind	38	4.622807017 543959	1.596112116 888870	1.000000000 0001000	7.000000000 0001000	3.916666666 666766	5.000000000 000100	6.000000000 000100
McDSad	38	4.973684210 526417	1.088795182 131636	2.666666666 6667664	7.000000000 0001000	4.333333333 333433	5.000000000 000100	5.666666666 666767
WenHein	38	3.995614035 087819	1.655134354 936516	1.000000000 0001000	7.000000000 0001000	2.625000000 000100	4.000000000 000100	5.750000000 000100
Age	38	3.632	2.5300	1.0	6.0	1.000	6.000	6.000

Mann-Whitney Test

Ranks				
	Age	N	Mean Rank	Sum of Ranks
	1.0	18	22.81	410.50
Audi	6.0	20	16.53	330.50
	Total	38		
	1.0	18	21.00	378.00
Accura	6.0	20	18.15	363.00
	Total	38		
	1.0	18	22.56	406.00
Toyota	6.0	20	16.75	335.00
	Total	38		
	1.0	18	21.61	389.00
Steers	6.0	20	17.60	352.00
	Total	38		
	1.0	18	22.72	409.00
Spur	6.0	20	16.60	332.00
	Total	38		
	1.0	18	19.47	350.50
Zebras	6.0	20	19.53	390.50
	Total	38		
	1.0	18	23.72	427.00
McDonald	6.0	20	15.70	314.00
	Total	38		
	1.0	18	19.47	350.50
KFC	6.0	20	19.53	390.50
	Total	38		
	1.0	18	17.36	312.50
Wendys	6.0	20	21.43	428.50
	Total	38		
	1.0	18	16.81	302.50
SamAdam	6.0	20	21.93	438.50
	Total	38		
	1.0	18	14.53	261.50
Windhoek	6.0	20	23.98	479.50
	Total	38		
	1.0	18	16.56	298.00
Heineken	6.0	20	22.15	443.00
	Total	38		

	1.0	18	18.56	334.00
SpurSada	6.0	20	20.35	407.00
	Total	38		
	1.0	18	21.28	383.00
SteerWin	6.0	20	17.90	358.00
	Total	38		
	1.0	18	18.72	337.00
ZebHein	6.0	20	20.20	404.00
	Total	38		
	1.0	18	22.00	396.00
KFCWind	6.0	20	17.25	345.00
	Total	38		
	1.0	18	22.22	400.00
McDSad	6.0	20	17.05	341.00
	Total	38		
	1.0	18	15.67	282.00
WenHein	6.0	20	22.95	459.00
	Total	38		

Test Statistics ^a																		
	Audi	Accura	Toyota	Steers	Spur	Zebras	McDonal	KFC	Wendys	SamAda	Windhoe	Heineke	SpurSad	SteerWi	ZebHein	KFCWin	McDSa	WenHei
							d			m	k	n	a	n		d	d	n
Mann-Whitney U	120.500	153.000	125.000	142.000	122.000	179.500	104.000	179.500	141.500	131.500	90.500	127.000	163.000	148.000	166.000	135.000	131.000	111.000
Wilcoxon W	330.500	363.000	335.000	352.000	332.000	350.500	314.000	350.500	312.500	302.500	261.500	298.000	334.000	358.000	337.000	345.000	341.000	282.000
Z	-1.807	-.798	-1.622	-1.121	-1.728	-.015	-2.299	-.015	-1.131	-1.423	-2.630	-1.560	-.499	-.940	-.411	-1.322	-1.443	-2.027
Asymp. Sig. (2-tailed)	.071	.425	.105	.262	.084	.988	.022	.988	.258	.155	.009	.119	.618	.347	.681	.186	.149	.043
Exact Sig. [2*(1-tailed Sig.)]	.082 ^b	.443 ^b	.112 ^b	.276 ^b	.093 ^b	.988 ^b	.026 ^b	.988 ^b	.264 ^b	.158 ^b	.008 ^b	.126 ^b	.633 ^b	.361 ^b	.696 ^b	.196 ^b	.158 ^b	.044 ^b

a. Grouping Variable: Age

b. Not corrected for ties.

B, 2.3. Comparison of gender

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.061	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.432	Retain the null hypothesis.
3	The distribution of Toyota is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.822	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.667	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.927	Retain the null hypothesis.
6	The distribution of Zebras is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.816	Retain the null hypothesis.
7	The distribution of McDonald is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.565	Retain the null hypothesis.
8	The distribution of KFC is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.918	Retain the null hypothesis.
9	The distribution of Wendys is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.308	Retain the null hypothesis.
10	The distribution of SamAdam is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.263	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Windhoek is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
13	The distribution of SpurSada is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.999	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.287	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.135	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.087	Retain the null hypothesis.
17	The distribution of McDSad is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.968	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.003	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Audi	233	6.401287553 648167	.7111814018 94817	3.000000000 0001000	7.000000000 0001000	6.000000000 000100	6.666666666 666767	7.000000000 000100
Accura	233	2.934191702 432146	1.301969193 606245	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	3.000000000 000100	4.000000000 000100
Toyota	233	5.755364806 867052	.9310527725 58494	3.000000000 0001000	7.000000000 0001000	5.333333333 333433	6.000000000 000100	6.333333333 333433
Steers	233	5.615164520 744020	1.151884547 864754	1.000000000 0001000	7.000000000 0001000	5.000000000 000100	6.000000000 000100	6.333333333 333433
Spur	233	6.096566523 605252	1.095356639 679186	2.000000000 0001000	7.000000000 0001000	5.666666666 666767	6.500000000 000100	7.000000000 000100
Zebras	233	3.214592274 678212	1.402299267 567936	1.000000000 0001000	6.666666666 6667670	2.000000000 000100	3.333333333 333433	4.000000000 000100
McDonald	233	6.175965665 236151	1.087870399 670428	1.000000000 0001000	7.000000000 0001000	6.000000000 000100	6.666666666 666767	7.000000000 000100
KFC	233	5.469957081 545167	1.343283151 307689	1.000000000 0001000	7.000000000 0001000	4.666666666 666767	5.666666666 666767	6.333333333 333433
Wendys	233	3.228183118 741159	1.495533640 724223	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	3.000000000 000100	4.333333333 333433
SamAdam	233	2.845493562 231859	1.470648317 001935	1.000000000 0001000	7.000000000 0001000	1.666666666 666767	3.000000000 000100	4.000000000 000100
Windhoek	233	4.229613733 905681	1.632361161 992817	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.333333333 333433	5.500000000 000100
Heineken	233	4.933476394 849884	1.848548404 965148	1.000000000 0001000	7.000000000 0001000	3.333333333 333433	5.333333333 333433	6.666666666 666767
SpurSada	233	4.592274678 111690	1.550382298 946308	1.000000000 0001000	7.000000000 0001000	3.666666666 666766	4.666666666 666767	6.000000000 000100
SteerWin	233	4.881258941 344877	1.543810016 190398	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	5.000000000 000100	6.000000000 000100
ZebHein	233	4.126609442 060189	1.660784907 843735	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.000000000 000100	5.333333333 333433
KFCWind	233	4.451359084 406391	1.853214901 870389	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	5.000000000 000100	6.000000000 000100
McDSad	233	4.537195994 277640	1.610118078 361874	1.000000000 0001000	7.000000000 0001000	3.666666666 666766	4.666666666 666767	6.000000000 000100
WenHein	233	3.839771101 573775	1.648124309 778680	1.000000000 0001000	7.000000000 0001000	2.666666666 666766	4.000000000 000100	5.000000000 000100
Gender	233	1.408	.4925	1.0	2.0	1.000	1.000	2.000

Mann-Whitney Test

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
Audi	1.0	138	110.35	15228.50
	2.0	95	126.66	12032.50
	Total	233		
Accura	1.0	138	114.14	15751.00
	2.0	95	121.16	11510.00
	Total	233		
Toyota	1.0	138	117.82	16259.00
	2.0	95	115.81	11002.00
	Total	233		
Steers	1.0	138	118.57	16362.00
	2.0	95	114.73	10899.00
	Total	233		
Spur	1.0	138	117.33	16191.00
	2.0	95	116.53	11070.00
	Total	233		
Zebras	1.0	138	116.15	16029.00
	2.0	95	118.23	11232.00
	Total	233		
McDonald	1.0	138	119.05	16428.50
	2.0	95	114.03	10832.50
	Total	233		
KFC	1.0	138	116.62	16094.00
	2.0	95	117.55	11167.00
	Total	233		
Wendys	1.0	138	113.28	15633.00
	2.0	95	122.40	11628.00
	Total	233		
SamAdam	1.0	138	112.93	15585.00
	2.0	95	122.91	11676.00
	Total	233		
Windhoek	1.0	138	101.52	14009.50
	2.0	95	139.49	13251.50
	Total	233		
Heineken	1.0	138	102.38	14128.50
	2.0	95	138.24	13132.50
	Total	233		
SpurSada	1.0	138	117.00	16146.50
	2.0	95	116.99	11114.50
	Total	233		

	1.0	138	113.11	15609.00
SteerWin	2.0	95	122.65	11652.00
	Total	233		
	1.0	138	111.53	15391.50
ZebHein	2.0	95	124.94	11869.50
	Total	233		
	1.0	138	110.74	15282.00
KFCWind	2.0	95	126.09	11979.00
	Total	233		
	1.0	138	117.14	16166.00
McDSad	2.0	95	116.79	11095.00
	Total	233		
	1.0	138	106.30	14670.00
WenHein	2.0	95	132.54	12591.00
	Total	233		

		Test Statistics ^a																	
		Audi	Accura	Toyota	Steers	Spur	Zebras	McDonal	KFC	Wendys	SamAda	Windhoe	Heineke	SpurSad	SteerWin	ZebHein	KFCWin	McDSad	WenHei
								d			m	k	n	a			d		n
Mann-Whitney U		5637.50	6160.000	6442.000	6339.000	6510.000	6438.000	6272.500	6503.000	6042.000	5994.000	4418.500	4537.500	6554.500	6018.000	5800.500	5691.000	6535.000	5079.000
		0																	0
Wilcoxon W		15228.500	15751.000	11002.000	10899.000	11070.000	16029.000	10832.500	16094.000	15633.000	15585.000	14009.500	14128.500	11114.500	15609.000	15391.500	15282.000	11095.000	14670.000
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Z		-1.871	-.785	-.225	-.430	-.091	-.233	-.576	-.103	-1.020	-1.119	-4.235	-4.016	-.001	-1.066	-1.495	-1.714	-.040	-2.928
Asymp. Sig. (2-tailed)		.061	.432	.822	.667	.927	.816	.565	.918	.308	.263	.000	.000	.999	.287	.135	.087	.968	.003

a. Grouping Variable: Gender

Comparison of gender

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Audi is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.061	Retain the null hypothesis.
2	The distribution of Accura is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.432	Retain the null hypothesis.
3	The distribution of Toyota is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.822	Retain the null hypothesis.
4	The distribution of Steers is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.667	Retain the null hypothesis.
5	The distribution of Spur is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.927	Retain the null hypothesis.
6	The distribution of Zebras is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.816	Retain the null hypothesis.
7	The distribution of McDonald is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.565	Retain the null hypothesis.
8	The distribution of KFC is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.918	Retain the null hypothesis.
9	The distribution of Wendys is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.308	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
10	The distribution of SamAdam is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.263	Retain the null hypothesis.
11	The distribution of Windhoek is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
12	The distribution of Heineken is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
13	The distribution of SpurSada is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.999	Retain the null hypothesis.
14	The distribution of SteerWin is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.287	Retain the null hypothesis.
15	The distribution of ZebHein is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.135	Retain the null hypothesis.
16	The distribution of KFCWind is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.087	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

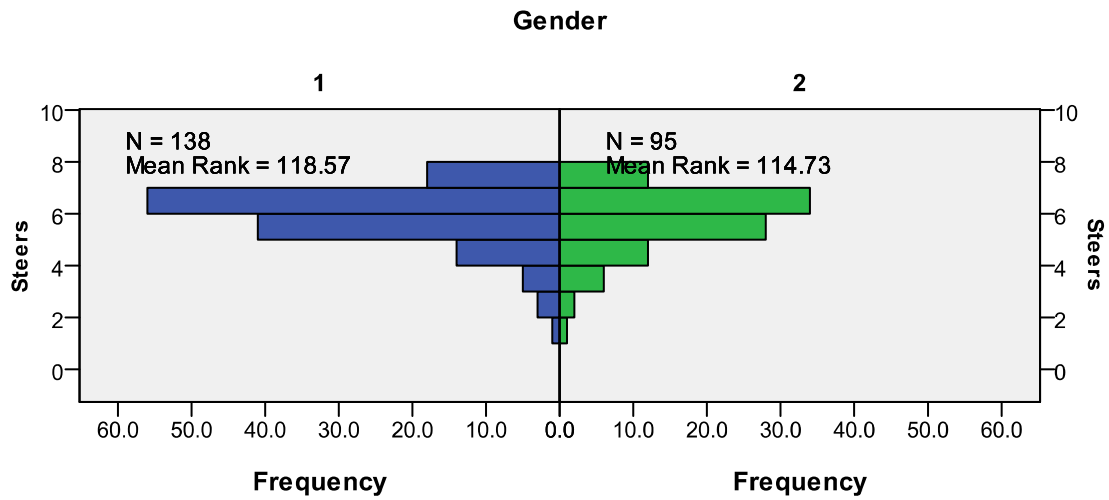
Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
17	The distribution of McDSad is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.968	Retain the null hypothesis.
18	The distribution of WenHein is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.003	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Mann-Whitney gender comparison test for Steers

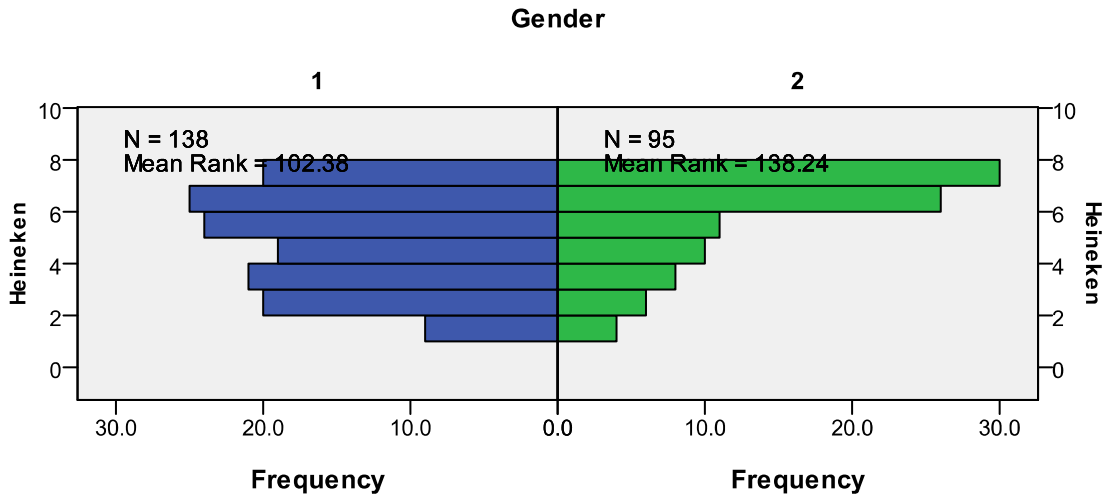
Independent-Samples Mann-Whitney U Test



Total N	233
Mann-Whitney U	6,339.000
Wilcoxon W	10,899.000
Test Statistic	6,339.000
Standard Error	502.670
Standardized Test Statistic	-.430
Asymptotic Sig. (2-sided test)	.667

Mann-Whitney gender comparison test for Heineken

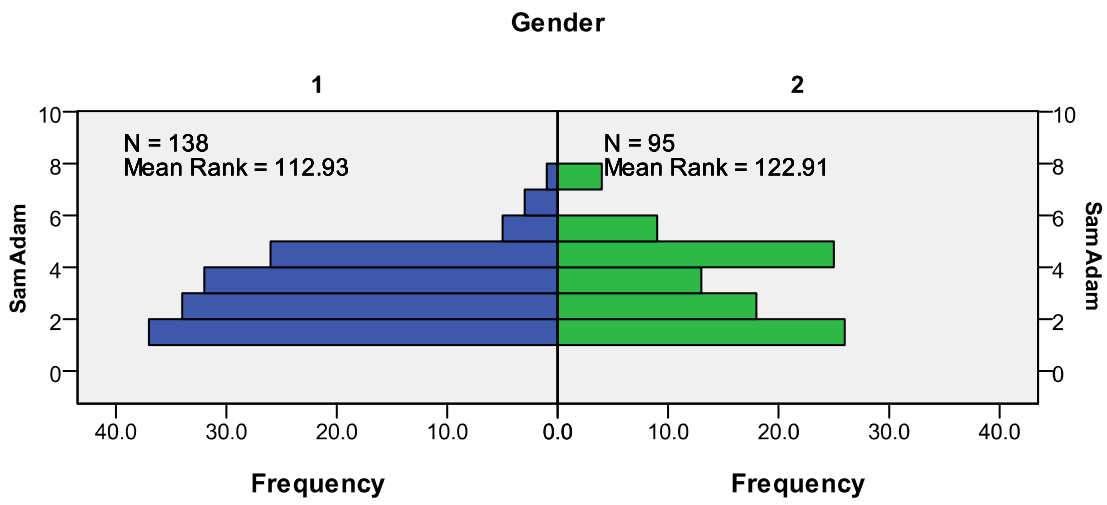
Independent-Samples Mann-Whitney U Test



Total N	233
Mann-Whitney U	8,572.500
Wilcoxon W	13,132.500
Test Statistic	8,572.500
Standard Error	502.398
Standardized Test Statistic	4.016
Asymptotic Sig. (2-sided test)	.000

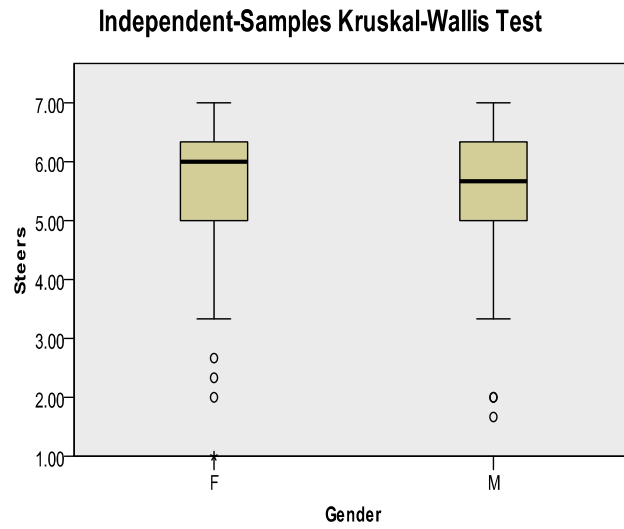
Mann-Whitney gender comparison test for Samuel Adams

Independent-Samples Mann-Whitney U Test



Total N	233
Mann-Whitney U	7,116.000
Wilcoxon W	11,676.000
Test Statistic	7,116.000
Standard Error	501.179
Standardized Test Statistic	1.119
Asymptotic Sig. (2-sided test)	.263

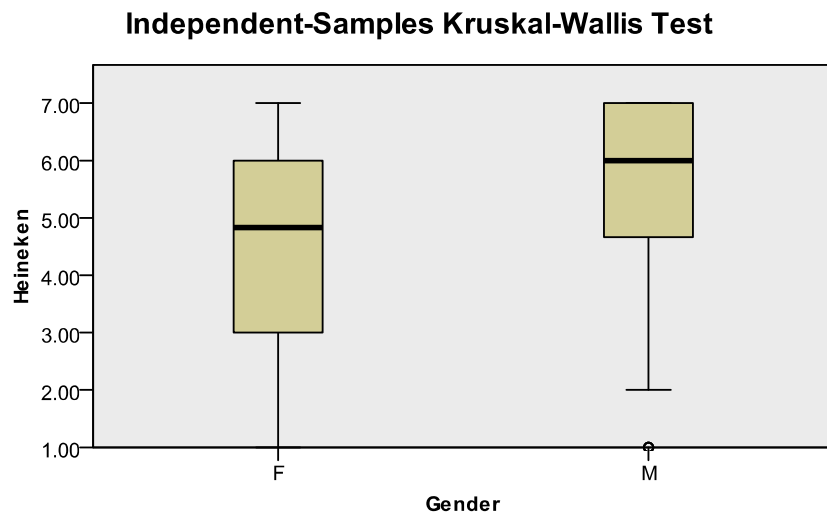
Kruskal-Wallis gender comparison test for Steers



Total N	233
Test Statistic	.185
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.667

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

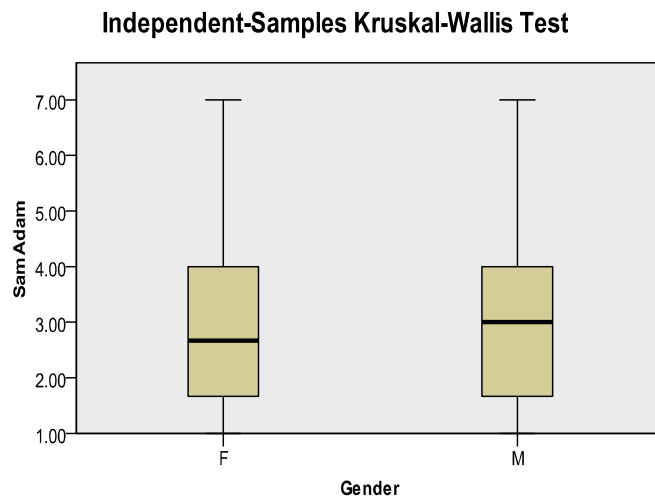
Kruskal-Wallis gender comparison test for Heineken



Total N	233
Test Statistic	16.126
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because there are less than three test fields.

Kruskal-Wallis gender comparison test for Samuel Adams



Total N	233
Test Statistic	1.253
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.263

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Appendix B, 3: Testing of two related means- Wilcoxon signed-rank test

B, 3, a: All respondents

1) Output data- Heineken/Zebras

a) Heineken-Heineken/Zebras cobrand (Heineken individually assessed in cobrand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Heineken4	141	4.794	1.8964	1.0	7.0	3.500	5.000
HeiZeb5	141	4.565	1.9391	1.0	7.0	3.000	5.000

Descriptive Statistics

	Percentiles	
	75th	
Heineken4		6.667
HeiZeb5		6.000

Wilcoxon Signed Ranks Test

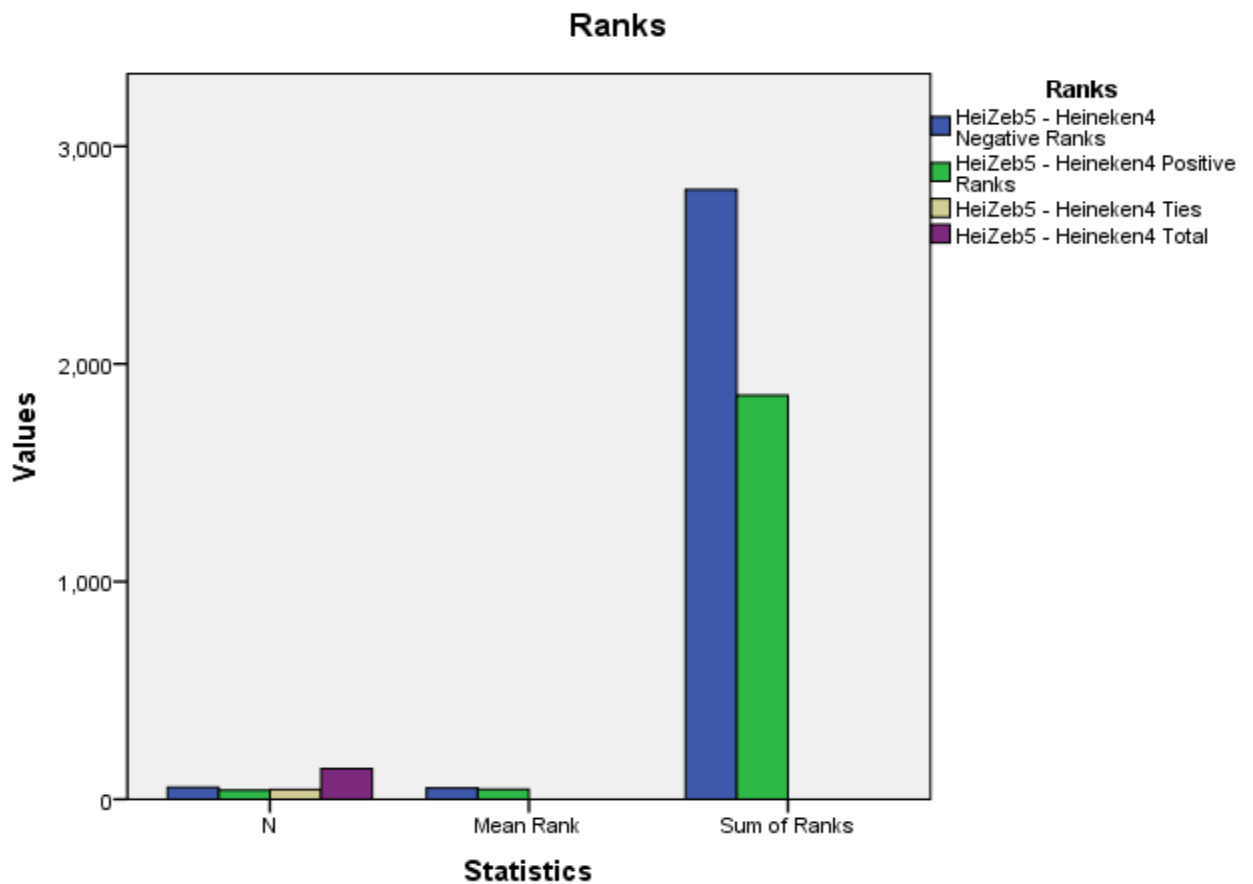
Ranks

		N	Mean Rank	Sum of Ranks
HeiZeb5 - Heineken4	Negative Ranks	55 ^a	50.92	2800.50
	Positive Ranks	41 ^b	45.26	1855.50
	Ties	45 ^c		
	Total	141		

a. HeiZeb5 < Heineken4

b. HeiZeb5 > Heineken4

c. HeiZeb5 = Heineken4



Test Statistics^a

	HeiZeb5 - Heineken4
Z	-1.733 ^b
Asymp. Sig. (2-tailed)	.083

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed individually (separately from) the corresponding brand in the co-brand.

Overall preference scores for the Heineken brand fall when it is reassessed individually in a co-brand with the Zebras brand. There is some evidence to reject the null hypothesis (p = .083) but insufficient to conclude that co-branding with Zebras will reduce overall preference scores for Heineken.

b) Heineken-Heineken/Zebbras co-brand (overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Heineken4	236	4.908	1.8145	1.0	7.0	3.333	5.333
HeiZeb7	236	4.236	1.6627	1.0	7.0	3.000	4.333

Descriptive Statistics

	Percentiles	
	75th	
Heineken4	6.667	
HeiZeb7	5.667	

Wilcoxon Signed Ranks Test

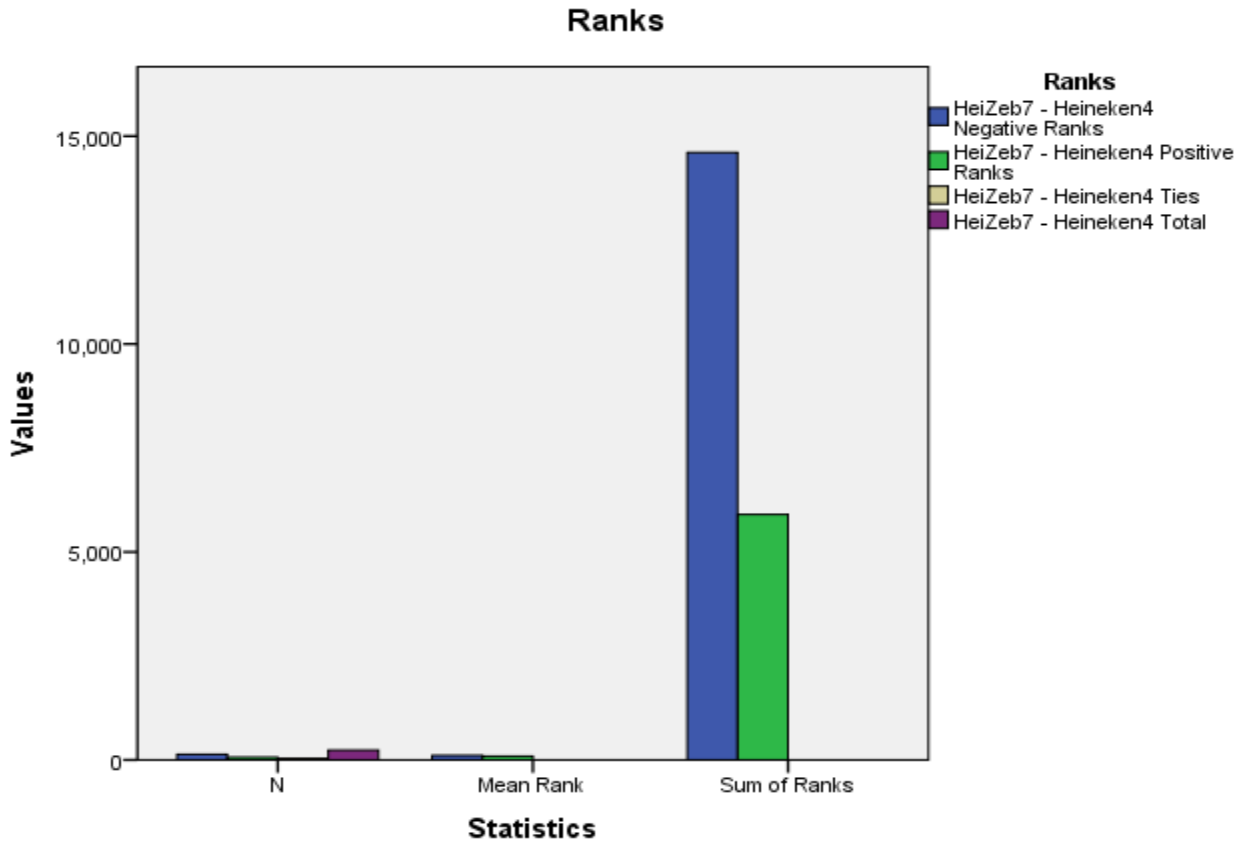
Ranks

		N	Mean Rank	Sum of Ranks
HeiZeb7 - Heineken4	Negative Ranks	137 ^a	106.59	14603.50
	Positive Ranks	65 ^b	90.76	5899.50
	Ties	34 ^c		
	Total	236		

a. HeiZeb7 < Heineken4

b. HeiZeb7 > Heineken4

c. HeiZeb7 = Heineken4



Test Statistics^a

	HeiZeb7 - Heineken4
Z	-5.239 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed as part of the overall (composite) co-brand.

Overall preference scores fall when the Heineken/ Zebras co-brand is assessed. There is extremely strong evidence to reject the null hypothesis ($p = .000$), therefore it may be concluded that co-branding with Zebras will reduce overall preference scores for the overall Heineken/ Zebras co-brand.

c) Heineken/Zebbras-Heineken/Zebbras co-brand (Heineken brand assessed individually in co-brand versus overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
HeiZeb5	138	4.457	1.9328	1.0	7.0	3.000	4.667
HeiZeb7	138	4.145	1.7527	1.0	7.0	2.917	4.000

Descriptive Statistics

	Percentiles	
	75th	
HeiZeb5		6.000
HeiZeb7		5.667

Wilcoxon Signed Ranks Test

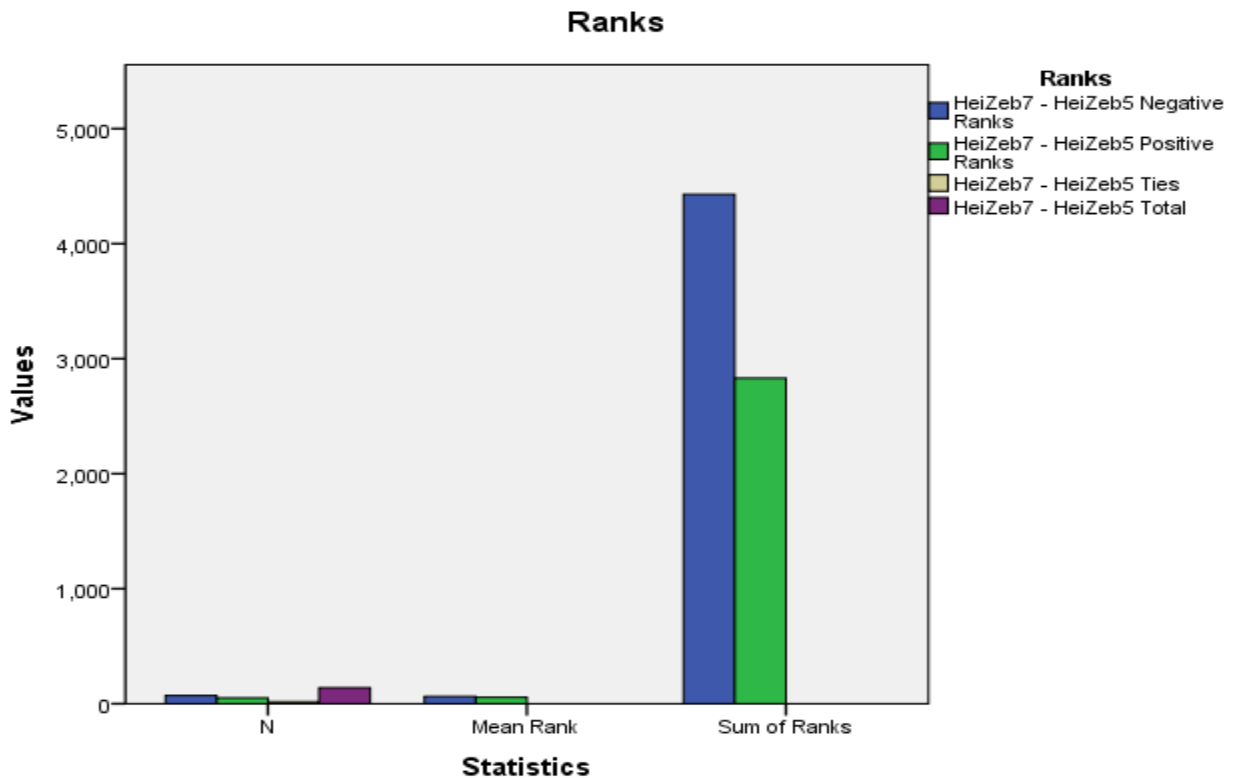
Ranks

		N	Mean Rank	Sum of Ranks
HeiZeb7 - HeiZeb5	Negative Ranks	70 ^a	63.29	4430.00
	Positive Ranks	50 ^b	56.60	2830.00
	Ties	18 ^c		
	Total	138		

a. HeiZeb7 < HeiZeb5

b. HeiZeb7 > HeiZeb5

c. HeiZeb7 = HeiZeb5



Test Statistics^a

	HeiZeb7 - HeiZeb5
Z	-2.098 ^b
Asymp. Sig. (2-tailed)	.036

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer co-brand when the beer brand is assessed individually in the co-brand is not affected by an assessment that considers the overall (composite) co-brand.

Overall preference scores for the Heineken brand considered individually in a co-brand are higher than an overall assessment of the composite co-brand. There is reasonably strong evidence that the null hypothesis should be rejected (p = .036) and that overall preference for the composite Heineken/Zebbras co-brand is reduced.

d) **Heineken -Heineken/Zebbras co-brand in a cause related context (reduced impact of co-brand on environment)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Heineken4	180	5.052	1.7955	1.0	7.0	3.667	5.333
HeiZeb8	180	4.533	1.4457	1.0	7.0	3.667	4.667

Descriptive Statistics

	Percentiles	
	75th	
Heineken4		6.667
HeiZeb8		5.667

Wilcoxon Signed Ranks Test

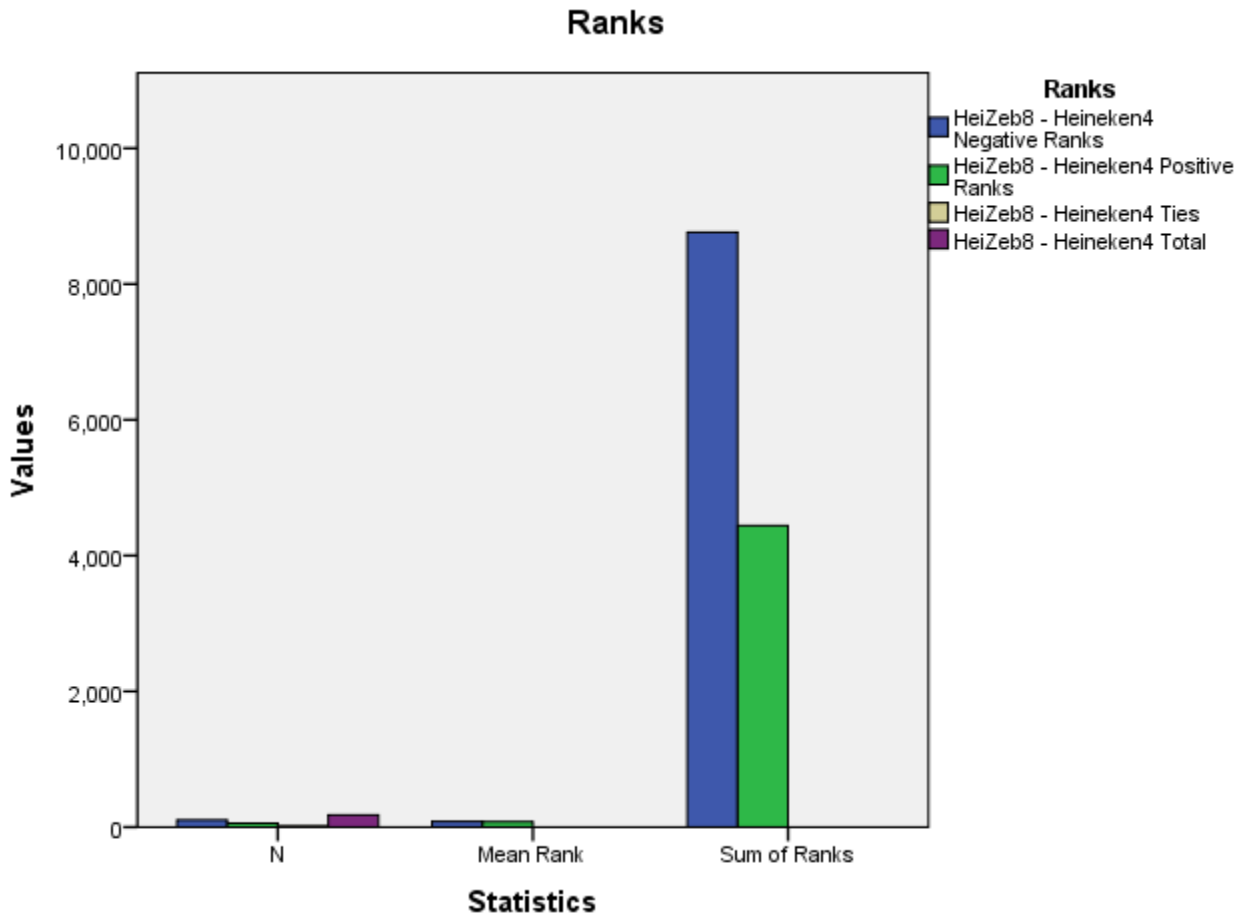
Ranks

		N	Mean Rank	Sum of Ranks
HeiZeb8 - Heineken4	Negative Ranks	105 ^a	83.45	8762.00
	Positive Ranks	57 ^b	77.91	4441.00
	Ties	18 ^c		
	Total	180		

a. HeiZeb8 < Heineken4

b. HeiZeb8 > Heineken4

c. HeiZeb8 = Heineken4



Test Statistics^a

	HeiZeb8 - Heineken4
Z	-3.619 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the co-brand is presented in a cause related context.

The reduction in preference is significant (p = .000) therefore strong evidence that the null hypothesis should be rejected.

- e) **Heineken/Zebbras co-brand (overall assessment of co-brand) -
Heineken/Zebbras co-brand in a cause related context (reduced impact of
co-brand on environment)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
HeinZeb7	178	4.404	1.5897	1.0	7.0	3.333	4.333
HeinZeb8	178	4.504	1.4125	1.0	7.0	3.667	4.667

Descriptive Statistics

	Percentiles	
	75th	
HeinZeb7		5.667
HeinZeb8		5.333

Wilcoxon Signed Ranks Test

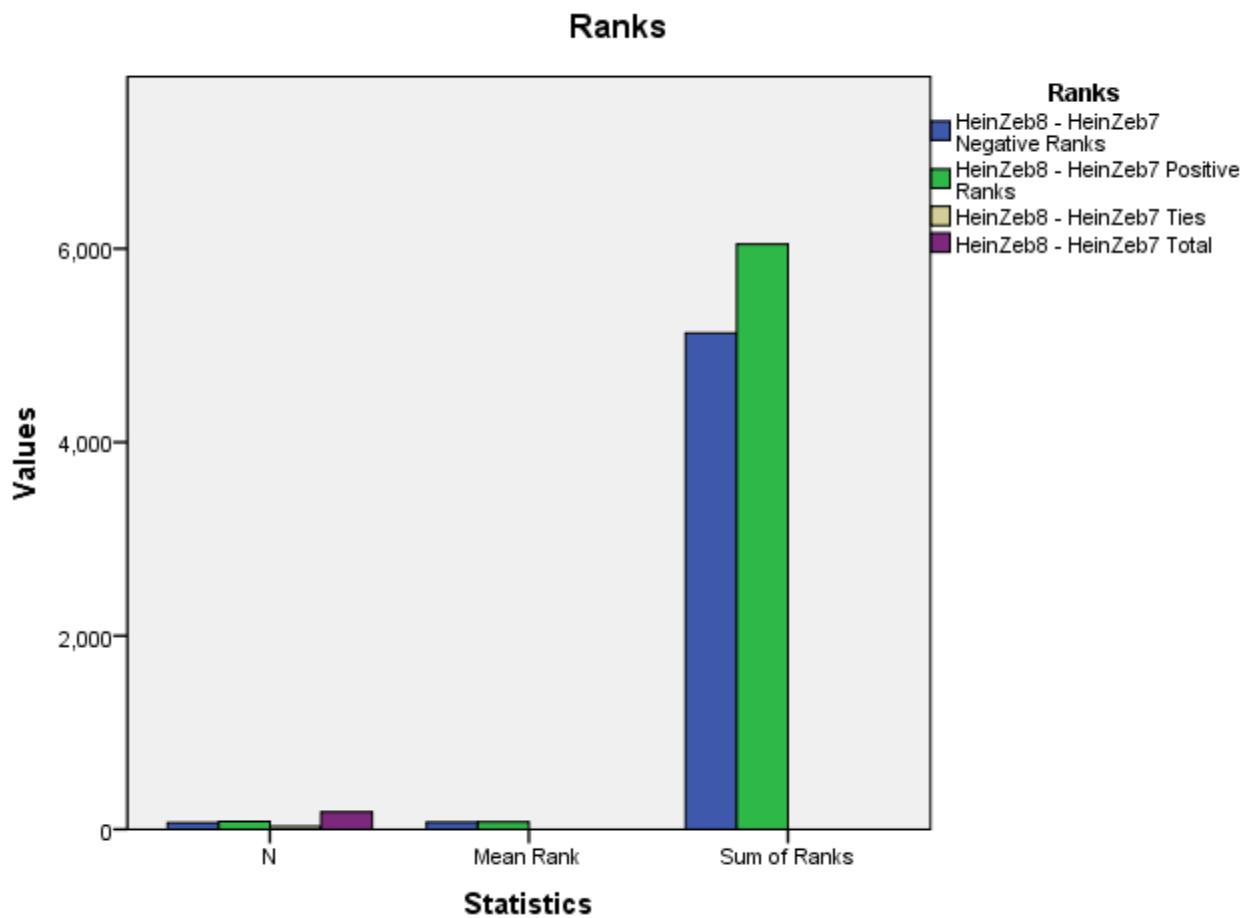
Ranks

		N	Mean Rank	Sum of Ranks
HeinZeb8 - HeinZeb7	Negative Ranks	69 ^a	74.31	5127.50
	Positive Ranks	80 ^b	75.59	6047.50
	Ties	29 ^c		
	Total	178		

a. HeinZeb8 < HeinZeb7

b. HeinZeb8 > HeinZeb7

c. HeinZeb8 = HeinZeb7



Test Statistics^a

	HeinZeb8 - HeinZeb7
Z	-.875 ^b
Asymp. Sig. (2-tailed)	.382

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer/food co-brand is not affected by presenting that co-brand in a cause related context.

Overall preference scores for the Heineken-Zebras co-brand are higher when the co-brand is presented in a cause related context. The increased preference is not significant (p = .382) therefore there is insufficient evidence to reject the null hypothesis.

2) Output data- Heineken/Wendy's

a) Heineken-Heineken/Wendy's cobrand (Heineken individually assessed in cobrand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Heineken4	137	4.693	1.8939	1.0	7.0	3.000	5.000
HeinWen6	137	4.436	1.9594	1.0	7.0	3.000	5.000

Descriptive Statistics

	Percentiles	
	75th	
Heineken4	6.667	
HeinWen6	6.000	

Wilcoxon Signed Ranks Test

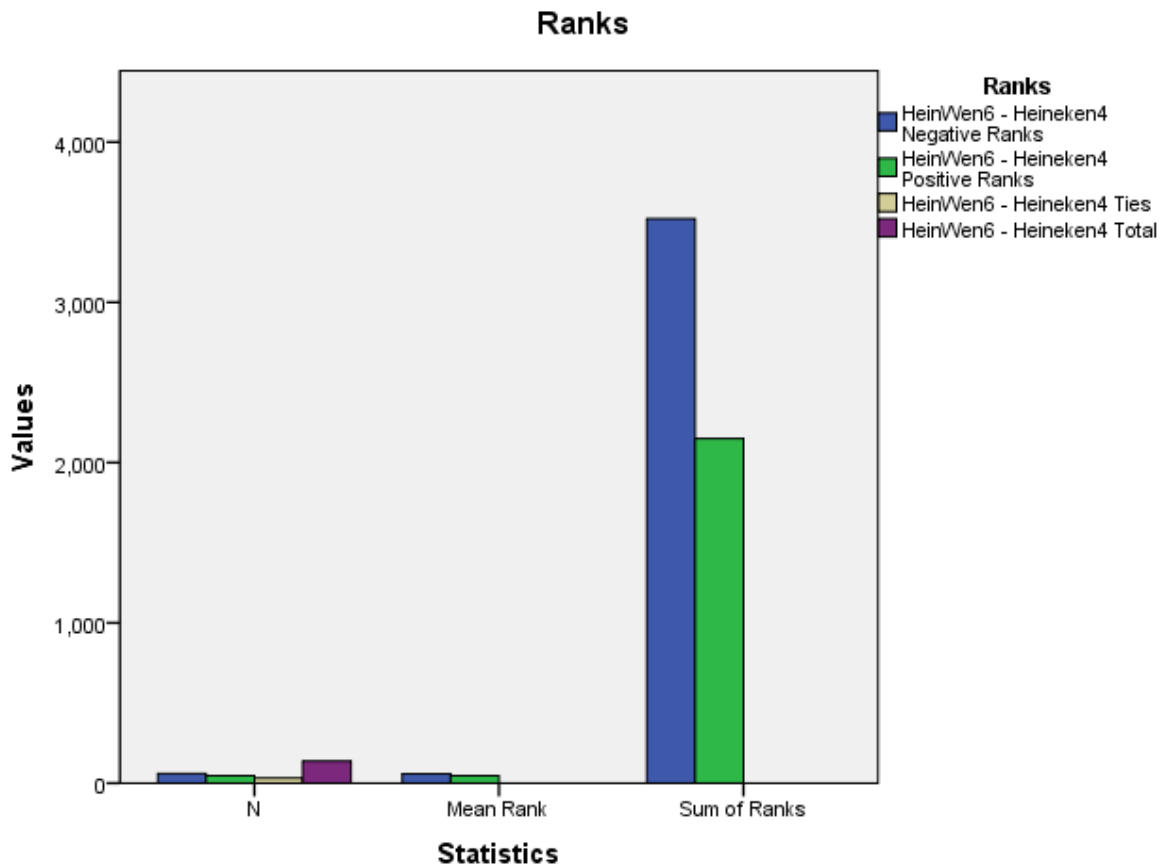
Ranks

		N	Mean Rank	Sum of Ranks
HeinWen6 - Heineken4	Negative Ranks	60 ^a	58.69	3521.50
	Positive Ranks	46 ^b	46.73	2149.50
	Ties	31 ^c		
	Total	137		

a. HeinWen6 < Heineken4

b. HeinWen6 > Heineken4

c. HeinWen6 = Heineken4



Test Statistics^a

	HeinWen6 - Heineken4
Z	-2.169 ^b
Asymp. Sig. (2-tailed)	.030

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed individually (separately from) the corresponding brand in the co-brand.

Overall preference scores for the Heineken brand fall when it is reassessed individually in a co-brand with the Wendy's brand. There is reasonable evidence to reject the null hypothesis (p = .030) therefore it may be concluded that co-branding with Wendy's will reduce overall preference scores for Heineken.

b) Heineken-Heineken/Wendy's co-brand (overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Heineken4	212	4.951	1.8189	1.0	7.0	3.417	5.333
HeinWen7	212	3.879	1.6603	1.0	7.0	2.667	4.000

Descriptive Statistics

	Percentiles	
	75th	
Heineken4	6.667	
HeinWen7	5.000	

Wilcoxon Signed Ranks Test

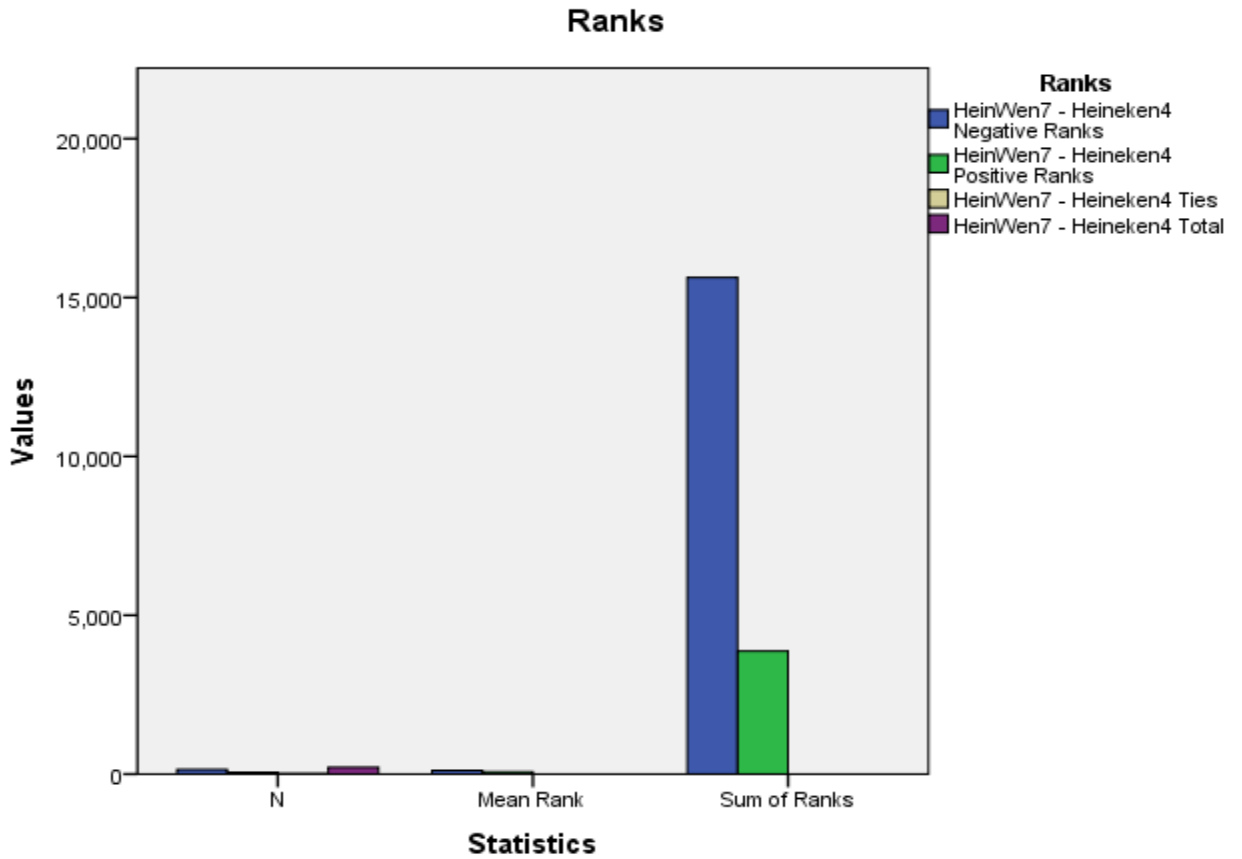
Ranks

	N	Mean Rank	Sum of Ranks
HeinWen7 - Heineken4			
Negative Ranks	141 ^a	110.86	15631.50
Positive Ranks	56 ^b	69.13	3871.50
Ties	15 ^c		
Total	212		

a. HeinWen7 < Heineken4

b. HeinWen7 > Heineken4

c. HeinWen7 = Heineken4



Test Statistics^a

	HeinWen7 - Heineken4
Z	-7.349 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed as part of the overall (composite) co-brand.

Overall preference scores for the Heineken brand fall when it is reassessed individually in a co-brand with the Wendy’s brand. There is extremely strong evidence to reject the null hypothesis (p = .000), therefore it may be concluded that co-branding with Wendy’s will reduce overall preference scores for Heineken.

- c) Heineken/ Wendy's co-brand - Heineken/ Wendy's co-brand (Heineken brand assessed individually in co-brand versus overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
HeinWen6	124	4.465	1.9579	1.0	7.0	3.000	5.000
HeinWen7	124	3.788	1.7465	1.0	7.0	2.667	3.833

Descriptive Statistics

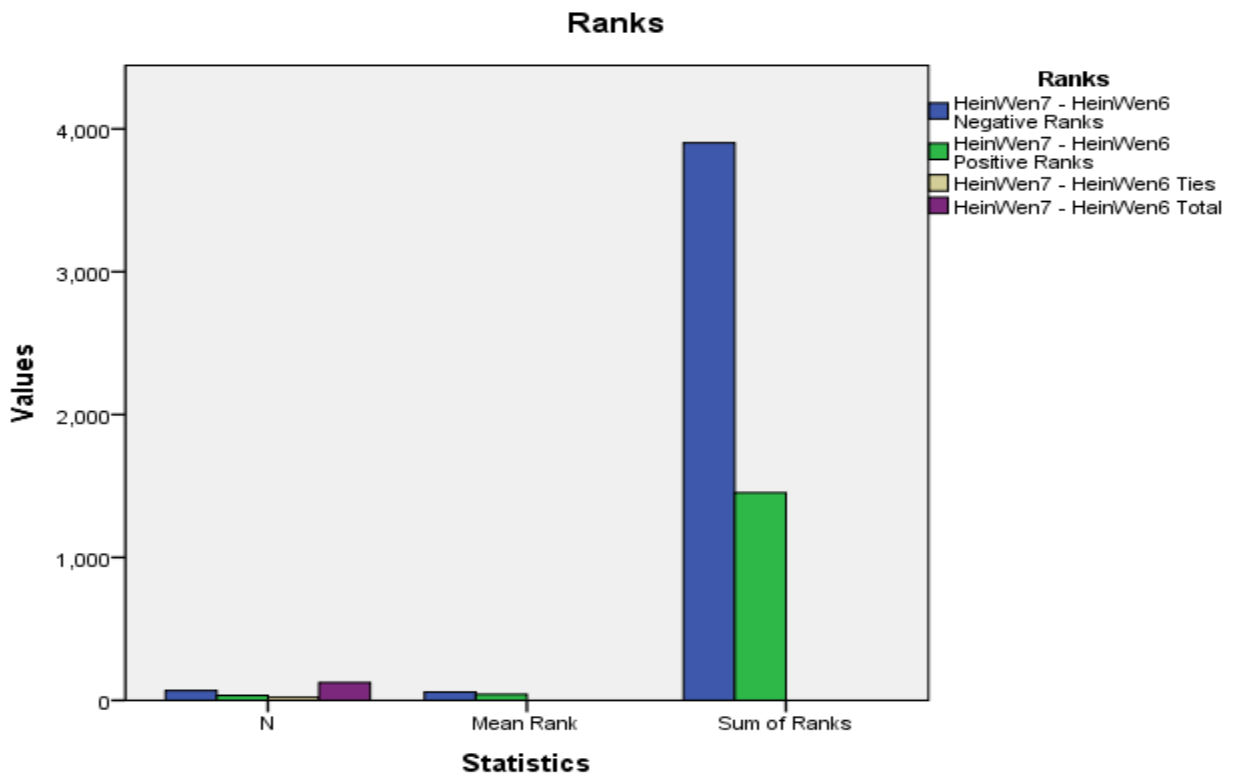
	Percentiles	
	75th	
HeinWen6	6.333	
HeinWen7	5.000	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
HeinWen7 - HeinWen6	Negative Ranks	68 ^a	57.39	3902.50
	Positive Ranks	35 ^b	41.53	1453.50
	Ties	21 ^c		
	Total	124		

- a. HeinWen7 < HeinWen6
 b. HeinWen7 > HeinWen6
 c. HeinWen7 = HeinWen6



Test Statistics^a

	HeinWen7 - HeinWen6
Z	-4.036 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer co-brand when the beer brand is assessed individually in the co-brand is not affected by an assessment that considers the overall (composite) co-brand.

Overall preference scores for the Heineken brand considered singly in a co-brand are higher than an overall assessment of the composite co-brand. There is extremely strong evidence that the null hypothesis should be rejected (p = .000) and that a composite co-brand with Wendy's results in a substantial reduction in preference.

d) **Heineken - Heineken/Wendy's co-brand in a cause related context
(creating local jobs for local South Africans)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Heineken4	150	5.036	1.7895	1.0	7.0	3.667	5.333
HeinWen8	150	4.316	1.6168	1.0	7.0	3.000	4.500

Descriptive Statistics

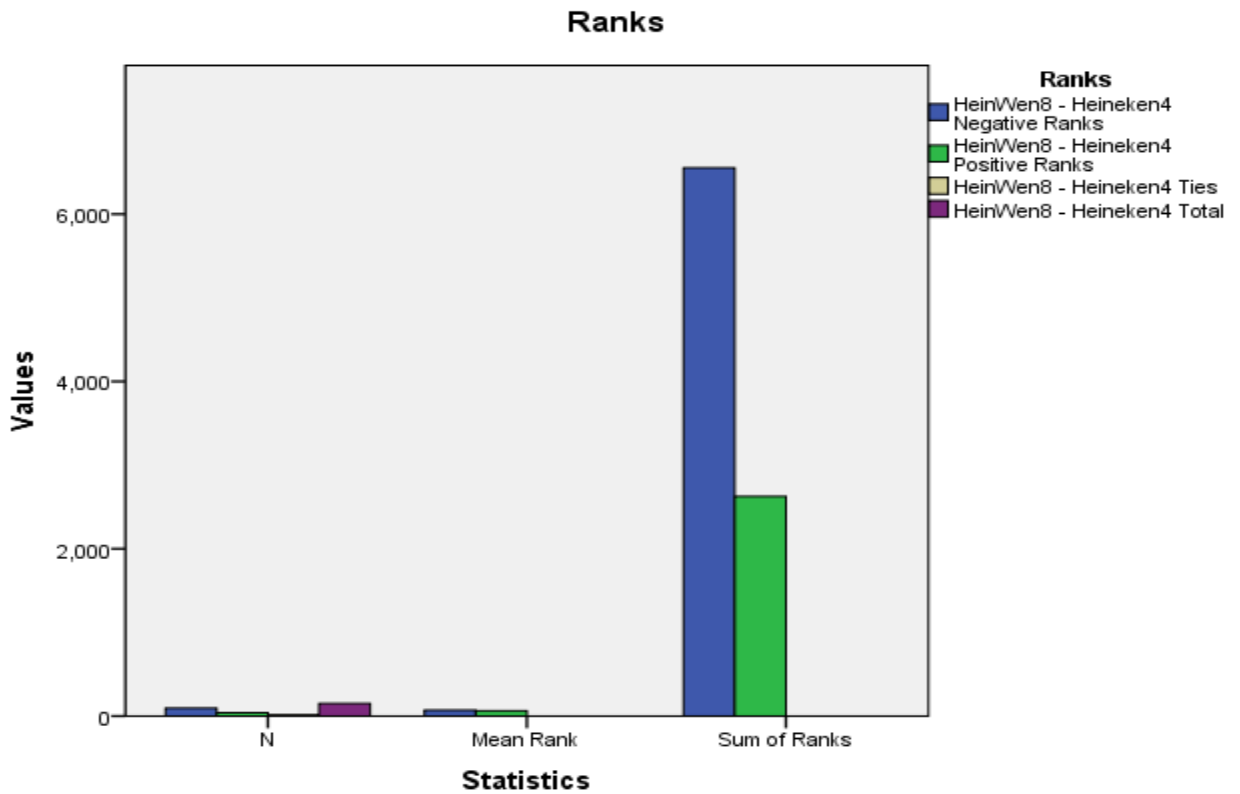
	Percentiles	
	75th	
	Heineken4	6.667
HeinWen8	5.333	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
HeinWen8 - Heineken4	Negative Ranks	94 ^a	69.72	6554.00
	Positive Ranks	41 ^b	64.05	2626.00
	Ties	15 ^c		
	Total	150		

- a. HeinWen8 < Heineken4
- b. HeinWen8 > Heineken4
- c. HeinWen8 = Heineken4



Test Statistics^a

	HeinWen8 - Heineken4
Z	-4.320 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the co-brand is presented in a cause related context.

Overall preference scores for the Heineken brand fall when it is reassessed in a co-brand with the Wendy's brand. There is extremely strong evidence to reject the null hypothesis ($p = .000$) therefore it may be concluded that co-branding with Wendy's will reduce overall preference scores for Heineken even when the co-brand is presented in a cause related context.

- e) **Heineken/ Wendy's co-brand (overall assessment of co-brand) - Heineken/ Wendy's co-brand in a cause related context (local jobs for local South Africans)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
HeinWen7	145	3.920	1.6916	1.0	7.0	3.000	4.000
HeinWen8	145	4.333	1.6513	1.0	7.0	3.000	4.333

Descriptive Statistics

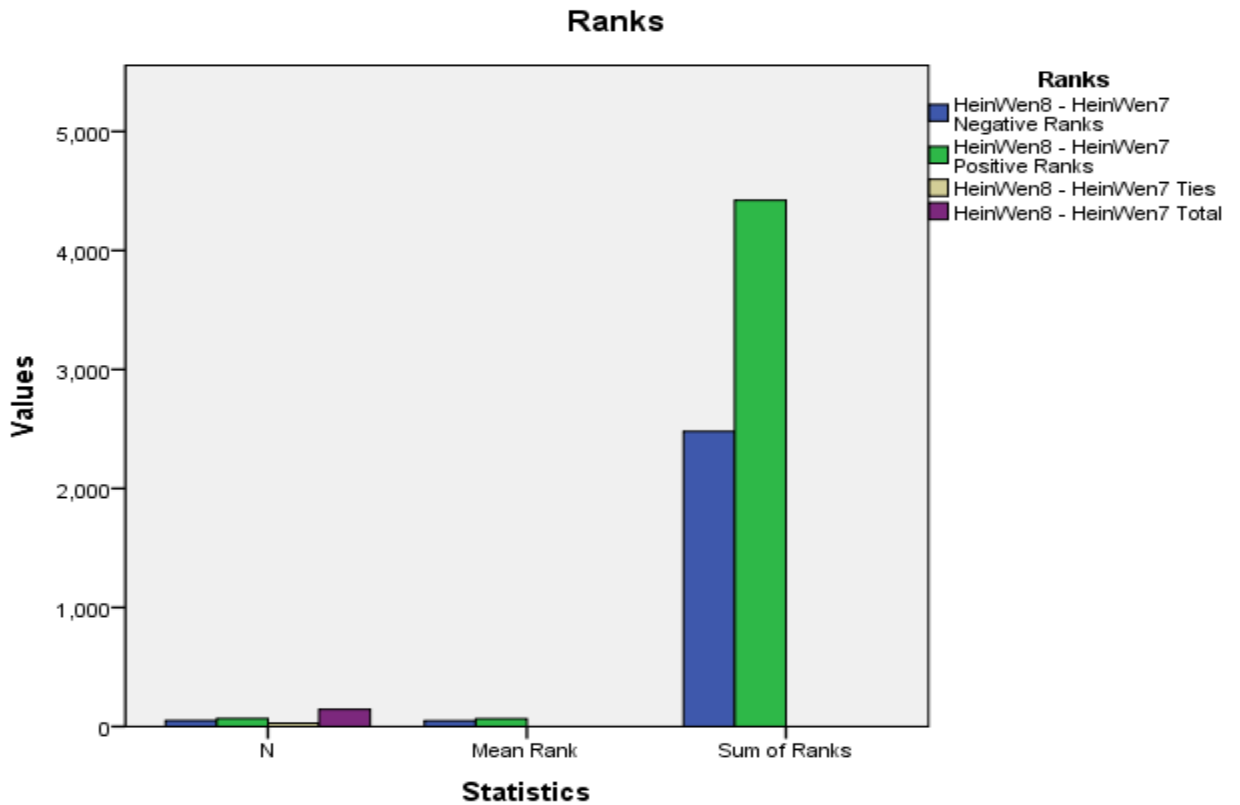
	Percentiles	
	75th	
HeinWen7	5.167	
HeinWen8	5.667	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
HeinWen8 - HeinWen7	Negative Ranks	50 ^a	49.61	2480.50
	Positive Ranks	67 ^b	66.01	4422.50
	Ties	28 ^c		
	Total	145		

- a. HeinWen8 < HeinWen7
 b. HeinWen8 > HeinWen7
 c. HeinWen8 = HeinWen7



Test Statistics^a

	HeinWen8 - HeinWen7
Z	-2.647 ^b
Asymp. Sig. (2-tailed)	.008

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer/food co-brand is not affected by presenting that co-brand in a cause related context.

Overall preference scores for the Heineken/ Wendy's co-brand increase when it is reassessed in a cause related context. There is very strong evidence to reject the null hypothesis ($p = .008$), therefore it may be concluded that preference for a Heineken/ Wendy's co-brand will be increased when that co-brand is presented in a cause related context.

3) Output data- Windhoek/Steers

a) Windhoek - Windhoek/Steers co-brand (Windhoek individually assessed in co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Wind4	131	4.211	1.7736	1.0	7.0	2.667	4.333
WinSte5	131	4.303	1.7756	1.0	7.0	3.000	4.667

Descriptive Statistics

	Percentiles	
	75th	
Wind4	5.667	
WinSte5	6.000	

Wilcoxon Signed Ranks Test

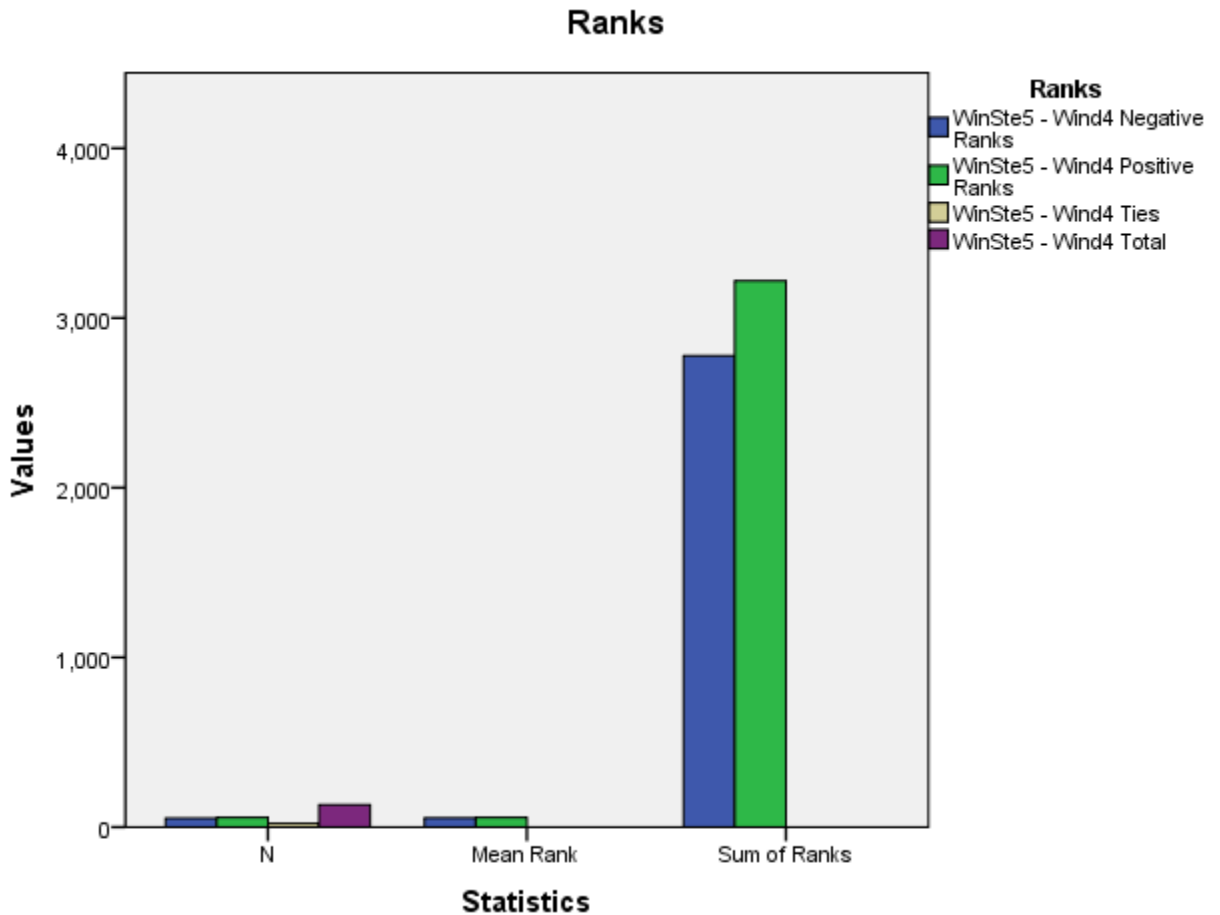
Ranks

		N	Mean Rank	Sum of Ranks
WinSte5 - Wind4	Negative Ranks	52 ^a	53.40	2777.00
	Positive Ranks	57 ^b	56.46	3218.00
	Ties	22 ^c		
	Total	131		

a. WinSte5 < Wind4

b. WinSte5 > Wind4

c. WinSte5 = Wind4



Test Statistics^a

	WinSte5 - Wind4
Z	-.669 ^b
Asymp. Sig. (2-tailed)	.504

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed individually (separately from) the corresponding brand in the co-brand.

Overall preference scores for the Windhoek brand increase when it is reassessed individually in a co-brand with the Steers brand. However, there is little evidence to reject the null hypothesis (p = .504).

b) Windhoek - Windhoek/Steers co-brand (overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Wind4	238	4.321	1.6485	1.0	7.0	3.000	4.667
WinSte7	238	4.899	1.5234	1.0	7.0	4.000	5.000

Descriptive Statistics

	Percentiles	
	75th	
Wind4	5.667	
WinSte7	6.000	

Wilcoxon Signed Ranks Test

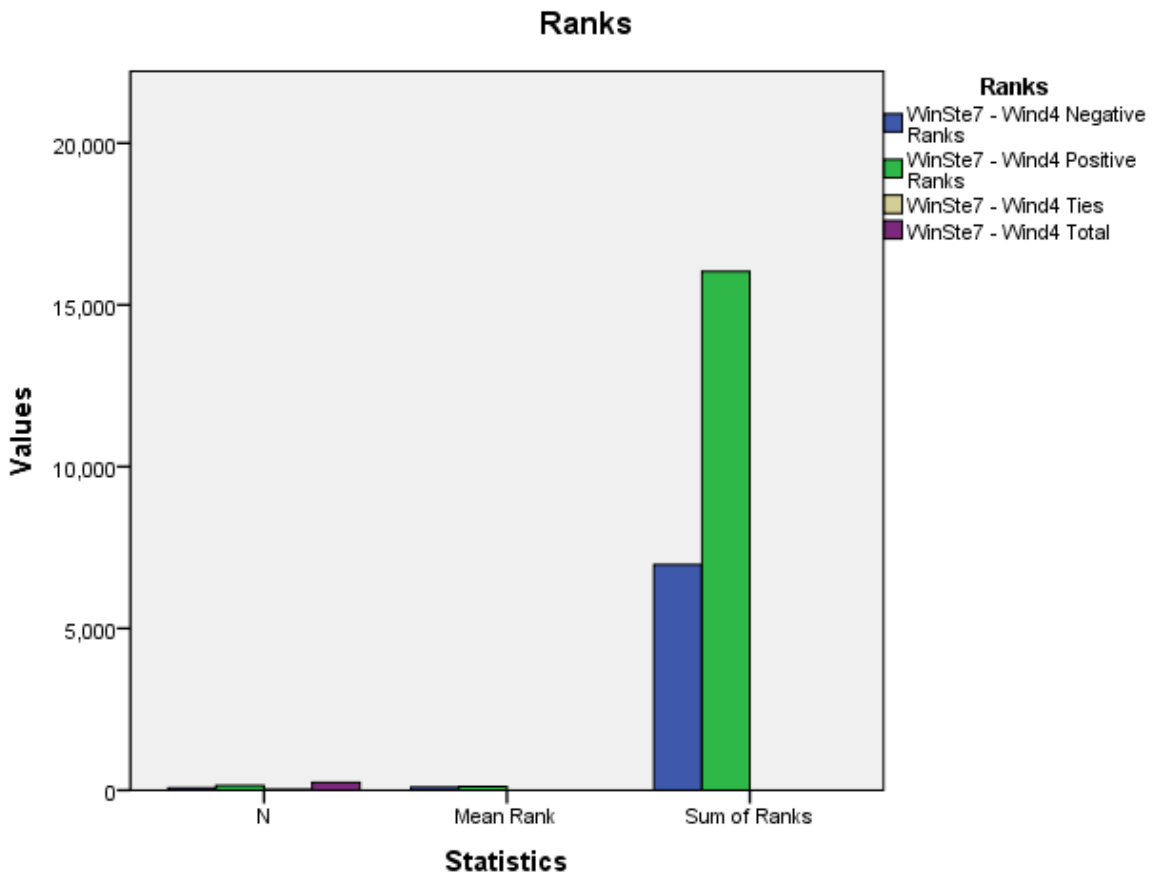
Ranks

		N	Mean Rank	Sum of Ranks
WinSte7 - Wind4	Negative Ranks	73 ^a	95.52	6973.00
	Positive Ranks	141 ^b	113.70	16032.00
	Ties	24 ^c		
	Total	238		

a. WinSte7 < Wind4

b. WinSte7 > Wind4

c. WinSte7 = Wind4



Test Statistics^a

	WinSte7 - Wind4
Z	-5.005 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed as part of the overall (composite) co-brand.

Overall preference scores increase when the Windhoek/ Steers co-brand is assessed. There is extremely strong evidence to reject the null hypothesis (p = .000), therefore it may be concluded that co-branding with Steers will increase overall preference scores for the Windhoek/ Steers co-brand.

c) **Windhoek / Steers - Windhoek / Steers co-brand (Windhoek brand assessed individually in co-brand versus overall assessment of co-brand)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
WinSte5	134	4.169	1.8026	1.0	7.0	2.667	4.333
WinSte7	134	4.669	1.7335	1.0	7.0	3.667	4.667

Descriptive Statistics

	Percentiles	
	75th	
	WinSte5	5.667
WinSte7	6.000	

Wilcoxon Signed Ranks Test

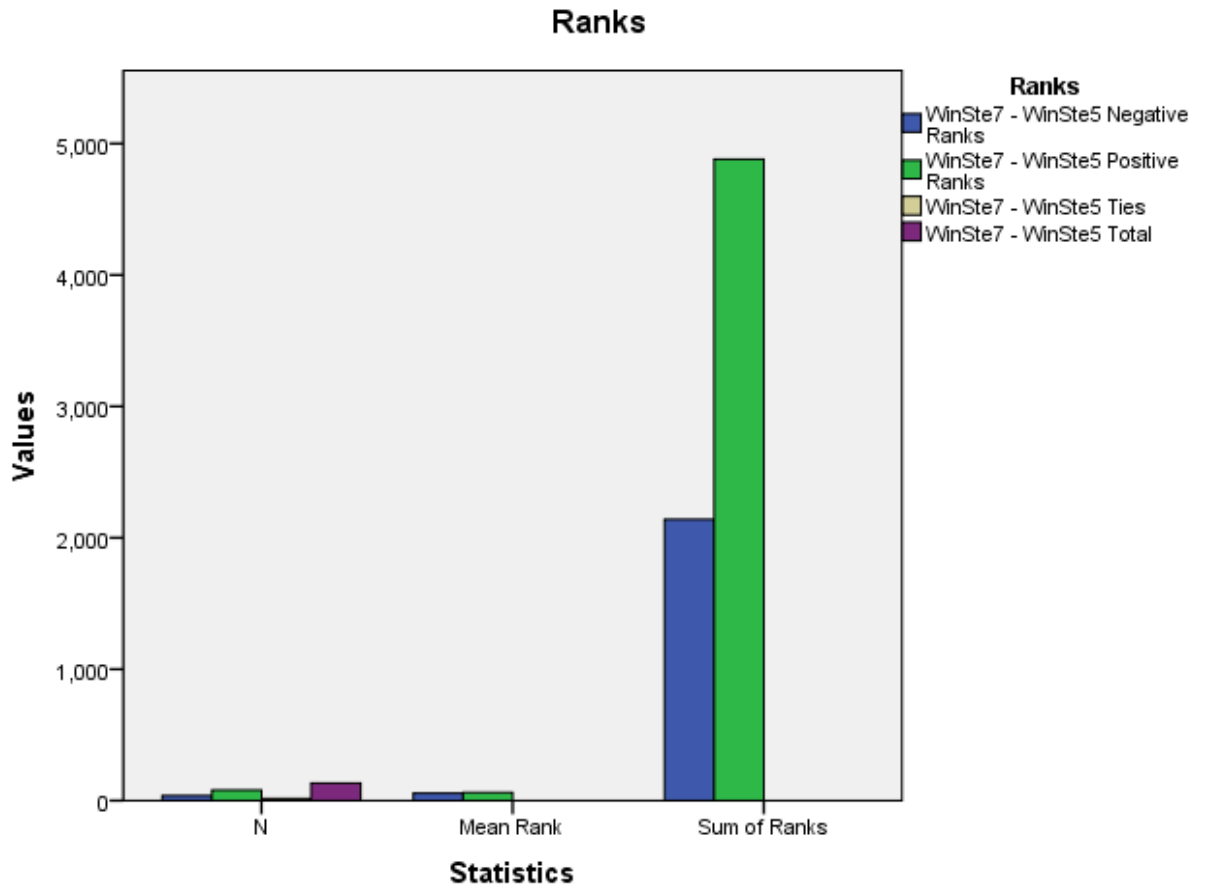
Ranks

		N	Mean Rank	Sum of Ranks
WinSte7 - WinSte5	Negative Ranks	38 ^a	56.29	2139.00
	Positive Ranks	80 ^b	61.03	4882.00
	Ties	16 ^c		
	Total	134		

a. WinSte7 < WinSte5

b. WinSte7 > WinSte5

c. WinSte7 = WinSte5



Test Statistics^a

	WinSte7 - WinSte5
Z	-3.692 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer co-brand when the beer brand is assessed individually in the co-brand is not affected by an assessment that considers the overall (composite) co-brand.

Overall preference scores for the Windhoek brand considered singly in a co-brand are lower than an overall assessment of the composite co-brand. There is extremely strong evidence that the null hypothesis should be rejected (p = .000). The overall preference for a Windhoek/ Steers co-brand is increased when the assessment refers

to an overall assessment of the co-brand rather than when Windhoek is assessed individually in the co-brand.

**d) Windhoek - Windhoek / Steers co-brand in a cause related context
(reduced impact of co-brand on environment)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
WinSte4	179	4.419	1.6146	1.0	7.0	3.000	4.667
WinSte8	179	4.944	1.5125	1.0	7.0	4.000	5.333

Descriptive Statistics

	Percentiles	
	75th	
WinSte4	5.667	
WinSte8	6.000	

Wilcoxon Signed Ranks Test

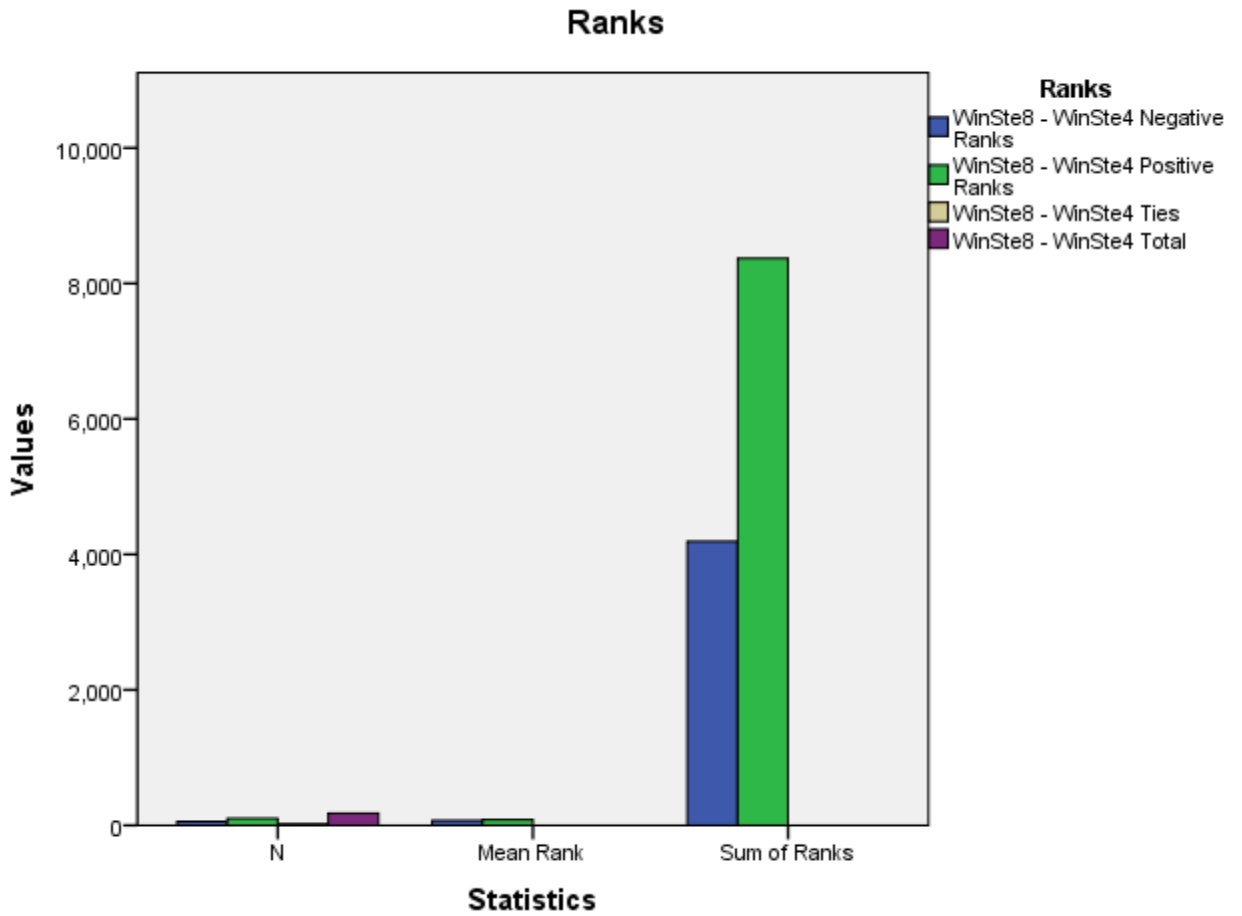
Ranks

		N	Mean Rank	Sum of Ranks
WinSte8 - WinSte4	Negative Ranks	58 ^a	72.28	4192.00
	Positive Ranks	100 ^b	83.69	8369.00
	Ties	21 ^c		
	Total	179		

a. WinSte8 < WinSte4

b. WinSte8 > WinSte4

c. WinSte8 = WinSte4



Test Statistics^a

	WinSte8 - WinSte4
Z	-3.632 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the co-brand is presented in a cause related context.

Overall preference scores for the individual Windhoek brand increase when it is reassessed in a co-brand with the Steers brand (overall assessment of the two brands) in a cause related context. There is strong evidence that the null hypothesis should be rejected (p = .000).

- e) **Windhoek/ Steers co-brand (overall assessment of co-brand) -
Windhoek/ Steers co-brand (overall assessment of co-brand in a cause
related context- reduced impact of co-brand on environment)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
WinSteers7	183	4.829	1.4667	1.0	7.0	4.000	5.000
WinSteers8	183	4.891	1.5328	1.0	7.0	4.000	5.333

Descriptive Statistics

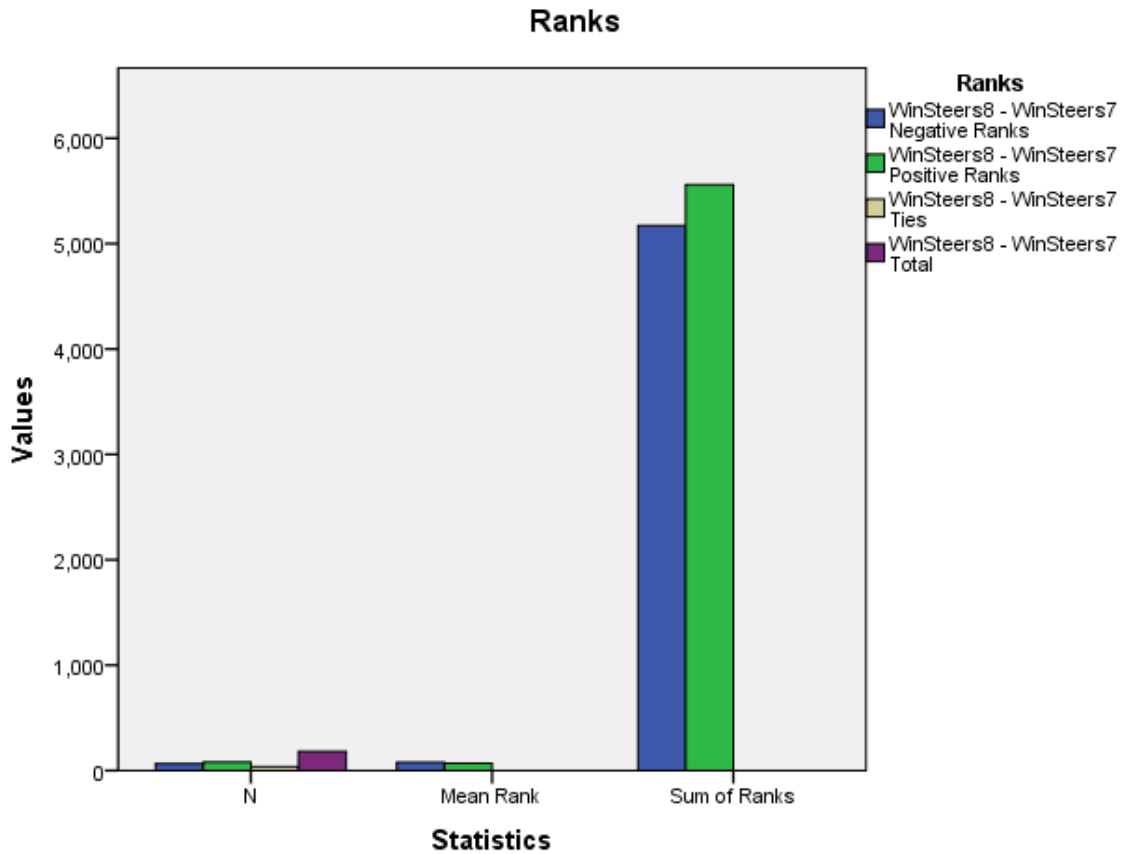
	Percentiles	
	75th	
WinSteers7	6.000	
WinSteers8	6.000	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
WinSteers8 - WinSteers7	Negative Ranks	66 ^a	78.36	5171.50
	Positive Ranks	80 ^b	69.49	5559.50
	Ties	37 ^c		
	Total	183		

- a. WinSteers8 < WinSteers7
b. WinSteers8 > WinSteers7
c. WinSteers8 = WinSteers7



Test Statistics^a

	WinSteers8 - WinSteers7
Z	-.380 ^b
Asymp. Sig. (2-tailed)	.704

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer/food co-brand is not affected by presenting that co-brand in a cause related context.

Overall preference scores for the Windhoek/ Steers co-brand increase when it is reassessed in a cause related context. However, there is little evidence that the null hypothesis should be rejected (p = .704).

4) Output data- Windhoek/KFC

a) Windhoek - Windhoek/KFC co-brand (Windhoek individually assessed in co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Wind4	137	4.204	1.7175	1.0	7.0	2.833	4.333
WinKFC6	137	3.686	1.8341	1.0	7.0	2.000	3.667

Descriptive Statistics

	Percentiles	
	75th	
Wind4	5.667	
WinKFC6	5.000	

Wilcoxon Signed Ranks Test

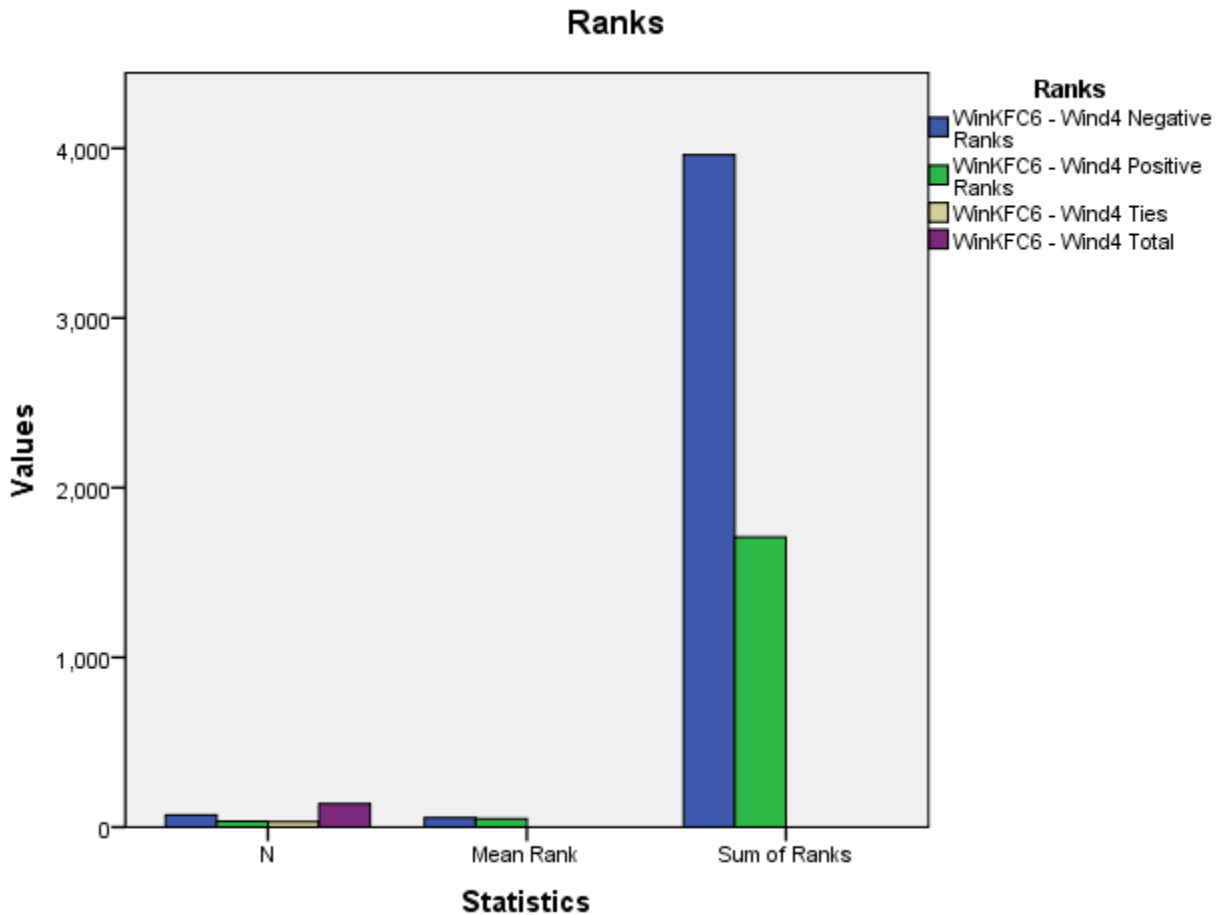
Ranks

		N	Mean Rank	Sum of Ranks
WinKFC6 - Wind4	Negative Ranks	71 ^a	55.80	3961.50
	Positive Ranks	35 ^b	48.84	1709.50
	Ties	31 ^c		
	Total	137		

a. WinKFC6 < Wind4

b. WinKFC6 > Wind4

c. WinKFC6 = Wind4



Test Statistics^a

	WinKFC6 - Wind4
Z	-3.560 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed individually (separately from) the corresponding brand in the co-brand.

Overall preference scores for the Windhoek brand decrease when it is reassessed individually in a co-brand with the KFC brand. There is strong evidence to reject the null hypothesis (p = .000) and conclude that co-branding with KFC will reduce the preference score for Windhoek.

b) Windhoek - Windhoek/KFC co-brand (overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Wind4	217	4.318	1.6417	1.0	7.0	3.000	4.667
WinKFC7	217	4.369	1.8460	1.0	7.0	3.000	4.667

Descriptive Statistics

	Percentiles	
	75th	
Wind4		5.667
WinKFC7		6.000

Wilcoxon Signed Ranks Test

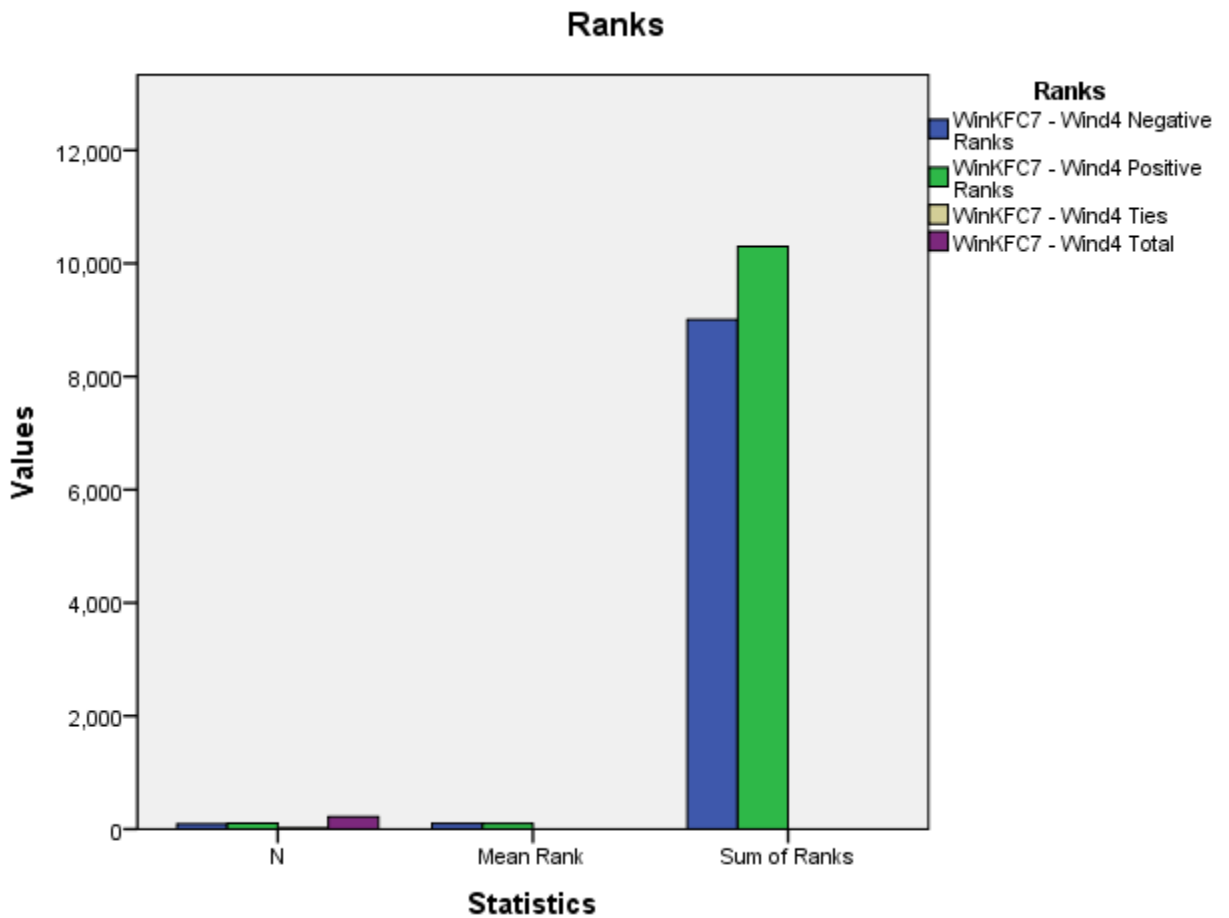
Ranks

		N	Mean Rank	Sum of Ranks
WinKFC7 - Wind4	Negative Ranks	92 ^a	97.90	9007.00
	Positive Ranks	104 ^b	99.03	10299.00
	Ties	21 ^c		
	Total	217		

a. WinKFC7 < Wind4

b. WinKFC7 > Wind4

c. WinKFC7 = Wind4



Test Statistics^a

	WinKFC7 - Wind4
Z	-.814 ^b
Asymp. Sig. (2-tailed)	.416

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is the same as the overall preference score for a composite beer/food co-brand containing that beer brand. Overall preference scores for the composite beer/food co-brand containing Windhoek are higher than the overall preference score for Windhoek assessed individually. There is little evidence to reject the null hypothesis (p = .416), therefore it may be concluded that co-branding with KFC will not affect overall preference scores for Windhoek.

c) **Windhoek / KFC - Windhoek / KFC co-brand (Windhoek brand assessed individually in co-brand versus overall assessment of co-brand)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
WinKFC6	132	3.654	1.8572	1.0	7.0	2.000	3.667
WinKFC7	132	4.131	1.9867	1.0	7.0	2.417	4.333

Descriptive Statistics

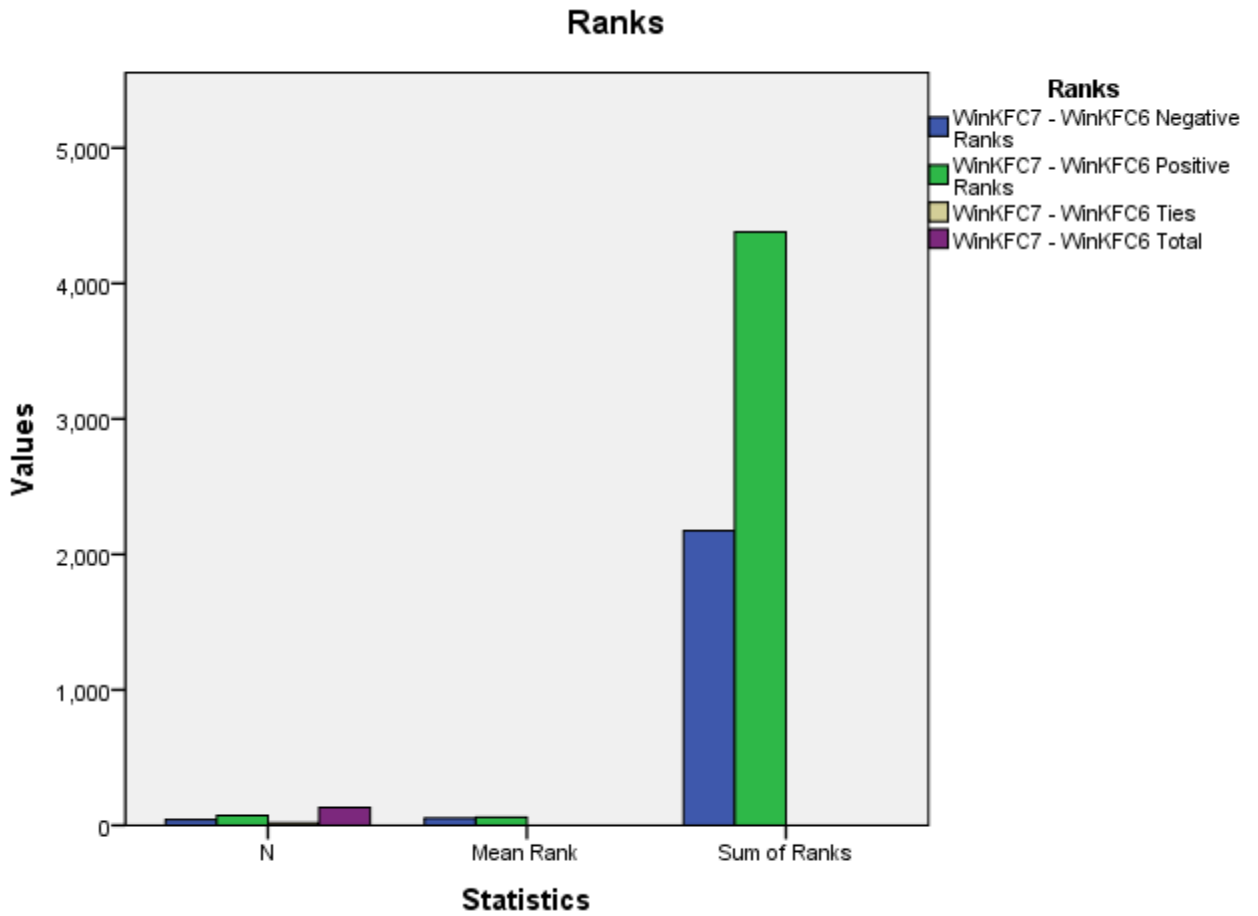
	Percentiles	
	75th	
WinKFC6	5.000	
WinKFC7	6.000	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
WinKFC7 - WinKFC6	Negative Ranks	41 ^a	53.06	2175.50
	Positive Ranks	73 ^b	59.99	4379.50
	Ties	18 ^c		
	Total	132		

- a. WinKFC7 < WinKFC6
- b. WinKFC7 > WinKFC6
- c. WinKFC7 = WinKFC6



Test Statistics^a

	WinKFC7 - WinKFC6
Z	-3.122 ^b
Asymp. Sig. (2-tailed)	.002

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer co-brand when the beer brand is assessed individually in the co-brand is not affected by an assessment that considers the overall (composite) co-brand.

Overall preference scores for the Heineken brand considered singly in a co-brand are higher than an overall assessment of the composite co-brand. There is extremely strong evidence that the null hypothesis should be rejected (p = .000) and that a composite co-brand with KFC results in a substantial reduction in preference.

d) **Windhoek - Windhoek / KFC co-brand in a cause related context**
(creating local jobs for local South Africans)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
Wind4	153	4.486	1.6073	1.0	7.0	3.000	4.667
WinKFC8	153	5.163	1.5347	1.0	7.0	4.333	5.333

Descriptive Statistics

	Percentiles	
	75th	
Wind4		5.667
WinKFC8		6.333

Wilcoxon Signed Ranks Test

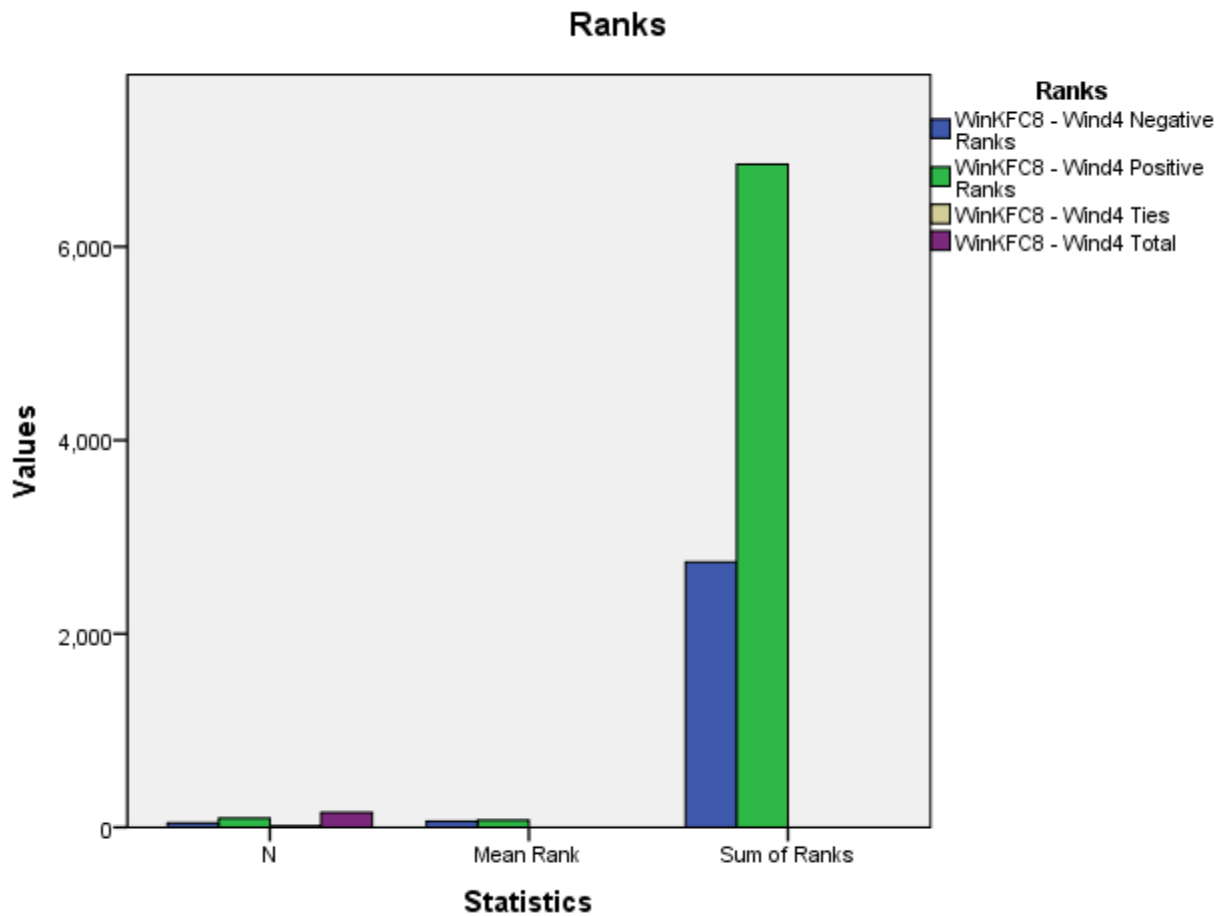
Ranks

		N	Mean Rank	Sum of Ranks
WinKFC8 - Wind4	Negative Ranks	44 ^a	62.28	2740.50
	Positive Ranks	94 ^b	72.88	6850.50
	Ties	15 ^c		
	Total	153		

a. WinKFC8 < Wind4

b. WinKFC8 > Wind4

c. WinKFC8 = Wind4



Test Statistics^a

	WinKFC8 - Wind4
Z	-4.377 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the co-brand is presented in a cause related context.

Overall preference scores for the Heineken brand fall when it is reassessed in a co-brand with the Wendy's brand. There is extremely strong evidence to reject the null hypothesis ($p = .000$) therefore it may be concluded that co-branding with Wendy's will reduce overall preference scores for Heineken even when the co-brand is presented in a cause related context.

e) **Windhoek / KFC co-brand (overall assessment of co-brand) - Windhoek / Steers co-brand in a cause related context (local jobs for local South Africans)**

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
WindKFC7	152	4.208	1.8517	1.0	7.0	3.000	4.333
WindKFC8	152	5.145	1.5491	1.0	7.0	4.333	5.333

Descriptive Statistics

	Percentiles	
	75th	
WindKFC7	5.667	
WindKFC8	6.333	

Wilcoxon Signed Ranks Test

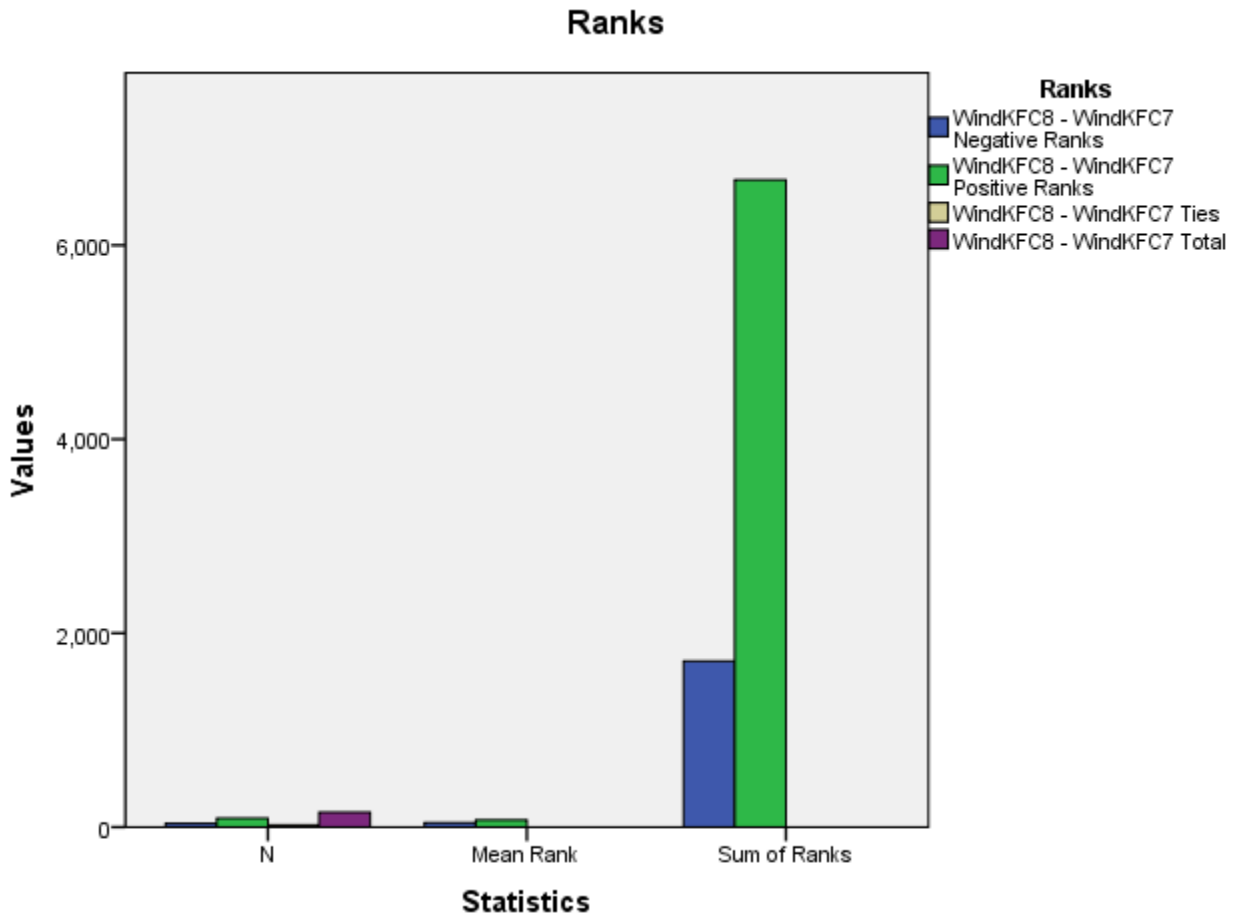
Ranks

	N	Mean Rank	Sum of Ranks
Negative Ranks	37 ^a	46.26	1711.50
Positive Ranks	92 ^b	72.54	6673.50
Ties	23 ^c		
Total	152		

a. WindKFC8 < WindKFC7

b. WindKFC8 > WindKFC7

c. WindKFC8 = WindKFC7



Test Statistics^a

	WindKFC8 - WindKFC7
Z	-5.841 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer/food co-brand is not affected by presenting that co-brand in a cause related context.

Overall preference scores for the Windhoek / Steers co-brand increase when it is reassessed in a cause related context. There is very strong evidence to reject the null hypothesis (p = .000), therefore it may be concluded that preference for a Windhoek / Steers co-brand will be increased when that co-brand is presented in a cause related context.

5) Output data- Samuel Adams/Spur

a) Samuel Adams – Samuel Adams/Spur co-brand (Samuel Adams individually assessed in co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam4	118	2.932	1.5759	1.0	7.0	1.667	3.000
SAdSpur5	118	3.314	1.7054	1.0	7.0	2.000	3.000

Descriptive Statistics

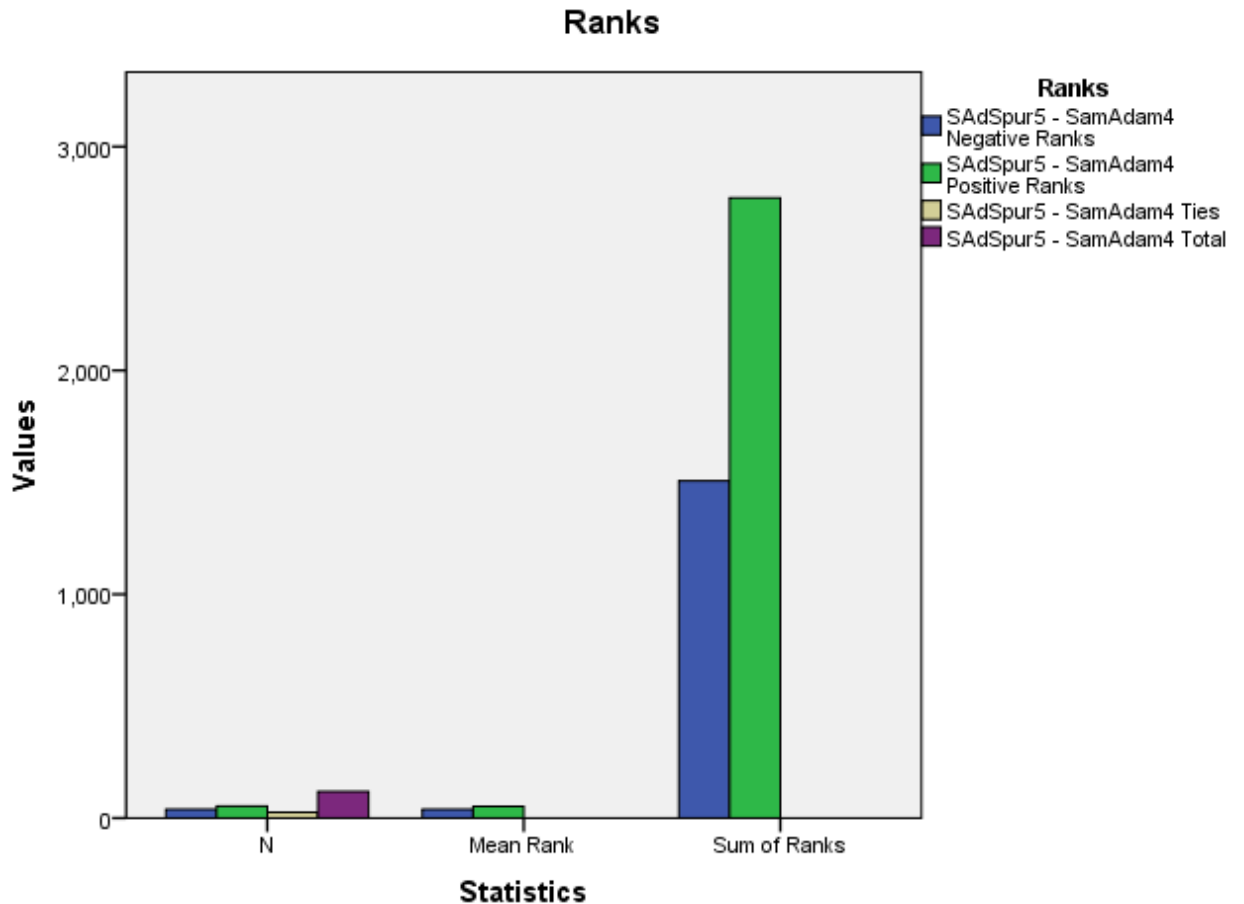
	Percentiles	
	75th	
SamAdam4	4.000	
SAdSpur5	4.417	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
SAdSpur5 - SamAdam4	Negative Ranks	39 ^a	38.64	1507.00
	Positive Ranks	53 ^b	52.28	2771.00
	Ties	26 ^c		
	Total	118		

- a. SAdSpur5 < SamAdam4
- b. SAdSpur5 > SamAdam4
- c. SAdSpur5 = SamAdam4



Test Statistics^a

	SAdSpur5 - SamAdam4
Z	-2.466 ^b
Asymp. Sig. (2-tailed)	.014

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed individually (separately from) the corresponding brand in the co-brand.

Overall preference scores for the Samuel Adams brand increase when it is reassessed individually in a co-brand with the Spur brand. There is strong evidence to reject the null hypothesis (p = .014) and to conclude that co-branding with Spur will increase overall preference scores for Samuel Adams.

b) Samuel Adams – Samuel Adams/Spur co-brand (overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam4	239	2.902	1.5084	1.0	7.0	1.667	3.000
SAdSpur7	239	4.594	1.5701	1.0	7.0	3.667	4.667

Descriptive Statistics

	Percentiles	
	75th	
SamAdam4	4.000	
SAdSpur7	6.000	

Wilcoxon Signed Ranks Test

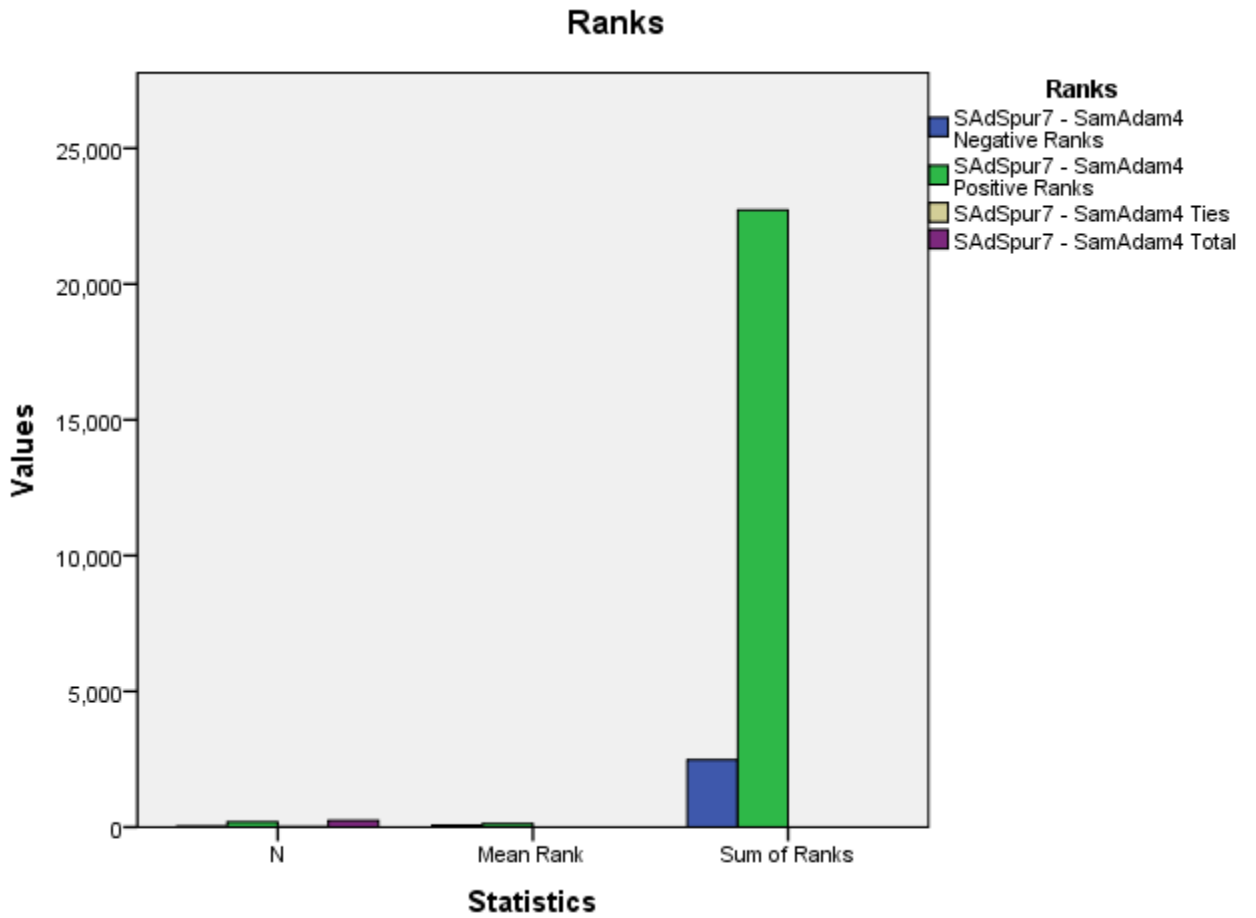
Ranks

		N	Mean Rank	Sum of Ranks
SAdSpur7 - SamAdam4	Negative Ranks	35 ^a	70.81	2478.50
	Positive Ranks	189 ^b	120.22	22721.50
	Ties	15 ^c		
	Total	239		

a. SAdSpur7 < SamAdam4

b. SAdSpur7 > SamAdam4

c. SAdSpur7 = SamAdam4



Test Statistics^a

	SAdSpur7 - SamAdam4
Z	-10.433 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is the same as the overall preference score for a composite beer/food co-brand containing that beer brand. Overall preference scores are higher when the Samuel Adams/Spur co-brand is assessed. There is extremely strong evidence to reject the null hypothesis (p = .000), therefore it may be concluded that co-branding with Spur will increase overall preference scores for the composite Samuel Adams/Spur co-brand.

c) Samuel Adams/Spur - Samuel Adams/Spur co-brand (Samuel Adams brand assessed individually in co-brand versus overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SAdSpur5	126	3.214	1.7036	1.0	7.0	1.667	3.000
SAdSpur7	126	4.328	1.6000	1.0	7.0	3.333	4.333

Descriptive Statistics

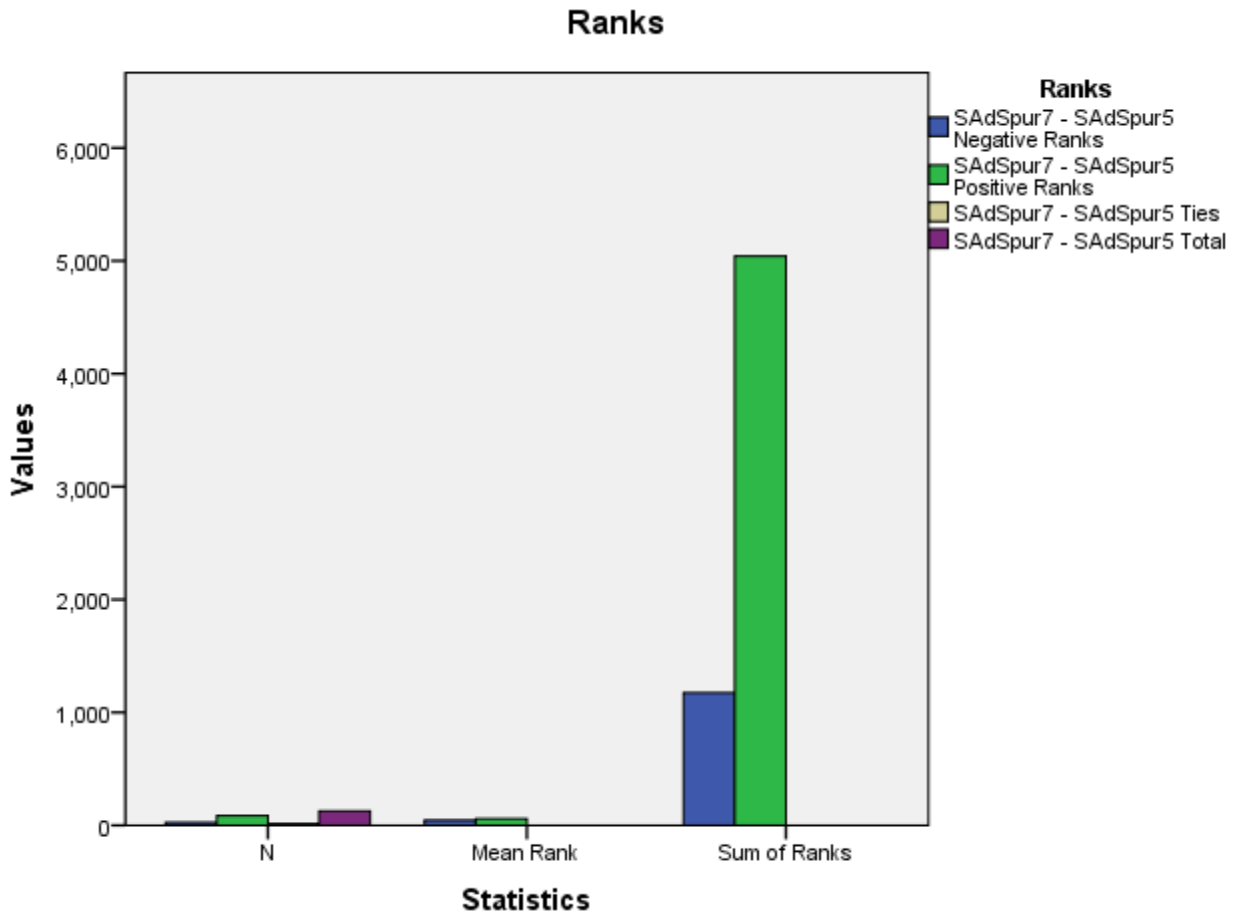
	Percentiles	
	75th	
SAdSpur5	4.333	
SAdSpur7	5.667	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
SAdSpur7 - SAdSpur5	Negative Ranks	26 ^a	45.17	1174.50
	Positive Ranks	85 ^b	59.31	5041.50
	Ties	15 ^c		
	Total	126		

- a. SAdSpur7 < SAdSpur5
- b. SAdSpur7 > SAdSpur5
- c. SAdSpur7 = SAdSpur5



Test Statistics^a

	SAdSpur7 - SAdSpur5
Z	-5.695 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer co-brand when the beer brand is assessed individually in the co-brand is not affected by an assessment that considers the overall (composite) co-brand.

Overall preference scores for the Samuel Adams brand considered individually in a co-brand are lower than an overall assessment of the composite co-brand. There is very strong evidence that the null hypothesis should be rejected (p = .000) and that overall preference for the composite Samuel Adams/Spur co-brand is higher.

d) Samuel Adams - Samuel Adams/Spur co-brand in a cause related context (reduced impact of co-brand on environment)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam4	180	3.178	1.5620	1.0	7.0	2.000	3.000
SAdSpur8	180	4.724	1.5574	1.0	7.0	4.000	5.000

Descriptive Statistics

	Percentiles	
	75th	
SamAdam4		4.000
SAdSpur8		6.000

Wilcoxon Signed Ranks Test

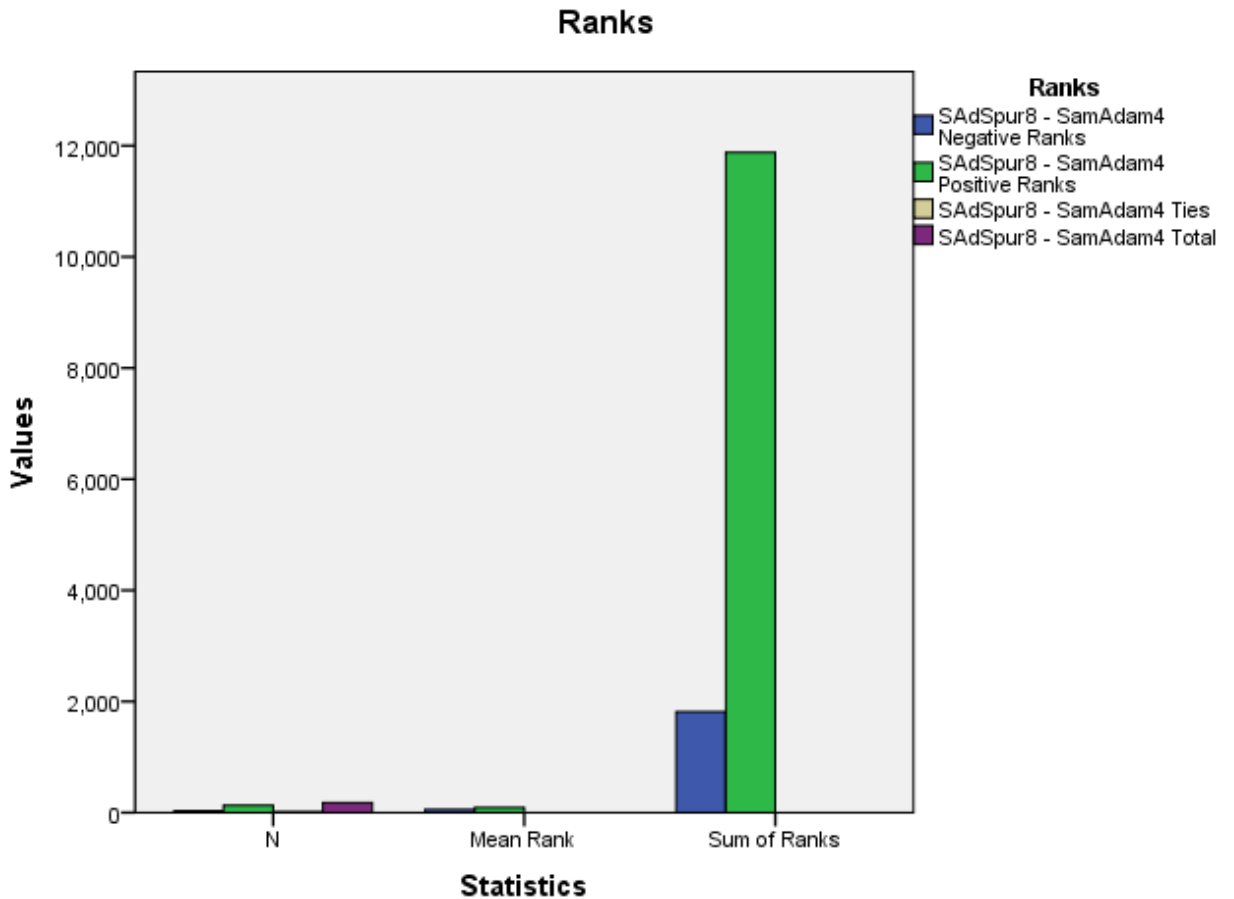
Ranks

		N	Mean Rank	Sum of Ranks
SAdSpur8 - SamAdam4	Negative Ranks	34 ^a	53.40	1815.50
	Positive Ranks	131 ^b	90.68	11879.50
	Ties	15 ^c		
	Total	180		

a. SAdSpur8 < SamAdam4

b. SAdSpur8 > SamAdam4

c. SAdSpur8 = SamAdam4



	SAdSpur8 - SamAdam4
Z	-8.194 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the co-brand is presented in a cause related context.

Overall preference scores for the Samuel Adams/Spur co-brand presented in a cause related context (reduced impact of co-brand on environment) are higher than the overall preference scores for Samuel Adams assessed on its own. There is very strong evidence that the null hypothesis should be rejected (p = .000) and that overall preference for the composite Samuel Adams/Spur co-brand presented in a cause related context is increased.

e) Samuel Adams/Spur co-brand (overall assessment of co-brand) - Samuel Adams/Spur co-brand in a cause related context (reduced impact of co-brand on environment)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam7	233	4.542	1.5879	1.0	7.0	3.500	4.667
SAdSpur8	233	4.411	1.6666	1.0	7.0	3.167	4.667

Descriptive Statistics

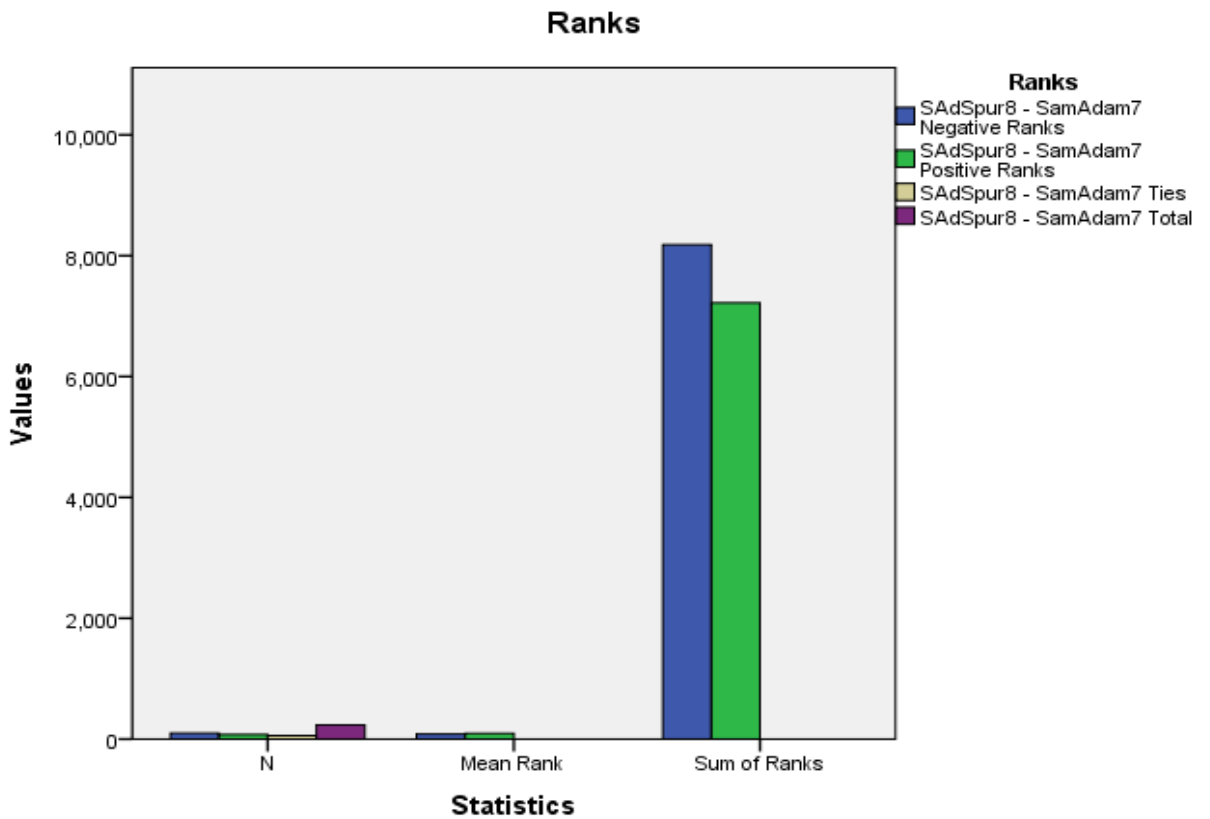
	Percentiles	
	75th	
	SamAdam7	5.833
SAdSpur8	5.667	

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
SAdSpur8 - SamAdam7	Negative Ranks	99 ^a	82.63	8180.50
	Positive Ranks	76 ^b	94.99	7219.50
	Ties	58 ^c		
	Total	233		

- a. SAdSpur8 < SamAdam7
- b. SAdSpur8 > SamAdam7
- c. SAdSpur8 = SamAdam7



Test Statistics^a

	SAdSpur8 - SamAdam7
Z	-.718 ^b
Asymp. Sig. (2-tailed)	.472

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Conclusion:

H₀: The overall preference score for a beer/food co-brand is not affected by presenting that co-brand in a cause related context.

Overall preference scores for the Samuel Adams/Spur co-brand are lower when the co-brand is presented in a cause related context (reduced impact of co-brand on environment). There is little evidence that the null hypothesis should be rejected (p = .472) and that overall preference for the composite Samuel Adams/Spur co-brand is decreased.

6) Output data- Samuel Adams/McDonalds

a) Samuel Adams - Samuel Adams/McDonalds co-brand (Samuel Adams individually assessed in co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam4	129	2.842	1.5349	1.0	7.0	1.500	2.667
SAdMcD6	129	3.083	1.6116	1.0	7.0	1.667	3.000

Descriptive Statistics

	Percentiles	
	75th	
	SamAdam4	4.000
SAdMcD6	4.000	

Wilcoxon Signed Ranks Test

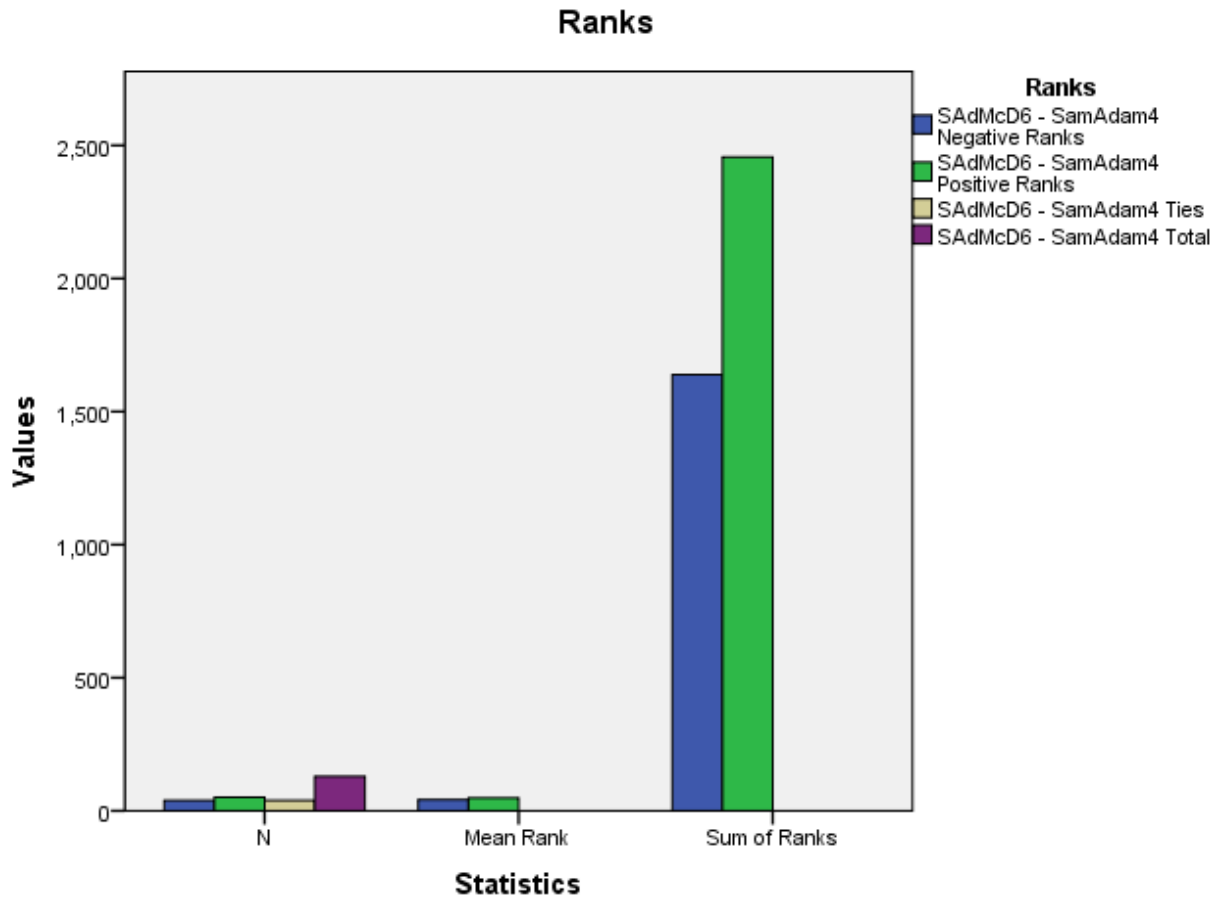
Ranks

		N	Mean Rank	Sum of Ranks
SAdMcD6 - SamAdam4	Negative Ranks	39 ^a	42.01	1638.50
	Positive Ranks	51 ^b	48.17	2456.50
	Ties	39 ^c		
	Total	129		

a. SAdMcD6 < SamAdam4

b. SAdMcD6 > SamAdam4

c. SAdMcD6 = SamAdam4



	SAdMcD6 - SamAdam4
Z	-1.650 ^b
Asymp. Sig. (2-tailed)	.099

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the beer brand is reassessed individually (separately from) the corresponding brand in the co-brand.

Overall preference scores for the Samuel Adams brand increase when it is reassessed individually in a co-brand with the McDonalds brand. There is little evidence to reject the null hypothesis (p = .099) therefore it may be concluded that co-branding with McDonalds will have little effect on the preference scores for Samuel Adams.

b) Samuel Adams - Samuel Adams/McDonalds co-brand (overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam4	215	2.831	1.4558	1.0	7.0	1.667	2.667
SAdMcD7	215	4.416	1.6205	1.0	7.0	3.333	4.667

Descriptive Statistics

	Percentiles	
	75th	
SamAdam4	4.000	
SAdMcD7	5.667	

Wilcoxon Signed Ranks Test

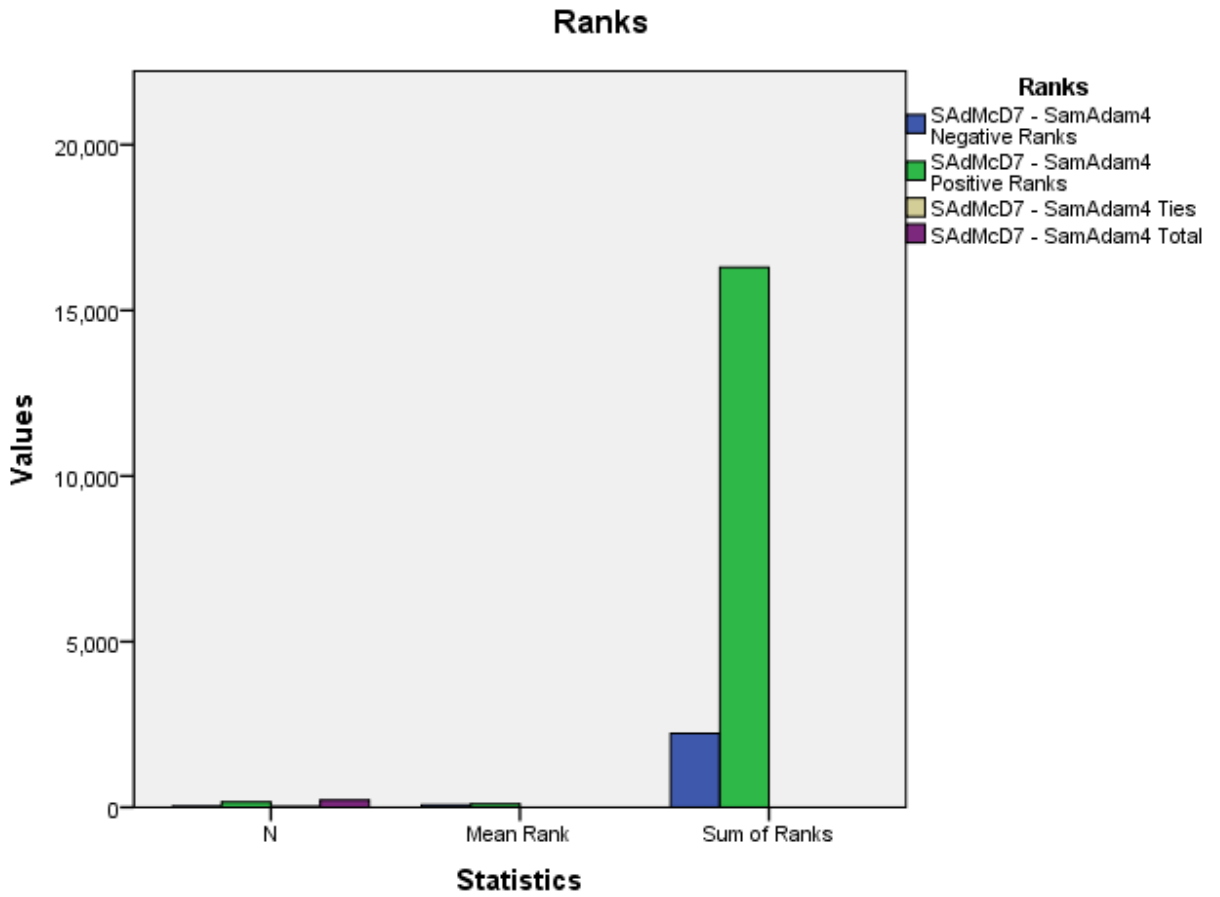
Ranks

		N	Mean Rank	Sum of Ranks
SAdMcD7 - SamAdam4	Negative Ranks	33 ^a	67.59	2230.50
	Positive Ranks	159 ^b	102.50	16297.50
	Ties	23 ^c		
	Total	215		

a. SAdMcD7 < SamAdam4

b. SAdMcD7 > SamAdam4

c. SAdMcD7 = SamAdam4



Test Statistics^a

	SAdMcD7 - SamAdam4
Z	-9.130 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is the same as the overall preference score for a composite beer/food co-brand containing that beer brand.

Overall preference scores for the composite Samuel Adams/McDonalds co-brand are higher than the overall preference scores for the Samuel Adams brand on its own.

There is extremely strong evidence to reject the null hypothesis (p = .000), therefore it may be concluded that co-branding with McDonalds will increase the overall preference scores for the composite Samuel Adams/McDonalds co-brand.

c) Samuel Adams/McDonalds co-brand - Samuel Adams/McDonalds co-brand (Samuel Adams brand assessed individually in co-brand versus overall assessment of co-brand)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SAdMcD6	124	3.027	1.5856	1.0	7.0	1.667	3.000
SAdMcD7	124	4.317	1.6975	1.0	7.0	3.000	4.333

Descriptive Statistics

	Percentiles	
	75th	
SAdMcD6	4.000	
SAdMcD7	6.000	

Wilcoxon Signed Ranks Test

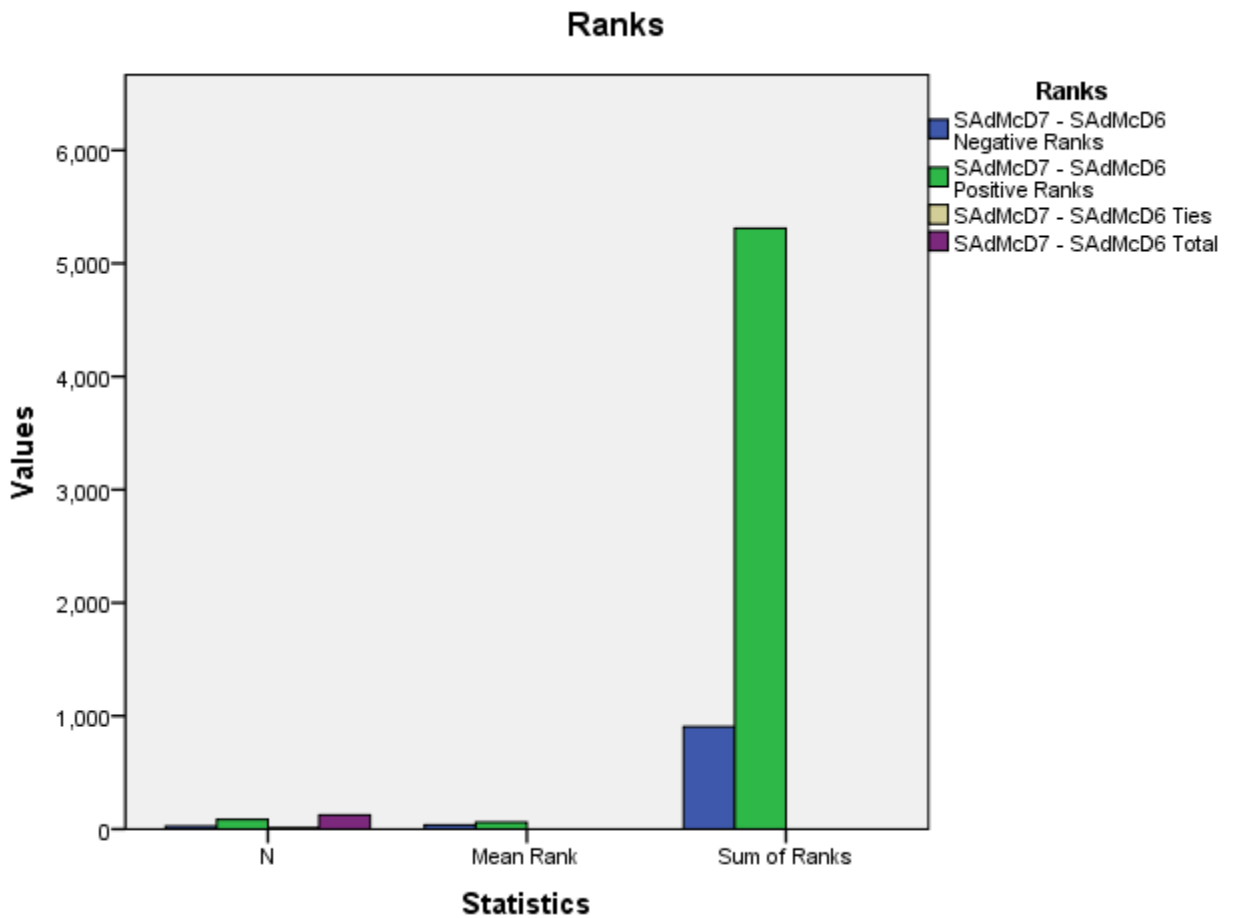
Ranks

		N	Mean Rank	Sum of Ranks
SAdMcD7 - SAdMcD6	Negative Ranks	25 ^a	36.22	905.50
	Positive Ranks	86 ^b	61.75	5310.50
	Ties	13 ^c		
	Total	124		

a. SAdMcD7 < SAdMcD6

b. SAdMcD7 > SAdMcD6

c. SAdMcD7 = SAdMcD6



Test Statistics^a

	SAdMcD7 - SAdMcD6
Z	-6.488 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer co-brand when the beer brand is assessed individually in the co-brand is not affected by an assessment that considers the overall (composite) co-brand.

Overall preference scores for the Samuel Adams brand considered singly in a co-brand are lower than an overall assessment of the composite Samuel Adams/McDonalds co-brand. There is extremely strong evidence that the null hypothesis should be rejected (p = .000) and that a composite co-brand with McDonalds results in a substantial increase in preference score.

d) Samuel Adams - Samuel Adams/McDonalds co-brand in a cause related context (creating local jobs for local South Africans)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam4	151	3.148	1.5466	1.0	7.0	2.000	3.000
SAdMcD8	151	5.225	1.3370	1.0	7.0	4.333	5.333

Descriptive Statistics

	Percentiles	
	75th	
SamAdam4		4.000
SAdMcD8		6.000

Wilcoxon Signed Ranks Test

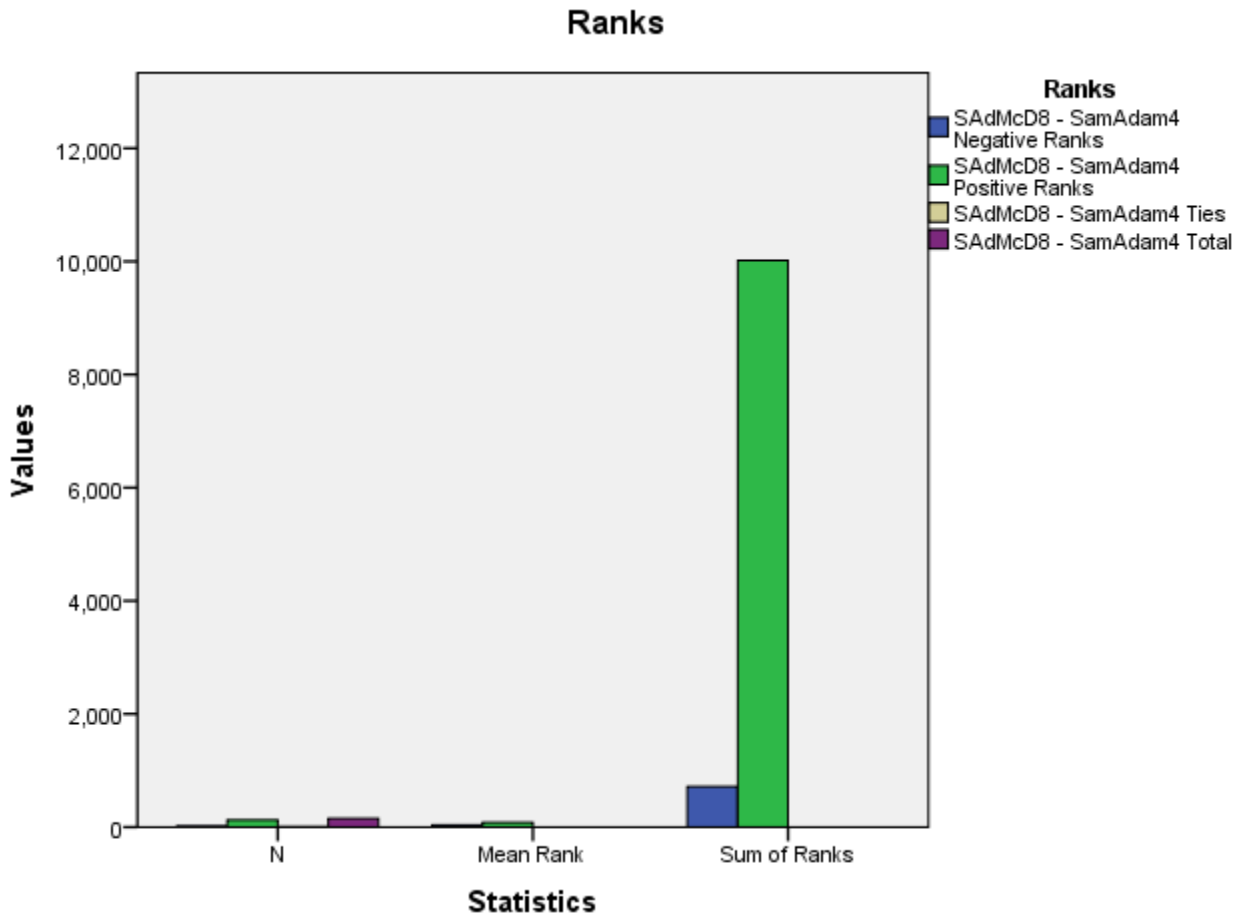
Ranks

		N	Mean Rank	Sum of Ranks
SAdMcD8 - SamAdam4	Negative Ranks	20 ^a	35.73	714.50
	Positive Ranks	126 ^b	79.50	10016.50
	Ties	5 ^c		
	Total	151		

a. SAdMcD8 < SamAdam4

b. SAdMcD8 > SamAdam4

c. SAdMcD8 = SamAdam4



Test Statistics^a

	SAdMcD8 - SamAdam4
Z	-9.094 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer brand is not affected by co-branding with a food brand when the co-brand is presented in a cause related context.

Overall preference scores for the Samuel Adams brand are less than the overall preference scores for the Samuel Adams/McDonalds co-brand. There is extremely strong evidence to reject the null hypothesis (p = .000) and to conclude that co-branding with McDonalds in a cause related context will increase overall preference scores for the Samuel Adams/McDonalds co-brand.

e) Samuel Adams/McDonalds co-brand (overall assessment of co-brand) -
 Samuel Adams/McDonalds co-brand in a cause related context (local
 jobs for local South Africans)

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
SamAdam7	147	4.420	1.6543	1.0	7.0	3.333	4.667
SAdMcD8	147	5.168	1.3971	1.0	7.0	4.333	5.333

Descriptive Statistics

	Percentiles	
	75th	
	SamAdam7	5.667
SAdMcD8	6.000	

Wilcoxon Signed Ranks Test

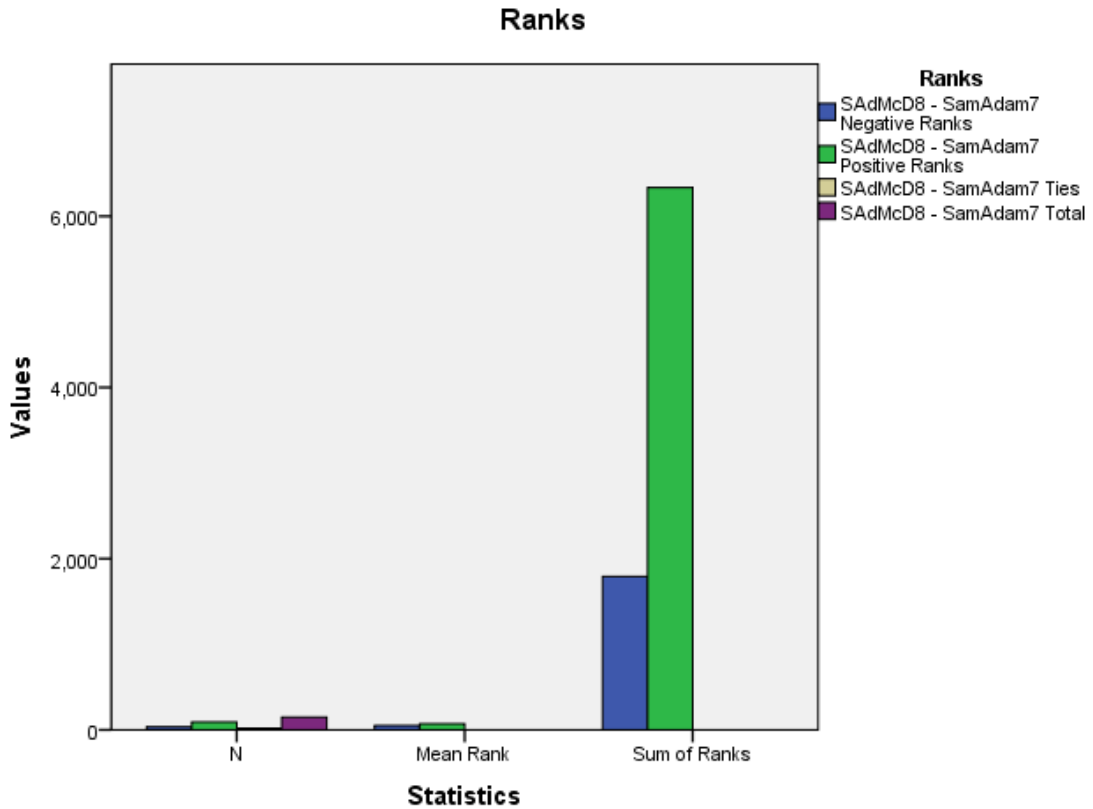
Ranks

	N	Mean Rank	Sum of Ranks
Negative Ranks	36 ^a	49.79	1792.50
Positive Ranks	91 ^b	69.62	6335.50
Ties	20 ^c		
Total	147		

a. SAdMcD8 < SamAdam7

b. SAdMcD8 > SamAdam7

c. SAdMcD8 = SamAdam7



Test Statistics^a

	SAdMcD8 - SamAdam7
Z	-5.481 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Conclusion:

H₀: The overall preference score for a beer/food co-brand is not affected by presenting that co-brand in a cause related context.

Overall preference scores for the Samuel Adams/McDonalds co-brand increase when it is reassessed in a cause related context. There is very strong evidence to reject the null hypothesis (p = .000) and to conclude that preference for a Samuel Adams/McDonalds co-brand will be increased when that co-brand is presented in a cause related context.

Appendix B 3,c (i): Testing of two related means- Wilcoxon signed-rank test

Selected respondents (high, medium or low header beer brand with high, medium or low modifier food brand)

1. Heineken /Zebras

1.1 Heineken High

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebraHein equals 0	Related-Samples Wilcoxon Signed Rank Test	.004	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebraHein equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebraHein equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

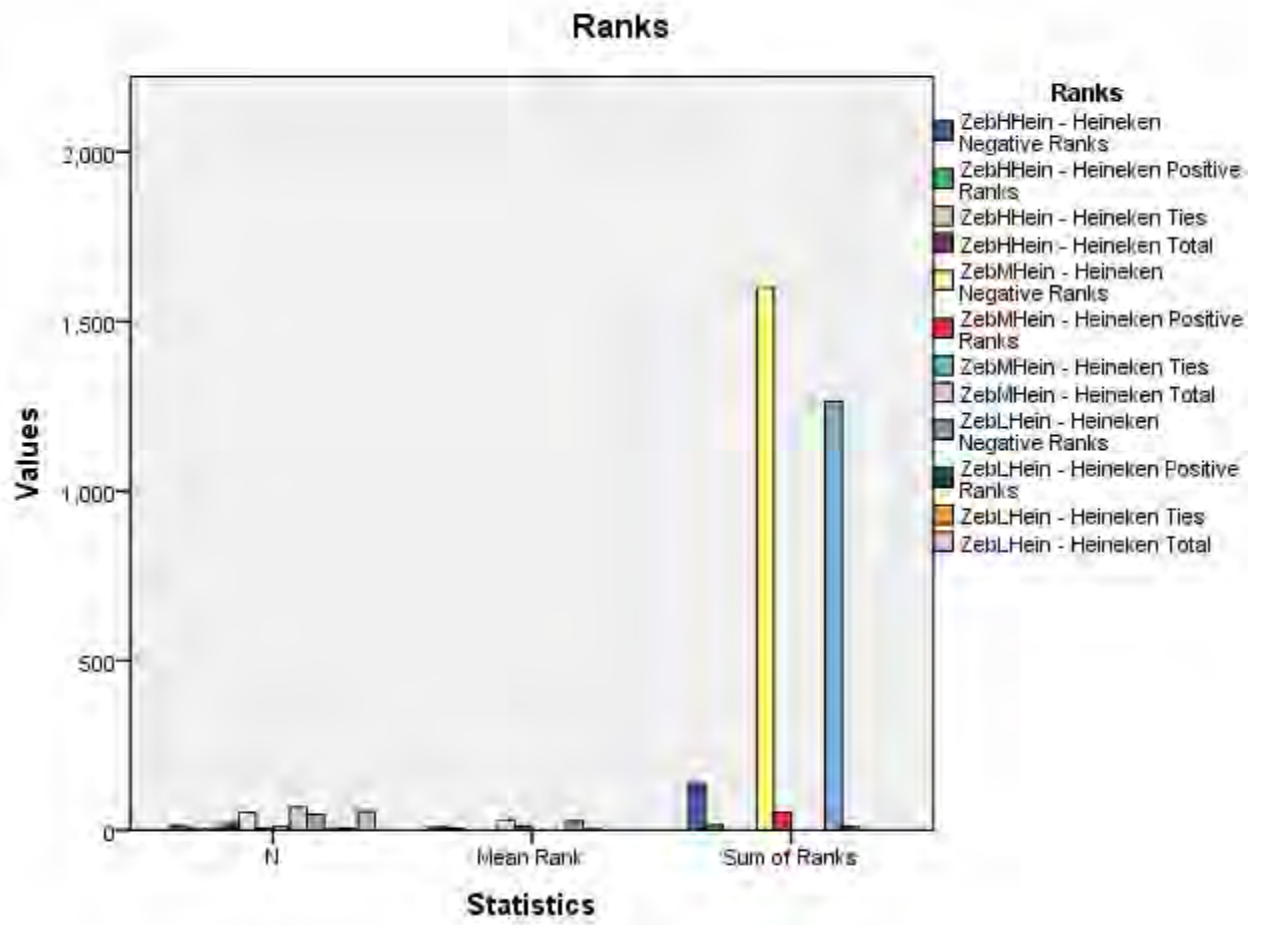
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Heineken	20	6.500000000 000101	.5972647203 70248	5.333333333 333433	7.000000000 000100	6.083333333 333433	6.666666666 666767	7.000000000 000100
Heineken	68	6.470588235 294218	.5590660718 51493	5.333333333 333433	7.000000000 000100	6.000000000 000100	6.666666666 666767	7.000000000 000100
Heineken	55	6.493939393 939495	.5508725181 36837	5.333333333 333433	7.000000000 000100	6.000000000 000100	6.666666666 666767	7.000000000 000100
ZebHHei n	20	5.025000000 000102	1.749080794 512176	1.333333333 3334332	7.000000000 0001000	4.083333333 333433	5.166666666 666767	6.583333333 333433
ZebMHei n	68	5.022058823 529513	1.593910575 239904	1.000000000 0001000	7.000000000 0001000	4.333333333 333433	5.333333333 333433	6.000000000 000100
ZebLHein	55	4.169696969 697069	1.500511198 588572	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.333333333 333433	5.000000000 000100

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
ZebHHein - Heineken	Negative Ranks	14 ^a	9.86	138.00
	Positive Ranks	3 ^b	5.00	15.00
	Ties	3 ^c		
	Total	20		
ZebMHein - Heineken	Negative Ranks	52 ^d	30.79	1601.00
	Positive Ranks	5 ^e	10.40	52.00
	Ties	11 ^f		
	Total	68		
ZebLHein - Heineken	Negative Ranks	47 ^g	26.89	1264.00
	Positive Ranks	3 ^h	3.67	11.00
	Ties	5 ⁱ		
	Total	55		

- a. ZebHHein < Heineken
- b. ZebHHein > Heineken
- c. ZebHHein = Heineken
- d. ZebMHein < Heineken
- e. ZebMHein > Heineken
- f. ZebMHein = Heineken
- g. ZebLHein < Heineken
- h. ZebLHein > Heineken
- i. ZebLHein = Heineken



Test Statistics^a

	ZebHHein - Heineken	ZebMHein - Heineken	ZebLHein - Heineken
Z	-2.914 ^b	-6.165 ^b	-6.053 ^b
Asymp. Sig. (2-tailed)	.004	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

1. Heineken /Zebras

1.2 Heineken Medium

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebraHein equals 0.	Related-Samples Wilcoxon Signed Rank Test	.279	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebraHein equals 0.	Related-Samples Wilcoxon Signed Rank Test	.352	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebraHein equals 0.	Related-Samples Wilcoxon Signed Rank Test	.520	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

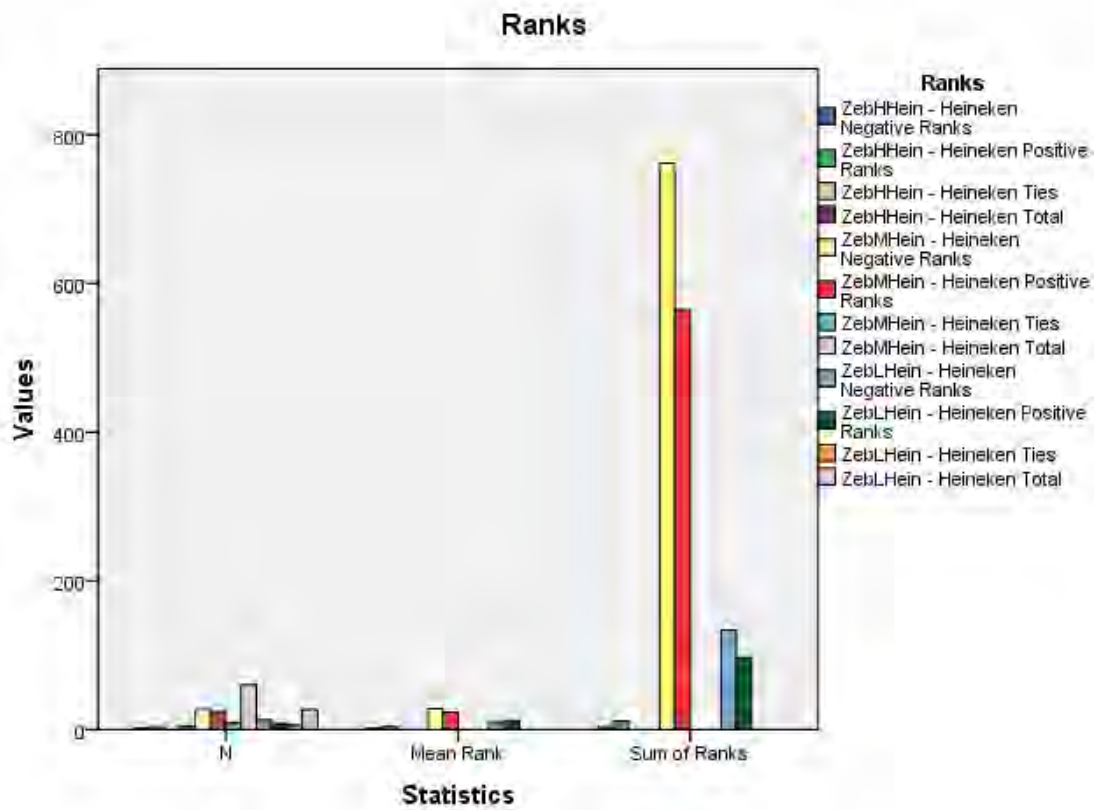
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Heineken	5	4.133333333 333434	.7673909622 14856	3.000000000 000100	5.000000000 000100	3.500000000 000100	4.000000000 000100	4.833333333 333434
Heineken	60	4.094444444 444546	.7642966725 30427	3.000000000 0001000	5.000000000 0001000	3.333333333 333433	4.000000000 000100	5.000000000 000100
Heineken	27	3.944444444 444545	.6840677729 20823	3.000000000 0001000	5.000000000 0001000	3.333333333 333433	4.000000000 000100	4.333333333 333433
ZebHHei n	5	5.066666666 666767	1.278019300 845488	3.666666666 6667664	6.000000000 0001000	3.666666666 666766	6.000000000 000100	6.000000000 000100
ZebMHei n	60	3.919444444 444545	1.419029822 506514	1.000000000 0001000	7.000000000 0001000	3.083333333 333433	4.000000000 000100	5.000000000 000100
ZebLHei n	27	3.753086419 753186	1.647563838 931840	1.000000000 0001000	7.000000000 0001000	2.000000000 000100	4.000000000 000100	5.000000000 000100

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
ZebHHein - Heineken	Negative Ranks	2 ^a	1.75	3.50
	Positive Ranks	3 ^b	3.83	11.50
	Ties	0 ^c		
	Total	5		
ZebMHein - Heineken	Negative Ranks	27 ^d	28.22	762.00
	Positive Ranks	24 ^e	23.50	564.00
	Ties	9 ^f		
	Total	60		
ZebLHein - Heineken	Negative Ranks	13 ^g	10.31	134.00
	Positive Ranks	8 ^h	12.13	97.00
	Ties	6 ⁱ		
	Total	27		

- a. ZebHHein < Heineken
- b. ZebHHein > Heineken
- c. ZebHHein = Heineken
- d. ZebMHein < Heineken
- e. ZebMHein > Heineken
- f. ZebMHein = Heineken
- g. ZebLHein < Heineken
- h. ZebLHein > Heineken
- i. ZebLHein = Heineken



Test Statistics^a

	ZebHHein - Heineken	ZebMHein - Heineken	ZebLHein - Heineken
Z	-1.084 ^b	-.931 ^c	-.644 ^c
Asymp. Sig. (2-tailed)	.279	.352	.520

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

1. Heineken /Zebras

1.3 Heineken Low

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebHein equals 0.	Related-Samples Wilcoxon Signed Rank Test	.002	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and ZebHein equals 0.	Related-Samples Wilcoxon Signed Rank Test	.010	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

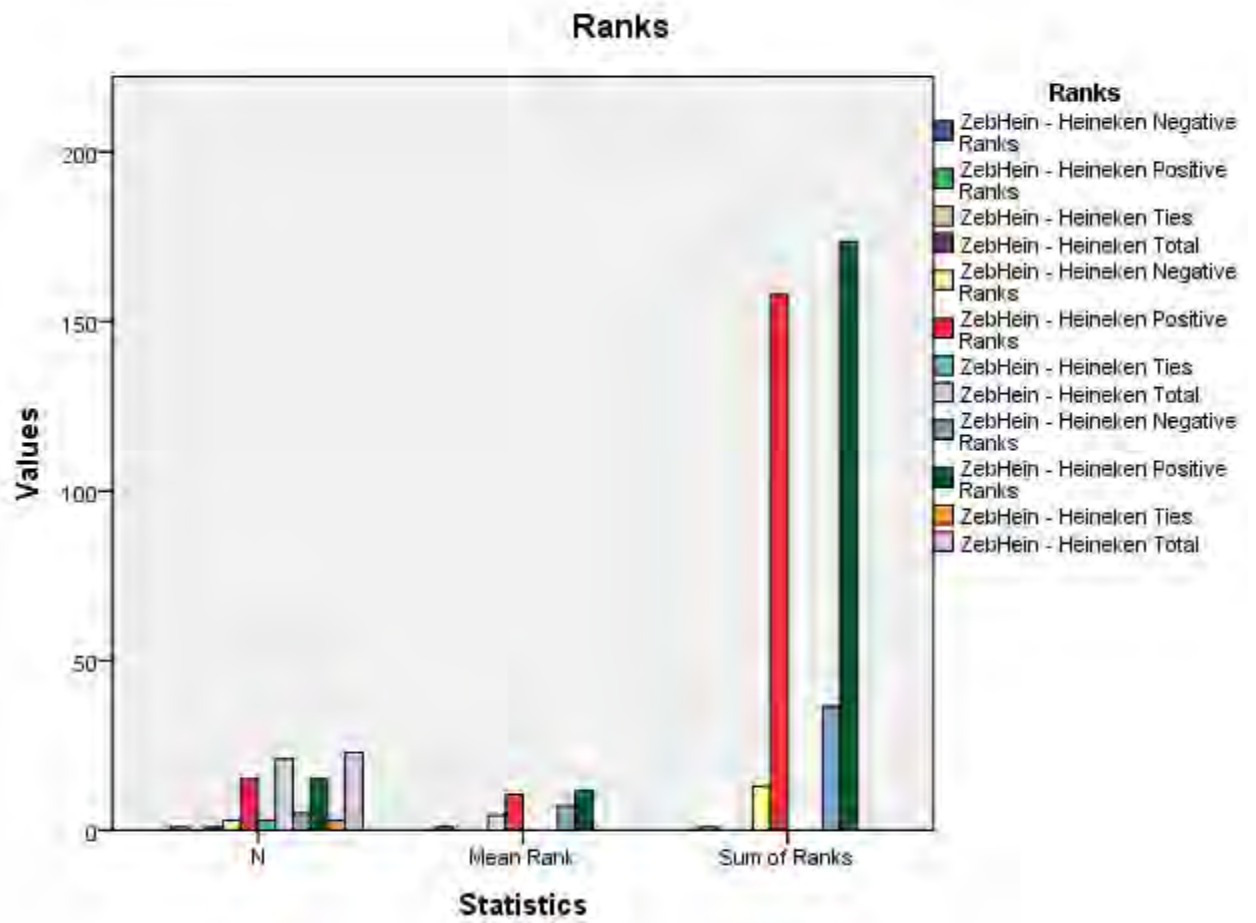
Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Heineken	1	2.00	.	2	2	.	.	.
Heineken	21	1.920634920	.6553604767	1.000000000	2.666666666	1.000000000	2.000000000	2.500000000
Heineken	23	1.891304347	.5808577244	1.000000000	2.666666666	1.333333333	2.000000000	2.333333333
ZebHein	1	6.333333333	.	6.333333333	6.333333333	.	.	.
ZebHein	21	3.436507936	1.665396341	1.000000000	7.000000000	2.000000000	3.000000000	4.666666666
ZebHein	23	2.724637681	1.131068029	1.000000000	4.666666666	1.333333333	3.000000000	3.333333333
		159520	788998	0001000	6667670	333433	000100	333433

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
ZebHein - Heineken	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	1 ^b	1.00	1.00
	Ties	0 ^c		
	Total	1		
ZebHein - Heineken	Negative Ranks	3 ^d	4.33	13.00
	Positive Ranks	15 ^e	10.53	158.00
	Ties	3 ^f		
	Total	21		
ZebHein - Heineken	Negative Ranks	5 ^g	7.30	36.50
	Positive Ranks	15 ^h	11.57	173.50
	Ties	3 ⁱ		
	Total	23		

- a. ZebHein < Heineken
- b. ZebHein > Heineken
- c. ZebHein = Heineken
- d. ZebHein < Heineken
- e. ZebHein > Heineken
- f. ZebHein = Heineken
- g. ZebHein < Heineken
- h. ZebHein > Heineken
- i. ZebHein = Heineken



Test Statistics^a

	ZebHein - Heineken	ZebHein - Heineken
Z	-3.160 ^b	-2.567 ^b
Asymp. Sig. (2-tailed)	.002	.010

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

2. Heineken /Wendy's

2.1 Heineken High

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and Wendy's equals 0	Related-Samples Wilcoxon Signed Rank Test	.068	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and Wendy's equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and Wendy's equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Heineken	16	6.437500000 000101	.6522752202 58361	5.333333333 333433	7.000000000 000100	5.750000000 000100	6.666666666 666767	7.000000000 000100
Heineken	67	6.462686567 164280	.5533954689 48406	5.333333333 333433	7.000000000 000100	6.000000000 000100	6.666666666 666767	7.000000000 000100
Heineken	48	6.510416666 666766	.5787880159 22930	5.333333333 333433	7.000000000 000100	6.000000000 000100	6.666666666 666767	7.000000000 000100
WenHHei n	16	5.208333333 333433	1.946982470 578801	1.000000000 000100	7.000000000 000100	4.250000000 000100	5.833333333 333434	6.833333333 333433
WenMHei n	67	4.517412935 323486	1.674510413 488368	1.000000000 0001000	7.000000000 0001000	3.666666666 666766	4.666666666 666767	6.000000000 000100
WenLHei n	48	4.024305555 555657	1.536009683 765460	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.000000000 000100	5.000000000 000100

Wilcoxon Signed Ranks Test

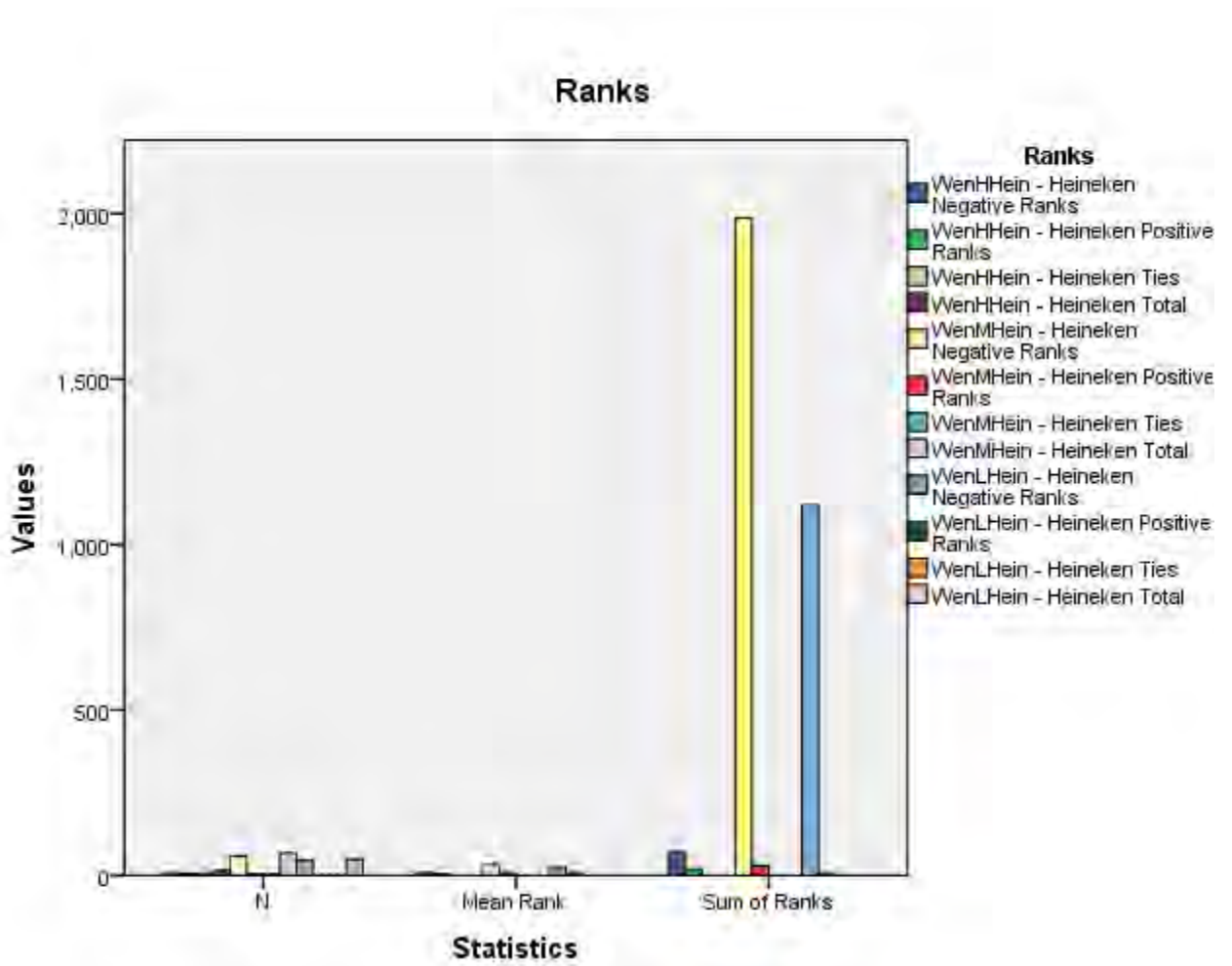
Ranks

		N	Mean Rank	Sum of Ranks
WenHHein - Heineken	Negative Ranks	8 ^a	8.94	71.50
	Positive Ranks	5 ^b	3.90	19.50
	Ties	3 ^c		
	Total	16		
WenMHein - Heineken	Negative Ranks	59 ^d	33.66	1986.00
	Positive Ranks	4 ^e	7.50	30.00
	Ties	4 ^f		
	Total	67		
WenLHein - Heineken	Negative Ranks	46 ^g	24.35	1120.00
	Positive Ranks	1 ^h	8.00	8.00
	Ties	1 ⁱ		
	Total	48		

- a. WenHHein < Heineken
- b. WenHHein > Heineken
- c. WenHHein = Heineken
- d. WenMHein < Heineken
- e. WenMHein > Heineken
- f. WenMHein = Heineken
- g. WenLHein < Heineken

h. WenLHein > Heineken

i. WenLHein = Heineken



Test Statistics^a

	WenHHein - Heineken	WenMHein - Heineken	WenLHein - Heineken
Z	-1.825 ^b	-6.702 ^b	-5.889 ^b
Asymp. Sig. (2-tailed)	.068	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

2. Heineken /Wendy's

2.2 Heineken Medium

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and Wendy's equals 0	Related-Samples Wilcoxon Signed Rank Test	.480	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and Wendy's equals 0	Related-Samples Wilcoxon Signed Rank Test	.024	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and Wendy's equals 0	Related-Samples Wilcoxon Signed Rank Test	.018	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

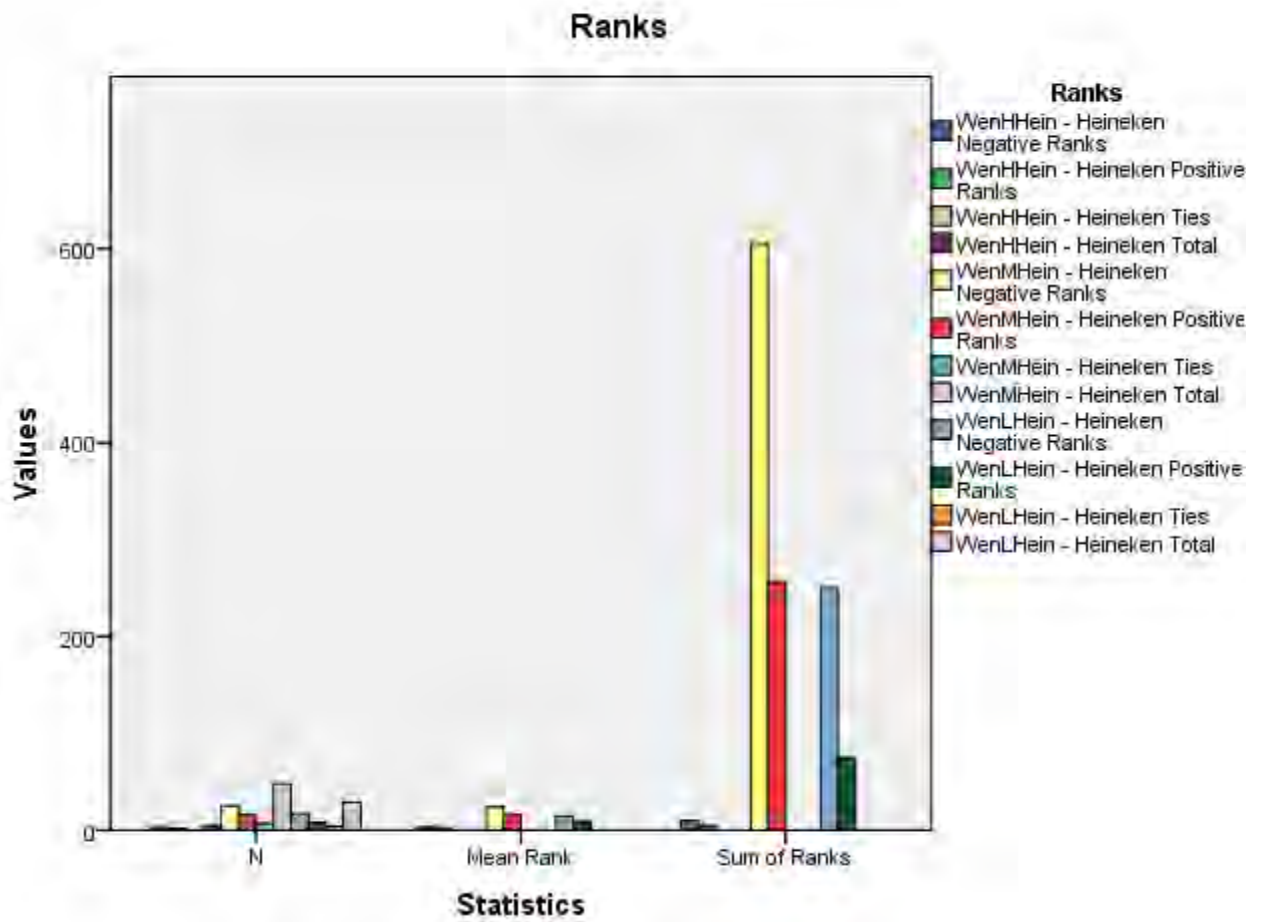
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Heineken	5	3.933333333 333434	.7226494462 89393	3.000000000 0001000	5.000000000 0001000	3.333333333 333433	4.000000000 000100	4.500000000 000100
Heineken	48	4.159722222 222321	.7779149659 49103	3.000000000 0001000	5.000000000 0001000	3.416666666 666766	4.000000000 000100	5.000000000 000100
Heineken	29	3.948275862 069066	.6829898211 43462	3.000000000 0001000	5.000000000 0001000	3.333333333 333433	4.000000000 000100	4.583333333 333434
WenHHei n	5	3.466666666 666766	1.923538406 167234	1.666666666 6667667	6.000000000 0001000	1.833333333 333433	2.666666666 666766	5.500000000 000100
WenMHei n	48	3.739583333 333434	1.300075579 727050	1.000000000 0001000	6.000000000 0001000	3.083333333 333433	4.000000000 000100	4.916666666 666767
WenLHei n	29	3.356321839 080560	1.522140917 289096	1.000000000 0001000	6.666666666 6667670	2.000000000 000100	3.333333333 333433	4.333333333 333434

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
WenHHein - Heineken	Negative Ranks	3 ^a	3.33	10.00
	Positive Ranks	2 ^b	2.50	5.00
	Ties	0 ^c		
	Total	5		
WenMHein - Heineken	Negative Ranks	25 ^d	24.18	604.50
	Positive Ranks	16 ^e	16.03	256.50
	Ties	7 ^f		
	Total	48		
WenLHein - Heineken	Negative Ranks	17 ^g	14.71	250.00
	Positive Ranks	8 ^h	9.38	75.00
	Ties	4 ⁱ		
	Total	29		

- a. WenHHein < Heineken
- b. WenHHein > Heineken
- c. WenHHein = Heineken
- d. WenMHein < Heineken
- e. WenMHein > Heineken
- f. WenMHein = Heineken
- g. WenLHein < Heineken
- h. WenLHein > Heineken
- i. WenLHein = Heineken



Test Statistics^a

	WenHHein - Heineken	WenMHein - Heineken	WenLHein - Heineken
Z	-.707 ^b	-2.262 ^b	-2.362 ^b
Asymp. Sig. (2-tailed)	.480	.024	.018

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

2. Heineken /Wendy's

2.3 Heineken Low

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and WenMHein equals 0	Related-Samples Wilcoxon Signed Rank Test	.030	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Heineken and WenLHein equals 0	Related-Samples Wilcoxon Signed Rank Test	.004	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Heineken	1	2.00	.	2	2	.	.	.
Heineken	16	1.885416666	.6741764523	1.000000000	2.666666666	1.000000000	2.000000000	2.458333333
		666767	39463	0001000	6667664	000100	000100	333433
Heineken	24	1.888888888	.5931710140	1.000000000	2.666666666	1.166666666	2.000000000	2.333333333
		888989	01840	0001000	6667664	666767	000100	333433
WenHHein	1	3.666666666	.	3.666666666	3.666666666	.	.	.
n		666766		6667664	6667664			
WenMHein	16	2.677083333	1.177676227	1.000000000	5.000000000	2.000000000	2.416666666	3.000000000
n		333433	278335	0001000	0001000	000100	666767	000100
WenLHein	24	2.805555555	1.158529246	1.000000000	4.000000000	1.750000000	3.000000000	4.000000000
n		555656	977948	0001000	0001000	000100	000100	000100

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
WenHHein - Heineken	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	1 ^b	1.00	1.00
	Ties	0 ^c		
	Total	1		
WenMHein - Heineken	Negative Ranks	4 ^d	5.50	22.00
	Positive Ranks	11 ^e	8.91	98.00
	Ties	1 ^f		
	Total	16		
WenLHein - Heineken	Negative Ranks	6 ^g	6.50	39.00
	Positive Ranks	16 ^h	13.38	214.00
	Ties	2 ⁱ		
	Total	24		

a. WenHHein < Heineken

b. WenHHein > Heineken

c. WenHHein = Heineken

d. WenMHein < Heineken

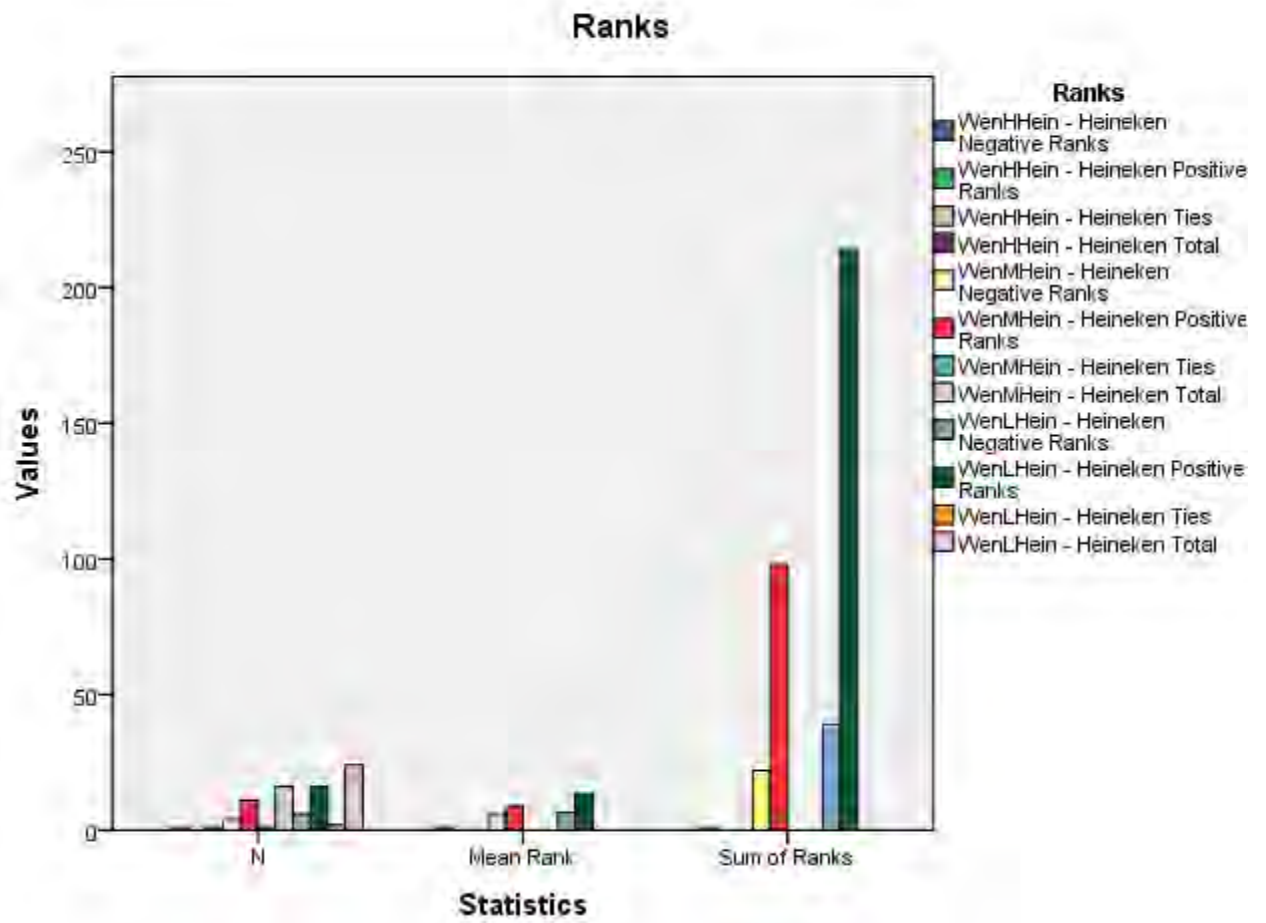
e. WenMHein > Heineken

f. WenMHein = Heineken

g. WenLHein < Heineken

h. WenLHein > Heineken

i. WenLHein = Heineken



Test Statistics^a

	WenMHein - Heineken	WenLHein - Heineken
Z	-2.171 ^b	-2.853 ^b
Asymp. Sig. (2-tailed)	.030	.004

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

3. Windhoek /Steers

3.1 Windhoek High

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerHWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.230	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerMWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.012	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerLWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.317	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

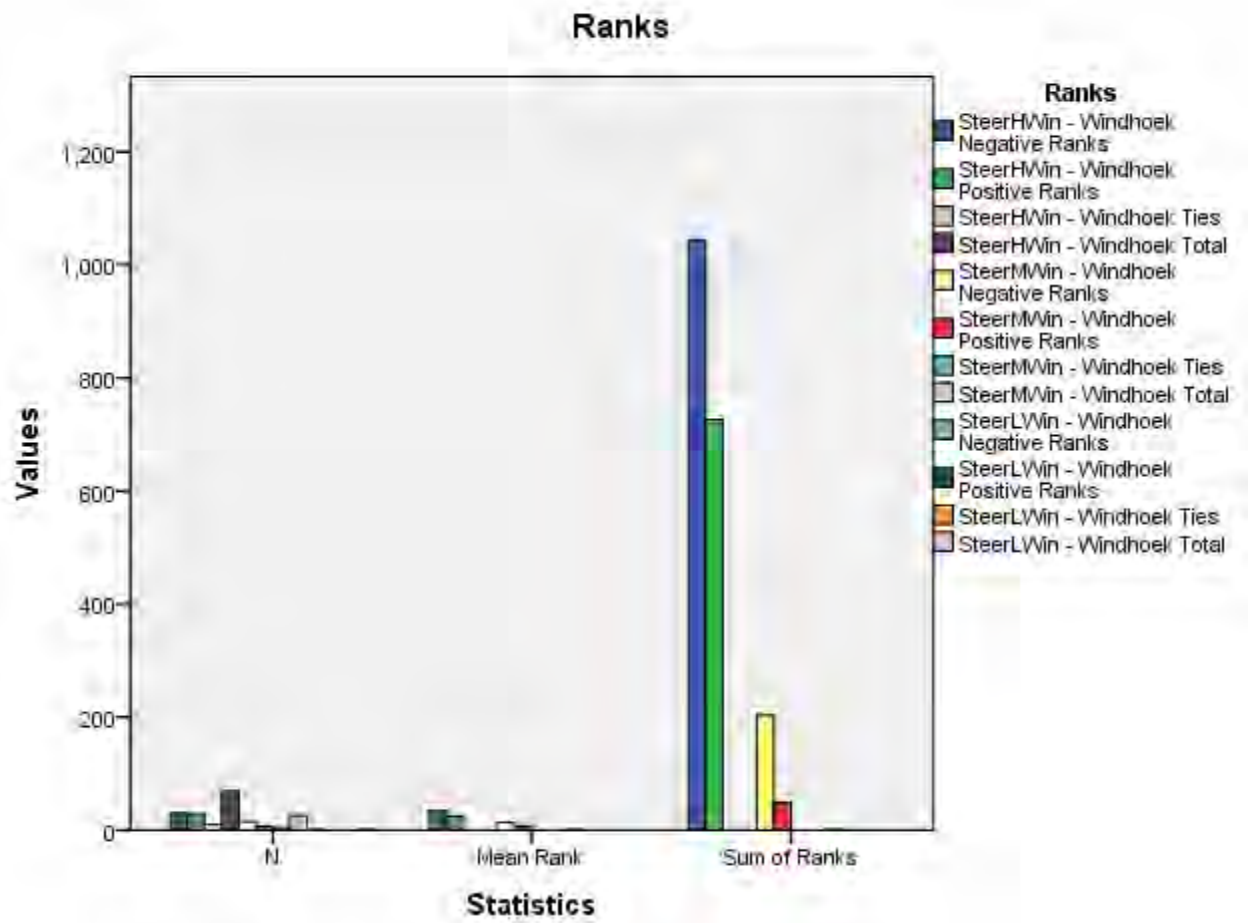
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Windhoek	69	6.077294685	.5777602900	5.333333333	7.000000000	5.666666666	6.000000000	6.666666666
		990440	27707	333433	000100	666767	000100	666767
Windhoek	26	5.948717948	.5223222308	5.333333333	7.000000000	5.666666666	5.666666666	6.083333333
		718049	31330	333433	000100	666767	666767	333433
Windhoek	1	6.333333333	.	6.333333333	6.333333333	.	.	.
		333433		333433	333433			
SteerHWi n	69	5.789855072	1.277524469	2.000000000	7.000000000	5.000000000	6.000000000	7.000000000
		463869	251786	0001000	0001000	000100	000100	000100
SteerMWi n	26	5.179487179	1.324070388	1.666666666	7.000000000	4.333333333	5.333333333	6.000000000
		487280	296128	6667667	0001000	333433	333433	000100
SteerLWi n	1	4.333333333	.	4.333333333	4.333333333	.	.	.
		333433		333433	333433			

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
SteerHWin - Windhoek	Negative Ranks	30 ^a	34.78	1043.50
	Positive Ranks	29 ^b	25.05	726.50
	Ties	10 ^c		
	Total	69		
SteerMWin - Windhoek	Negative Ranks	15 ^d	13.57	203.50
	Positive Ranks	7 ^e	7.07	49.50
	Ties	4 ^f		
	Total	26		
SteerLWin - Windhoek	Negative Ranks	1 ^g	1.00	1.00
	Positive Ranks	0 ^h	.00	.00
	Ties	0 ⁱ		
	Total	1		

- a. SteerHWin < Windhoek
- b. SteerHWin > Windhoek
- c. SteerHWin = Windhoek
- d. SteerMWin < Windhoek
- e. SteerMWin > Windhoek
- f. SteerMWin = Windhoek
- g. SteerLWin < Windhoek
- h. SteerLWin > Windhoek
- i. SteerLWin = Windhoek



Test Statistics^a

	SteerHWin - Windhoek	SteerMWin - Windhoek
Z	-1.201 ^b	-2.513 ^b
Asymp. Sig. (2-tailed)	.230	.012

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

3. Windhoek /Steers

3.2 Windhoek Medium

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerHWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerMWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.043	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerSWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.285	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

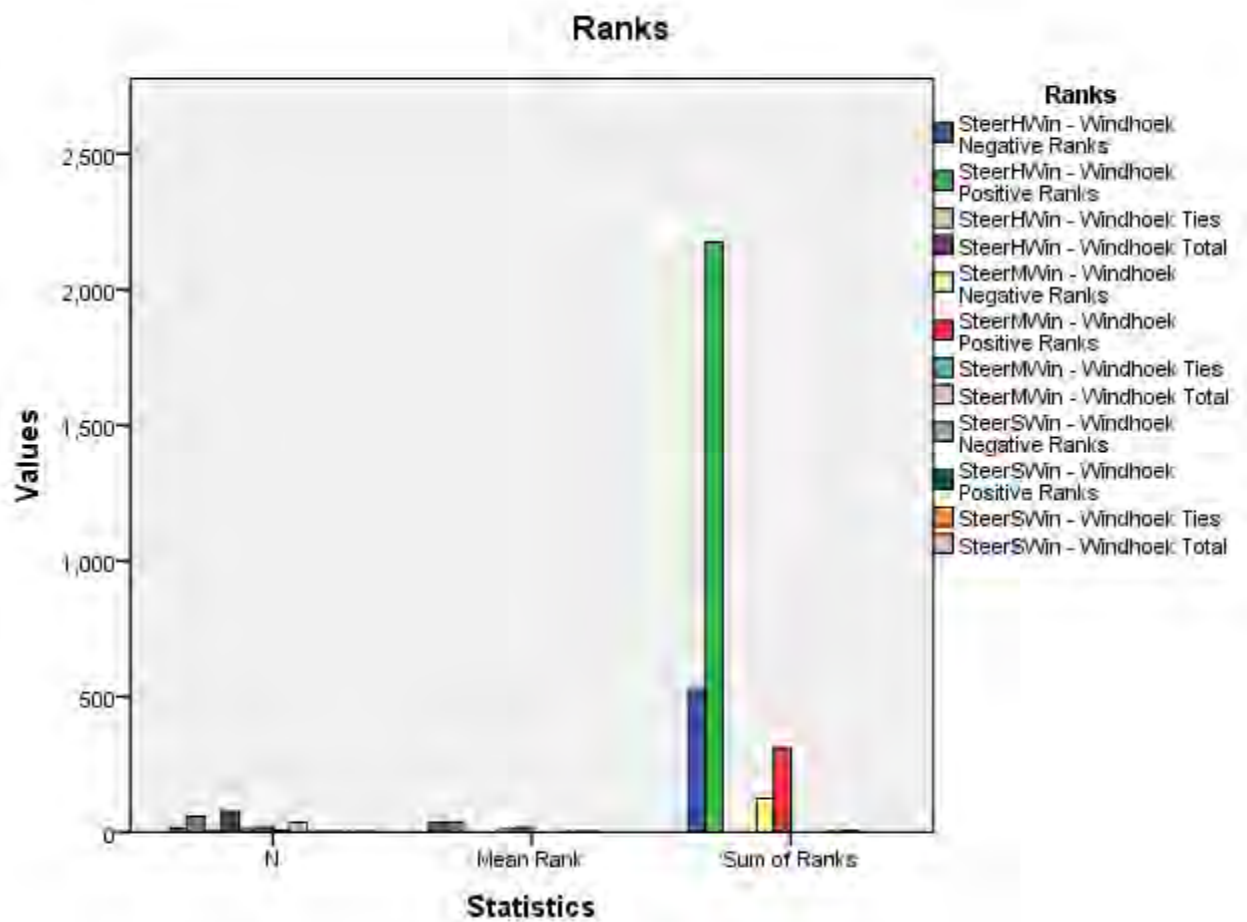
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Windhoek	77	4.090909090 909190	.7027231152 55684	3.000000000 0001000	5.000000000 0001000	3.583333333 333433	4.000000000 000100	4.666666666 666767
Windhoek	36	4.115740740 740842	.7257392995 17632	3.000000000 0001000	5.000000000 0001000	3.541666666 666766	4.166666666 666766	4.916666666 666767
Windhoek	4	3.500000000 000100	.6382847385 04325	3.000000000 0001000	4.333333333 3334330	3.000000000 000100	3.333333333 333433	4.166666666 666767
SteerHWi n	77	5.008658008 658109	1.478623536 038791	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	5.333333333 333433	6.000000000 000100
SteerMWi n	36	4.453703703 703805	1.154433215 644347	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	4.500000000 000100	5.000000000 000100
SteerSWi n	4	3.833333333 333433	.1924500897 29975	3.666666666 6667664	4.000000000 0001000	3.666666666 666766	3.833333333 333433	4.000000000 000100

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
SteerHWin - Windhoek	Negative Ranks	15 ^a	35.07	526.00
	Positive Ranks	58 ^b	37.50	2175.00
	Ties	4 ^c		
	Total	77		
SteerMWin - Windhoek	Negative Ranks	11 ^d	11.32	124.50
	Positive Ranks	18 ^e	17.25	310.50
	Ties	7 ^f		
	Total	36		
SteerSWin - Windhoek	Negative Ranks	1 ^g	1.00	1.00
	Positive Ranks	2 ^h	2.50	5.00
	Ties	1 ⁱ		
	Total	4		

- a. SteerHWin < Windhoek
- b. SteerHWin > Windhoek
- c. SteerHWin = Windhoek
- d. SteerMWin < Windhoek
- e. SteerMWin > Windhoek
- f. SteerMWin = Windhoek
- g. SteerSWin < Windhoek
- h. SteerSWin > Windhoek
- i. SteerSWin = Windhoek



Test Statistics^a

	SteerHWin - Windhoek	SteerMWin - Windhoek	SteerSWin - Windhoek
Z	-4.541 ^b	-2.025 ^b	-1.069 ^b
Asymp. Sig. (2-tailed)	.000	.043	.285

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

3. Windhoek /Steers

3.3 Windhoek Low

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerHWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerMWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.005	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and SteerLWin equals 0.	Related-Samples Wilcoxon Signed Rank Test	.593	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

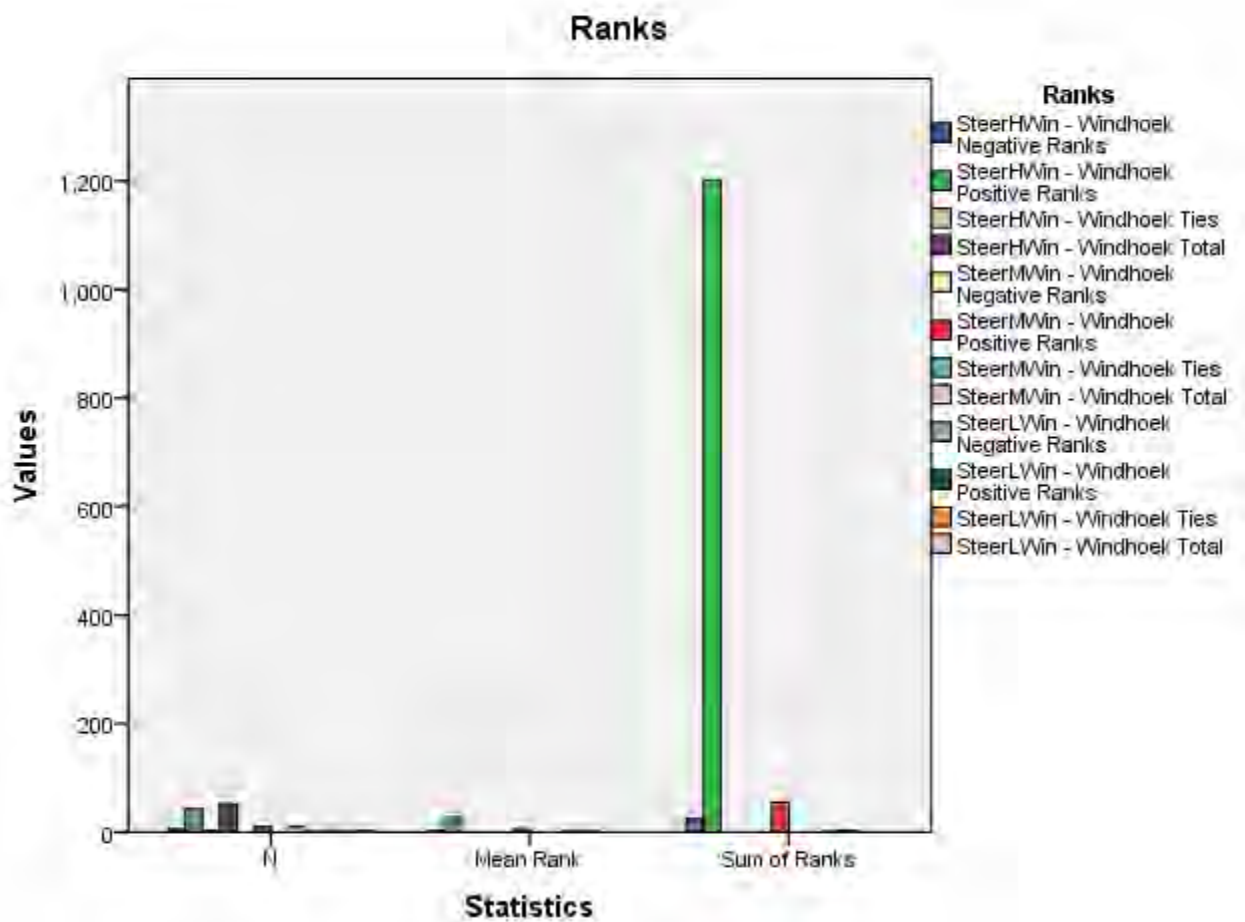
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Windhoek	52	2.044871794	.5454459755	1.000000000	2.666666666	1.666666666	2.000000000	2.666666666
		871894	25811	0001000	6667664	666767	000100	666766
Windhoek	10	1.850000000	.5238155362	1.000000000	2.500000000	1.500000000	2.000000000	2.333333333
		000100	81130	0001000	0001000	000100	000100	333433
Windhoek	4	1.916666666	.6309898162	1.000000000	2.333333333	1.250000000	2.166666666	2.333333333
		666767	00131	0001000	3334334	000100	666767	333433
SteerHWi n	52	4.391025641	1.674779150	1.000000000	7.000000000	3.333333333	4.333333333	5.666666666
		025742	199918	0001000	0001000	333433	333433	666767
SteerMWi n	10	3.866666666	.9454243282	2.666666666	5.333333333	3.000000000	3.666666666	5.000000000
		666766	74884	6667664	3334330	000100	666766	000100
SteerLWi n	4	2.416666666	2.043508239	1.000000000	5.333333333	1.000000000	1.666666666	4.583333333
		666766	750047	0001000	3334330	000100	666767	333433

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
SteerHWin - Windhoek	Negative Ranks	6 ^a	4.08	24.50
	Positive Ranks	43 ^b	27.92	1200.50
	Ties	3 ^c		
	Total	52		
SteerMWin - Windhoek	Negative Ranks	0 ^d	.00	.00
	Positive Ranks	10 ^e	5.50	55.00
	Ties	0 ^f		
	Total	10		
SteerLWin - Windhoek	Negative Ranks	1 ^g	2.00	2.00
	Positive Ranks	2 ^h	2.00	4.00
	Ties	1 ⁱ		
	Total	4		

- a. SteerHWin < Windhoek
- b. SteerHWin > Windhoek
- c. SteerHWin = Windhoek
- d. SteerMWin < Windhoek
- e. SteerMWin > Windhoek
- f. SteerMWin = Windhoek
- g. SteerLWin < Windhoek
- h. SteerLWin > Windhoek
- i. SteerLWin = Windhoek



Test Statistics^a

	SteerHWin - Windhoek	SteerMWin - Windhoek	SteerLWin - Windhoek
Z	-5.854 ^b	-2.812 ^b	-.535 ^b
Asymp. Sig. (2-tailed)	.000	.005	.593

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

4. Windhoek /KFC

4.1 Windhoek High

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFC is equal to 0.	Related-Samples Wilcoxon Signed Rank Test	.082	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFC is equal to 0.	Related-Samples Wilcoxon Signed Rank Test	.001	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFC is equal to 0.	Related-Samples Wilcoxon Signed Rank Test	.109	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

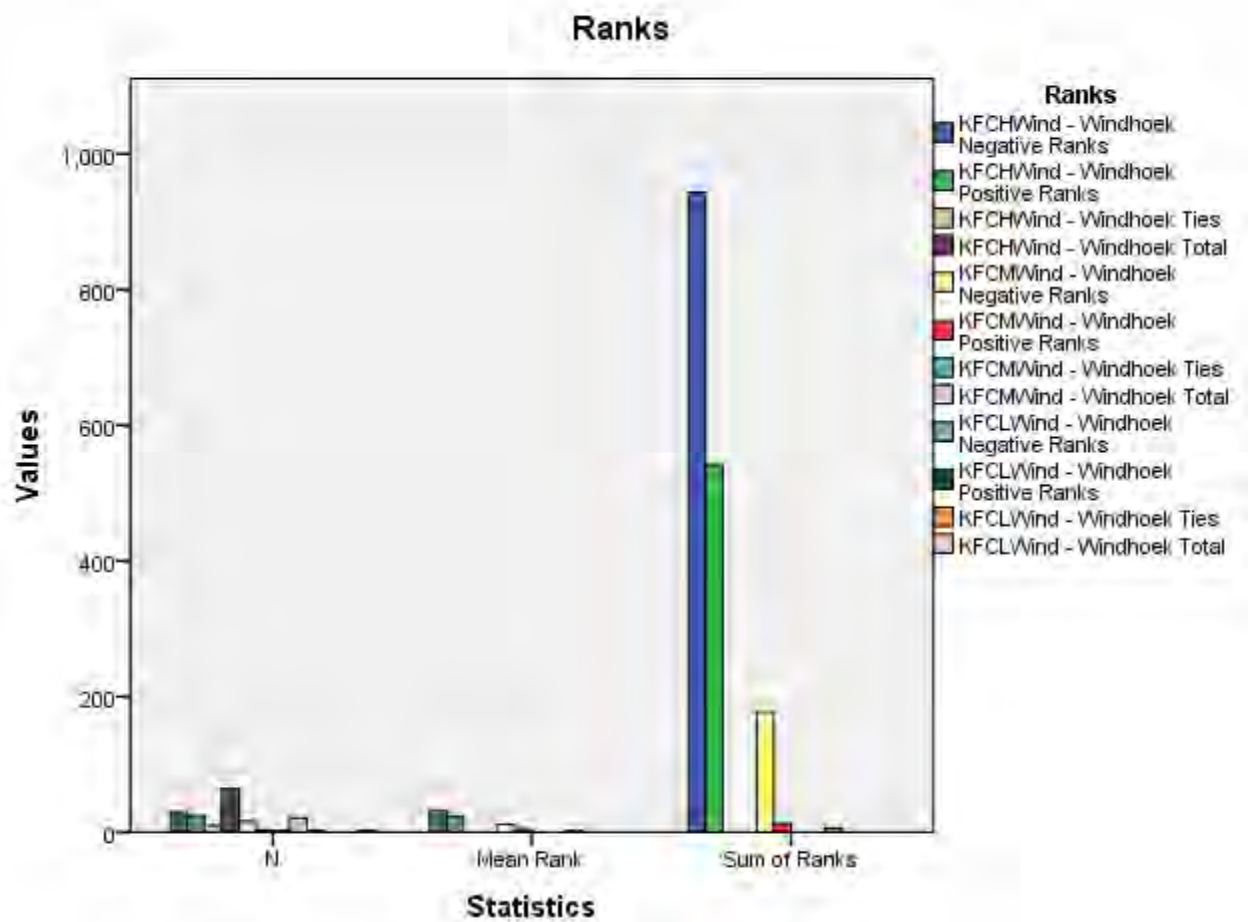
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Windhoek	64	6.015625000 000099	.5553322964 09760	5.333333333 333433	7.000000000 000100	5.666666666 666767	6.000000000 000100	6.333333333 333433
Windhoek	21	5.968253968 254069	.6046556587 08811	5.333333333 333433	7.000000000 000100	5.333333333 333433	6.000000000 000100	6.333333333 333433
Windhoek	3	6.444444444 444544	.5091750772 17415	6.000000000 000100	7.000000000 000100	6.000000000 000100	6.333333333 333433	7.000000000 000100
KFCHWind	64	5.437500000 000101	1.770695217 147371	1.000000000 0001000	7.000000000 0001000	5.000000000 000100	6.000000000 000100	7.000000000 000100
KFCMWind	21	4.015873015 873115	1.700412337 170739	1.000000000 0001000	6.500000000 0001000	3.000000000 000100	4.500000000 000100	5.333333333 333434
KFCLWind	3	3.444444444 444545	2.834966849 371894	1.333333333 3334332	6.666666666 6667670	1.333333333 333433	2.333333333 333433	6.666666666 666767

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
KFCHWind - Windhoek	Negative Ranks	30 ^a	31.45	943.50
	Positive Ranks	24 ^b	22.56	541.50
	Ties	10 ^c		
	Total	64		
KFCMWind - Windhoek	Negative Ranks	16 ^d	11.09	177.50
	Positive Ranks	3 ^e	4.17	12.50
	Ties	2 ^f		
	Total	21		
KFCLWind - Windhoek	Negative Ranks	3 ^g	2.00	6.00
	Positive Ranks	0 ^h	.00	.00
	Ties	0 ⁱ		
	Total	3		

- a. KFCHWind < Windhoek
- b. KFCHWind > Windhoek
- c. KFCHWind = Windhoek
- d. KFCMWind < Windhoek
- e. KFCMWind > Windhoek
- f. KFCMWind = Windhoek
- g. KFCLWind < Windhoek
- h. KFCLWind > Windhoek
- i. KFCLWind = Windhoek



Test Statistics^a

	KFCHWind - Windhoek	KFCMWind - Windhoek	KFCLWind - Windhoek
Z	-1.738 ^b	-3.325 ^b	-1.604 ^b
Asymp. Sig. (2-tailed)	.082	.001	.109

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

4. Windhoek /KFC

4.2 Windhoek Medium

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFC is equal to 0.	Related-Samples Wilcoxon Signed Rank Test	.005	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFC is equal to 0.	Related-Samples Wilcoxon Signed Rank Test	.451	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFC is equal to 0.	Related-Samples Wilcoxon Signed Rank Test	.042	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

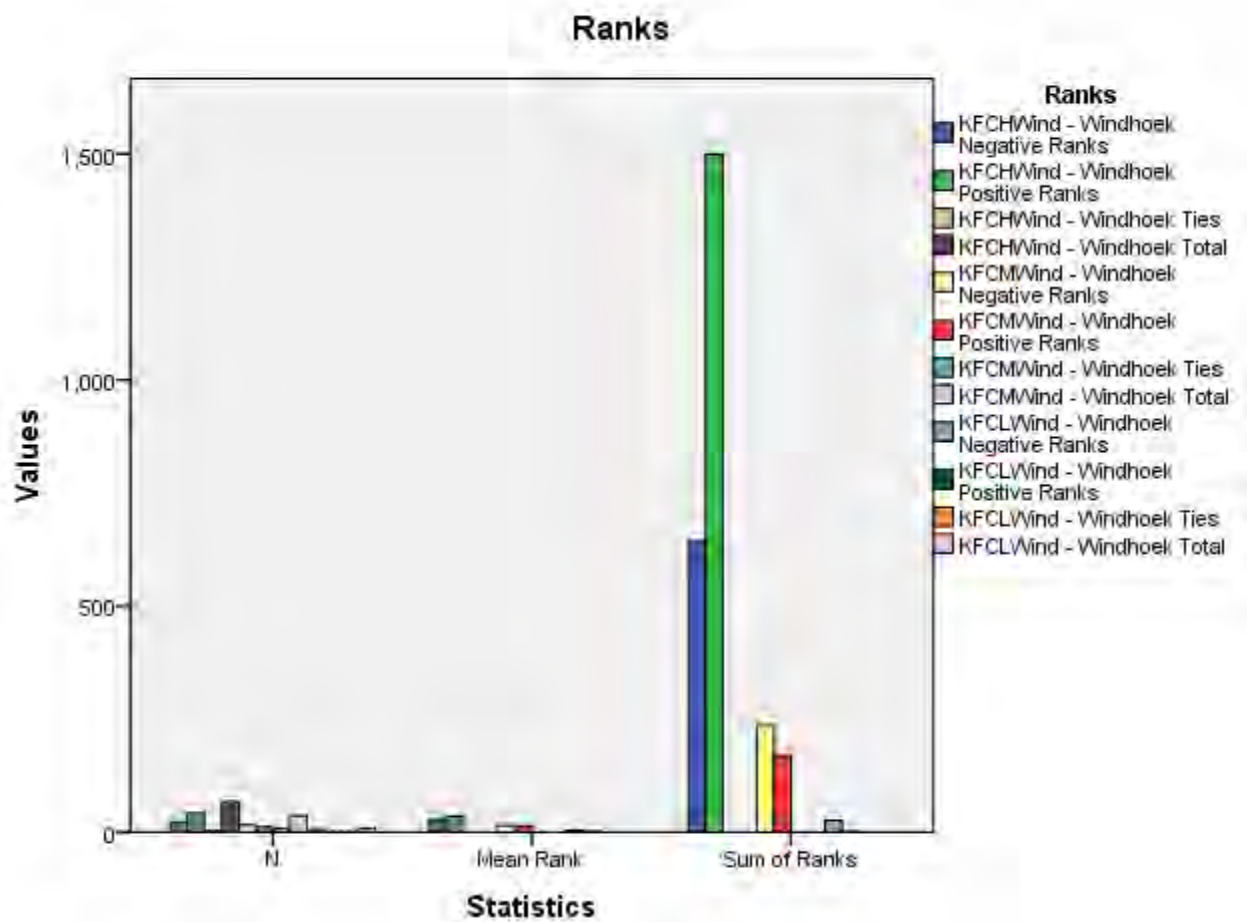
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Windhoek	68	4.139705882 353041	.7173578144 33314	3.000000000 0001000	5.000000000 0001000	3.541666666 666766	4.166666666 666766	4.916666666 666767
Windhoek	36	4.004629629 629731	.7458734212 27742	3.000000000 0001000	5.000000000 0001000	3.083333333 333433	4.000000000 000100	4.666666666 666767
Windhoek	8	4.166666666 666767	.3984095364 44898	3.666666666 6667664	5.000000000 0001000	4.000000000 000100	4.000000000 000100	4.333333333 333433
KFCHWind	68	4.725490196 078530	1.665363845 494300	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	5.000000000 000100	6.000000000 000100
KFCMWind	36	3.763888888 888990	1.551433029 313465	1.000000000 0001000	6.666666666 6667670	2.750000000 000100	4.166666666 666766	4.916666666 666767
KFCLWind	8	2.500000000 000100	1.935466803 133583	1.000000000 0001000	5.333333333 3334330	1.000000000 000100	1.333333333 333433	4.750000000 000100

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
KFCHWind - Windhoek	Negative Ranks	23 ^a	28.07	645.50
	Positive Ranks	42 ^b	35.70	1499.50
	Ties	3 ^c		
	Total	68		
KFCMWind - Windhoek	Negative Ranks	16 ^d	14.75	236.00
	Positive Ranks	12 ^e	14.17	170.00
	Ties	8 ^f		
	Total	36		
KFCLWind - Windhoek	Negative Ranks	6 ^g	4.33	26.00
	Positive Ranks	1 ^h	2.00	2.00
	Ties	1 ⁱ		
	Total	8		

- a. KFCHWind < Windhoek
- b. KFCHWind > Windhoek
- c. KFCHWind = Windhoek
- d. KFCMWind < Windhoek
- e. KFCMWind > Windhoek
- f. KFCMWind = Windhoek
- g. KFCLWind < Windhoek
- h. KFCLWind > Windhoek
- i. KFCLWind = Windhoek



Test Statistics^a

	KFCHWind - Windhoek	KFCMWind - Windhoek	KFCLWind - Windhoek
Z	-2.797 ^b	-.754 ^c	-2.032 ^c
Asymp. Sig. (2-tailed)	.005	.451	.042

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

4. Windhoek /KFC

4.3 Windhoek Low

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFC Wind equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFCM Wind equals 0.	Related-Samples Wilcoxon Signed Rank Test	.003	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Windhoek and KFCL Wind equals 0.	Related-Samples Wilcoxon Signed Rank Test	.786	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

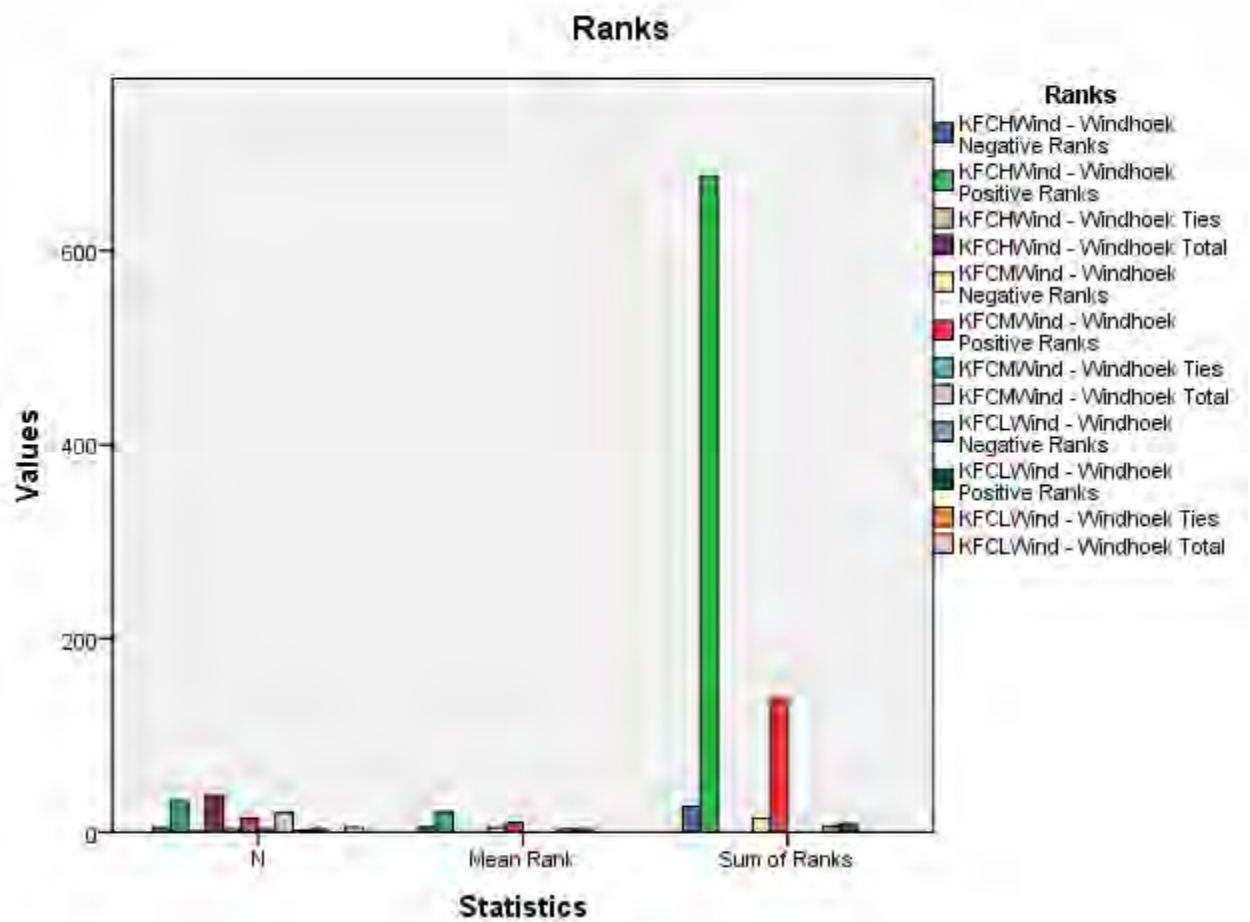
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Windhoek	38	1.938596491	.5907457655	1.000000000	2.666666666	1.458333333	2.000000000	2.541666666
		228170	43007	0001000	6667664	333433	000100	666766
Windhoek	20	2.008333333	.5579699000	1.000000000	2.666666666	1.666666666	2.166666666	2.333333333
		333433	45546	0001000	6667664	666767	666767	333433
Windhoek	5	1.800000000	.5055250296	1.000000000	2.333333333	1.333333333	2.000000000	2.166666666
		000100	03537	0001000	3334334	333433	000100	666767
KFCHWind	38	4.109649122	1.732170571	1.000000000	7.000000000	3.000000000	3.833333333	5.083333333
d		807118	442989	0001000	0001000	000100	333433	333433
KFCMWind	20	3.325000000	1.656526168	1.000000000	6.333333333	1.833333333	3.250000000	4.750000000
d		000100	633853	0001000	3334330	333433	000100	000100
KFCLWind	5	2.400000000	1.639783183	1.000000000	5.000000000	1.000000000	2.333333333	3.833333333
d		000100	499946	0001000	0001000	000100	333433	333433

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
KFCHWind - Windhoek	Negative Ranks	5 ^a	5.30	26.50
	Positive Ranks	32 ^b	21.14	676.50
	Ties	1 ^c		
	Total	38		
KFCMWind - Windhoek	Negative Ranks	3 ^d	4.83	14.50
	Positive Ranks	14 ^e	9.89	138.50
	Ties	3 ^f		
	Total	20		
KFCLWind - Windhoek	Negative Ranks	2 ^g	3.25	6.50
	Positive Ranks	3 ^h	2.83	8.50
	Ties	0 ⁱ		
	Total	5		

- a. KFCHWind < Windhoek
- b. KFCHWind > Windhoek
- c. KFCHWind = Windhoek
- d. KFCMWind < Windhoek
- e. KFCMWind > Windhoek
- f. KFCMWind = Windhoek
- g. KFCLWind < Windhoek
- h. KFCLWind > Windhoek
- i. KFCLWind = Windhoek



Test Statistics^a

	KFCHWind - Windhoek	KFCMWind - Windhoek	KFCLWind - Windhoek
Z	-4.907 ^b	-2.940 ^b	-.271 ^b
Asymp. Sig. (2-tailed)	.000	.003	.786

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

5. Samuel Adams /Spur

5.1 Samuel Adams High

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between samples SamAdam and SpurHSada equals 0.	Related-Samples Wilcoxon Signed Rank Test	.628	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

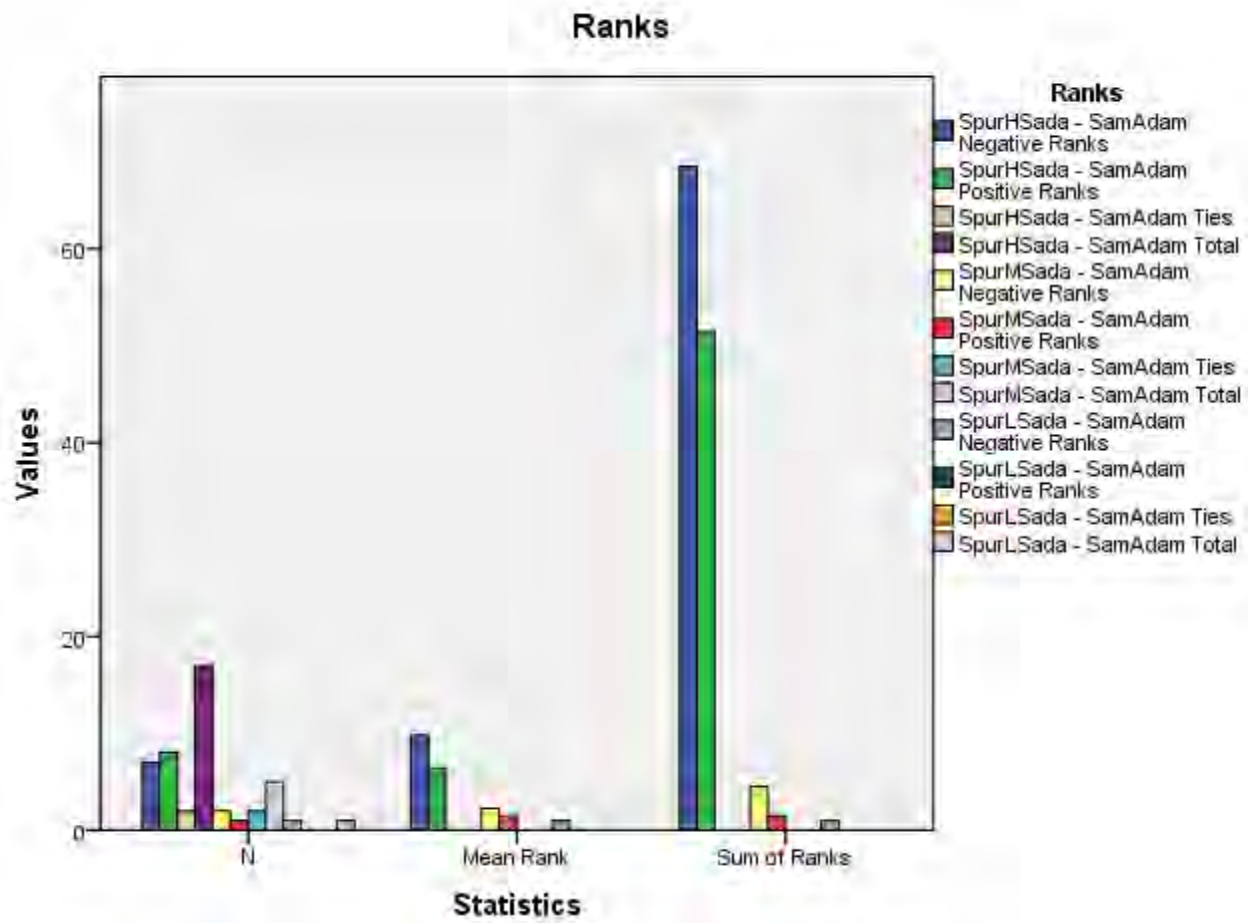
Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
SamAdam	17	6.235294117	.6320678792	5.333333333	7.000000000	5.666666666	6.333333333	7.000000000
		647160	04200	333433	000100	666767	333433	000100
SamAdam	5	6.000000000	.9128709291	5.333333333	7.000000000	5.333333333	5.333333333	7.000000000
		000100	75377	333433	000100	333433	333433	000100
SamAdam	1	5.666666666	.	5.666666666	5.666666666	.	.	.
		666767		666767	666767			
SpurHSada	17	5.882352941	1.545338763	1.666666666	7.000000000	5.000000000	6.666666666	7.000000000
a		176571	968970	666767	000100	000100	666767	000100
SpurMSada	5	5.266666666	1.382429423	3.333333333	7.000000000	4.000000000	5.333333333	6.500000000
a		666767	555281	3334334	0001000	000100	333433	000100
SpurLSada	1	3.00	.	3	3	.	.	.
a								

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SpurHSada - SamAdam	Negative Ranks	7 ^a	9.79	68.50
	Positive Ranks	8 ^b	6.44	51.50
	Ties	2 ^c		
	Total	17		
SpurMSada - SamAdam	Negative Ranks	2 ^d	2.25	4.50
	Positive Ranks	1 ^e	1.50	1.50
	Ties	2 ^f		
	Total	5		
SpurLSada - SamAdam	Negative Ranks	1 ^g	1.00	1.00
	Positive Ranks	0 ^h	.00	.00
	Ties	0 ⁱ		
	Total	1		

- a. SpurHSada < SamAdam
- b. SpurHSada > SamAdam
- c. SpurHSada = SamAdam
- d. SpurMSada < SamAdam
- e. SpurMSada > SamAdam
- f. SpurMSada = SamAdam
- g. SpurLSada < SamAdam
- h. SpurLSada > SamAdam
- i. SpurLSada = SamAdam



Test Statistics^a

	SpurHSada - SamAdam	SpurMSada - SamAdam
Z	-.484 ^b	-.816 ^b
Asymp. Sig. (2-tailed)	.628	.414

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

5. Samuel Adams /Spur

5.2 Samuel Adams Medium

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and SpurMSada equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and SpurMSada equals 0.	Related-Samples Wilcoxon Signed Rank Test	.001	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and SpurLSada equals 0.	Related-Samples Wilcoxon Signed Rank Test	.593	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

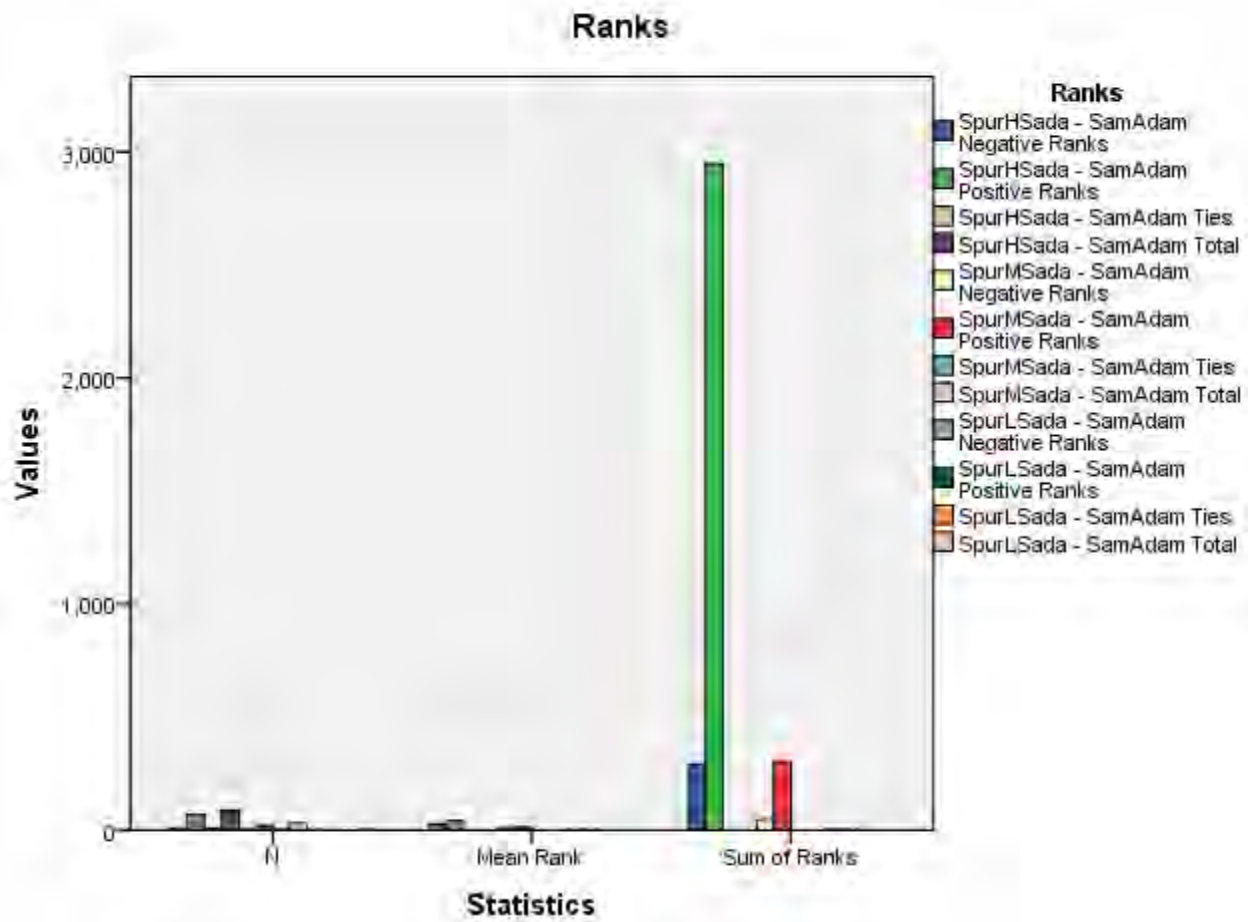
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
SamAdam	89	3.707865168 539426	.6088991240 18236	3.000000000 0001000	5.000000000 0001000	3.000000000 000100	4.000000000 000100	4.000000000 000100
SamAdam	31	3.865591397 849562	.6000298678 34949	3.000000000 0001000	5.000000000 0001000	3.333333333 333433	4.000000000 000100	4.333333333 333433
SamAdam	3	3.888888888 888989	.8388704928 07962	3.000000000 000100	4.666666666 666767	3.000000000 000100	4.000000000 000100	4.666666666 666767
SpurHSada	89	5.061797752 809088	1.416083218 195089	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	5.333333333 333433	6.000000000 000100
SpurMSada	31	4.752688172 043110	1.067942785 038088	2.666666666 6667664	6.666666666 6667670	4.000000000 000100	5.000000000 000100	5.666666666 666767
SpurLSada	3	3.555555555 555655	3.097191081 059290	1.000000000 0001000	7.000000000 0001000	1.000000000 000100	2.666666666 666766	7.000000000 000100

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
SpurHSada - SamAdam	Negative Ranks	11 ^a	26.59	292.50
	Positive Ranks	69 ^b	42.72	2947.50
	Ties	9 ^c		
	Total	89		
SpurMSada - SamAdam	Negative Ranks	4 ^d	11.75	47.00
	Positive Ranks	22 ^e	13.82	304.00
	Ties	5 ^f		
	Total	31		
SpurLSada - SamAdam	Negative Ranks	2 ^g	2.00	4.00
	Positive Ranks	1 ^h	2.00	2.00
	Ties	0 ⁱ		
	Total	3		

- a. SpurHSada < SamAdam
- b. SpurHSada > SamAdam
- c. SpurHSada = SamAdam
- d. SpurMSada < SamAdam
- e. SpurMSada > SamAdam
- f. SpurMSada = SamAdam
- g. SpurLSada < SamAdam
- h. SpurLSada > SamAdam
- i. SpurLSada = SamAdam



Test Statistics^a

	SpurHSada - SamAdam	SpurMSada - SamAdam	SpurLSada - SamAdam
Z	-6.383 ^b	-3.270 ^b	-.535 ^c
Asymp. Sig. (2-tailed)	.000	.001	.593

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

5. Samuel Adams /Spur

5.3 Samuel Adams Low

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and SpurHSada equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

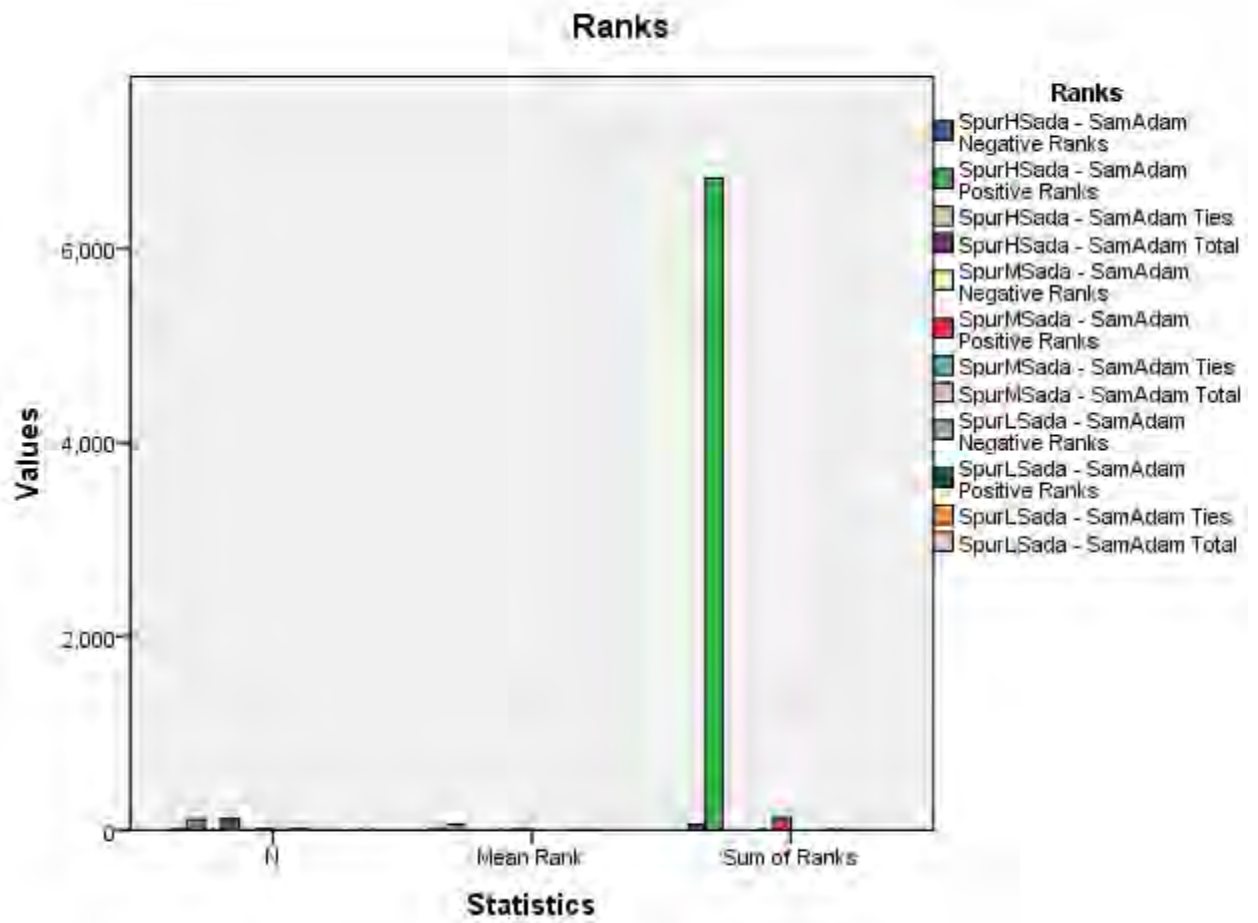
Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
SamAdam	119	1.588235294 117747	.5556690921 98300	1.000000000 0001000	2.666666666 6667664	1.000000000 000100	1.666666666 666767	2.000000000 000100
SamAdam	17	1.598039215 686375	.4967212761 13567	1.000000000 0001000	2.500000000 0001000	1.000000000 000100	1.666666666 666767	2.000000000 000100
SamAdam	3	2.111111111 111211	.1924500897 29975	2.000000000 0001000	2.333333333 3334334	2.000000000 000100	2.000000000 000100	2.333333333 333433
SpurHSada	119	4.379551820 728391	1.572468576 650121	1.000000000 0001000	7.000000000 0001000	3.000000000 000100	4.333333333 333433	5.666666666 666767
SpurMSada	17	3.588235294 117747	1.283059558 269068	1.000000000 0001000	5.333333333 3334330	2.666666666 666767	4.000000000 000100	4.333333333 333433
SpurLSada	3	1.888888888 888989	.8388704928 07961	1.000000000 0001000	2.666666666 6667664	1.000000000 000100	2.000000000 000100	2.666666666 666766

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SpurHSada - SamAdam	Negative Ranks	6 ^a	9.67	58.00
	Positive Ranks	110 ^b	61.16	6728.00
	Ties	3 ^c		
	Total	119		
SpurMSada - SamAdam	Negative Ranks	1 ^d	3.00	3.00
	Positive Ranks	15 ^e	8.87	133.00
	Ties	1 ^f		
	Total	17		
SpurLSada - SamAdam	Negative Ranks	2 ^g	2.00	4.00
	Positive Ranks	1 ^h	2.00	2.00
	Ties	0 ⁱ		
	Total	3		

- a. SpurHSada < SamAdam
- b. SpurHSada > SamAdam
- c. SpurHSada = SamAdam
- d. SpurMSada < SamAdam
- e. SpurMSada > SamAdam
- f. SpurMSada = SamAdam
- g. SpurLSada < SamAdam
- h. SpurLSada > SamAdam
- i. SpurLSada = SamAdam



Test Statistics^a

	SpurHSada - SamAdam	SpurMSada - SamAdam	SpurLSada - SamAdam
Z	-9.195 ^b	-3.367 ^b	-.535 ^c
Asymp. Sig. (2-tailed)	.000	.001	.593

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

6. Samuel Adams /McDonalds

6.1 Samuel Adams High

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and McDHSad equals 0	Related-Samples Wilcoxon Signed Rank Test	.083	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
SamAdam	12	6.22222222222222	.7153911599	5.3333333333	7.0000000000	5.4166666666	6.3333333333	7.0000000000
m		222323	84980	333433	000100	666767	333433	000100
McDHSad	12	5.5277777777	1.242824522	3.0000000000	7.0000000000	4.5000000000	5.6666666666	6.5833333333
d		777877	856321	000100	000100	000100	666766	333433

Wilcoxon Signed Ranks Test

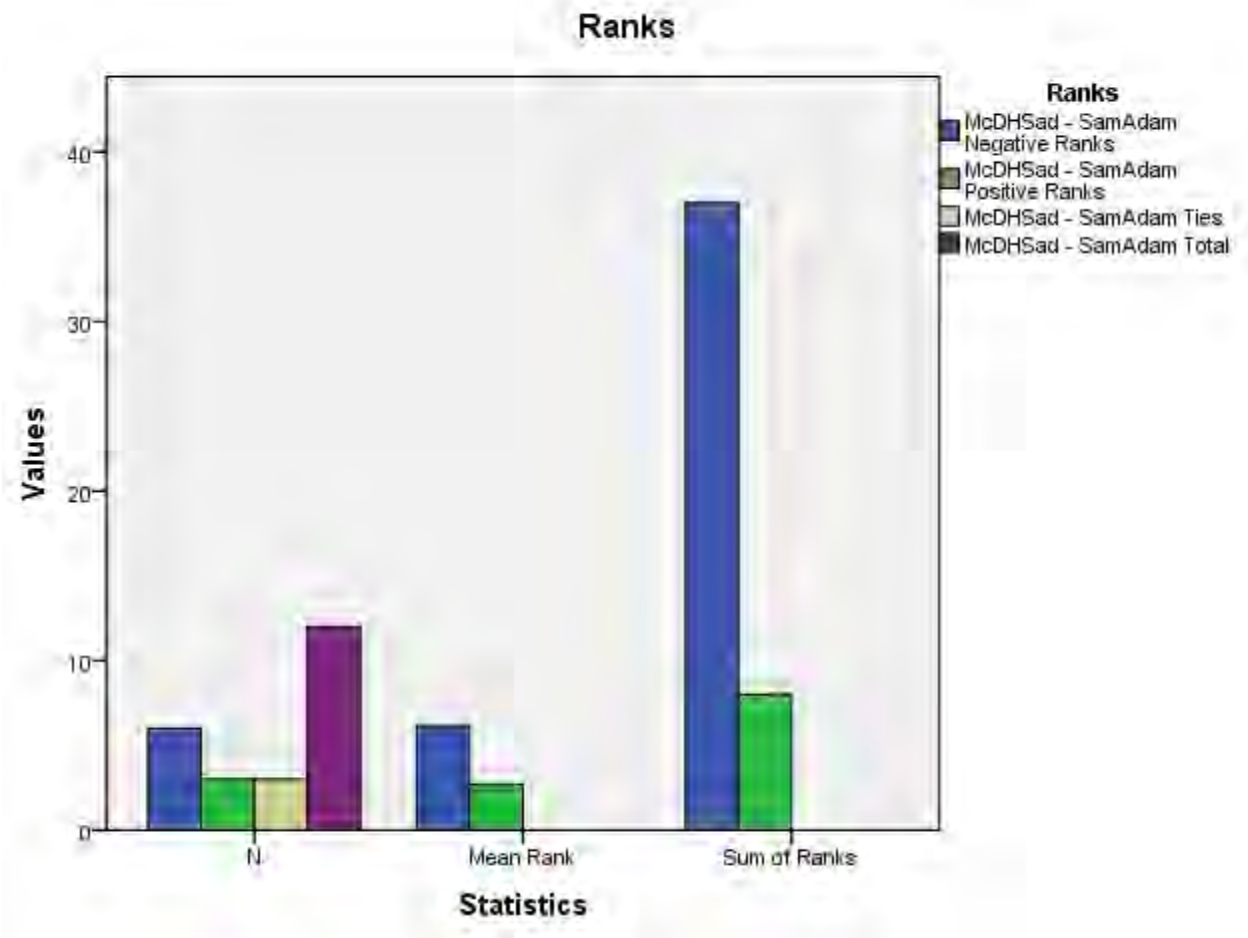
Ranks

		N	Mean Rank	Sum of Ranks
McDHSad - SamAdam	Negative Ranks	6 ^a	6.17	37.00
	Positive Ranks	3 ^b	2.67	8.00
	Ties	3 ^c		
	Total	12		

a. McDHSad < SamAdam

b. McDHSad > SamAdam

c. McDHSad = SamAdam



Test Statistics^a

	McDHSad - SamAdam
Z	-1.735 ^b
Asymp. Sig. (2-tailed)	.083

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

6. Samuel Adams /McDonalds

6.2 Samuel Adams Medium

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and McDHSad equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and McDMSad equals 0	Related-Samples Wilcoxon Signed Rank Test	.659	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and McDLSad equals 0	Related-Samples Wilcoxon Signed Rank Test	.248	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
SamAdam	89	3.709737827 715456	.5964584503 63471	3.000000000 0001000	5.000000000 0001000	3.000000000 000100	4.000000000 000100	4.000000000 000100
McDHSad	89	4.765917602 996354	1.410127309 319056	1.000000000 0001000	7.000000000 0001000	4.000000000 000100	5.000000000 000100	6.000000000 000100

Wilcoxon Signed Ranks Test

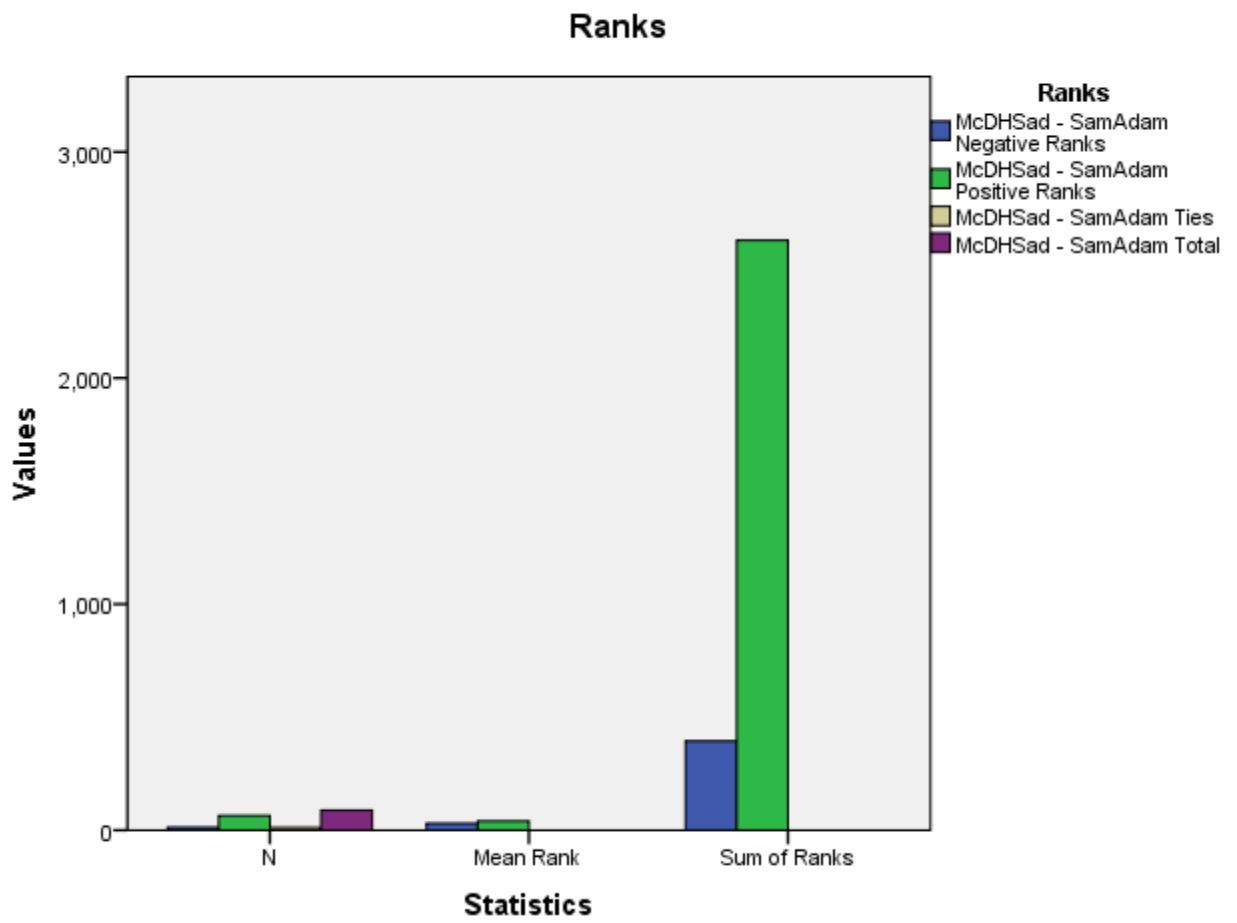
Ranks

		N	Mean Rank	Sum of Ranks
McDHSad - SamAdam	Negative Ranks	13 ^a	30.35	394.50
	Positive Ranks	64 ^b	40.76	2608.50
	Ties	12 ^c		
	Total	89		

a. McDHSad < SamAdam

b. McDHSad > SamAdam

c. McDHSad = SamAdam



Test Statistics^a

	McDHSad - SamAdam
Z	-5.629 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

6. Samuel Adams /McDonalds

6.3 Samuel Adams Low

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and McDHSad equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between SamAdam and McDMSad equals 0	Related-Samples Wilcoxon Signed Rank Test	.003	Reject the null hypothesis.

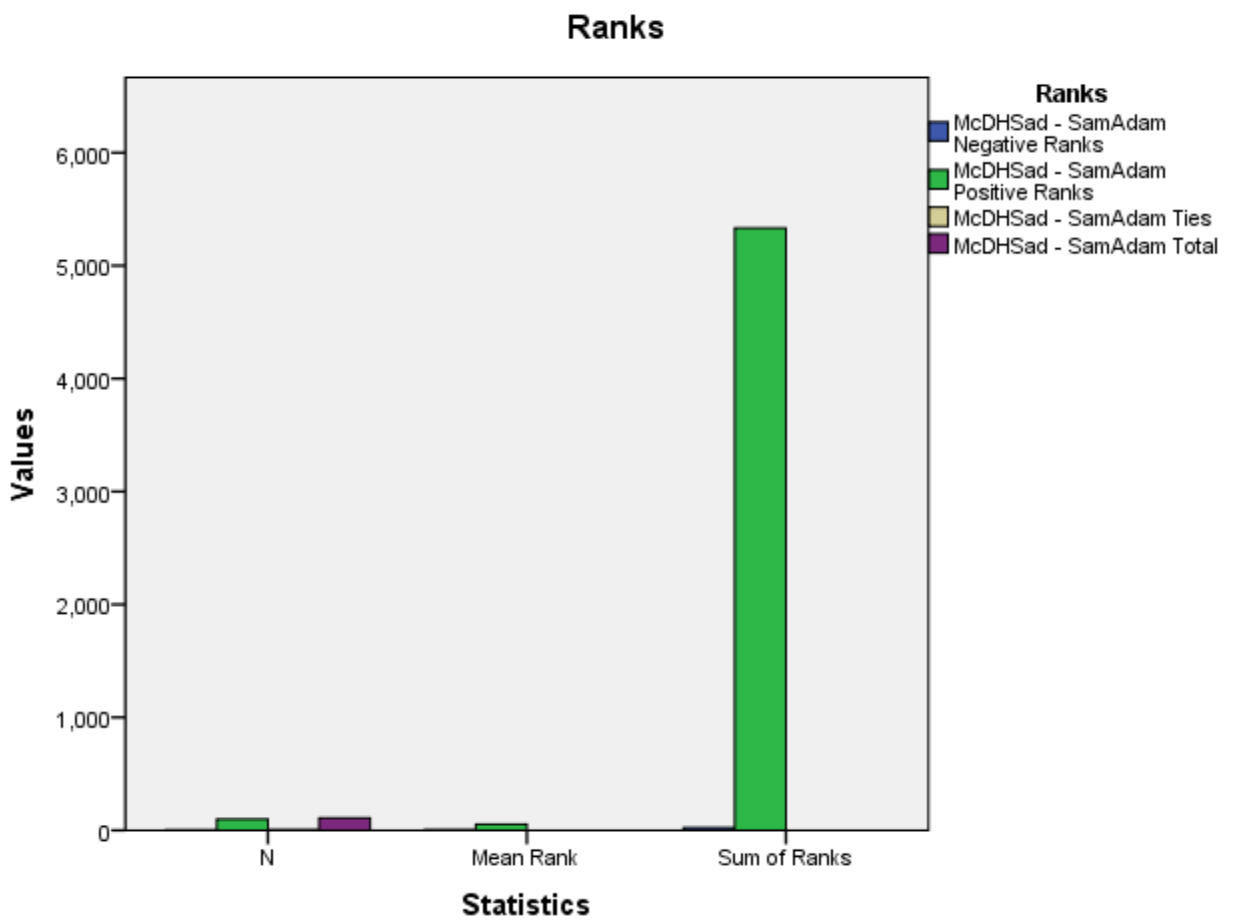
Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
SamAdam	109	1.559633027	.5520830995	1.000000000	2.666666666	1.000000000	1.333333333	2.000000000
m		523036	94654	0001000	6667664	000100	333433	000100
McDHSad	109	4.512232415	1.721282064	1.000000000	7.000000000	3.000000000	4.666666666	6.000000000
d		902241	474918	0001000	0001000	000100	666767	000100

		N	Mean Rank	Sum of Ranks
McDHSad - SamAdam	Negative Ranks	4 ^a	6.00	24.00
	Positive Ranks	99 ^b	53.86	5332.00
	Ties	6 ^c		
	Total	109		

- a. McDHSad < SamAdam
- b. McDHSad > SamAdam
- c. McDHSad = SamAdam



Test Statistics^a	
	McDHSad - SamAdam
Z	-8.737 ^b
Asymp. Sig. (2-tailed)	.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

Appendix B 3,c (ii): Testing of two related means- Wilcoxon signed-rank test

Selected respondents (high, medium or low header food brand with high, medium or low modifier beer brand)

1. Zebra/Heineken

1.1 High

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebbras and ZebHeinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.089	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebbras and ZebHeinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.144	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebbras and ZebHeinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.317	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles
						25th
Zebra	20	5.80000000000 0101	.434613493680 277	5.33333333333 3433	6.66666666666 6767	5.33333333333 3433
Zebra	5	6.13333333333 3433	.836660026534 176	5.33333333333 3433	7.00000000000 0100	5.33333333333 3433
Zebra	1	5.66666666666 6767	.	5.66666666666 6767	5.66666666666 6767	.
ZebraH	20	5.02500000000 0101	1.74908079451 2176	1.33333333333 34332	7.00000000000 01000	4.08333333333 3433
ZebraM	5	5.06666666666 6767	1.27801930084 5488	3.66666666666 67664	6.00000000000 01000	3.66666666666 6766
ZebraL	1	6.33333333333 3433	.	6.33333333333 3433	6.33333333333 3433	.

Descriptive Statistics

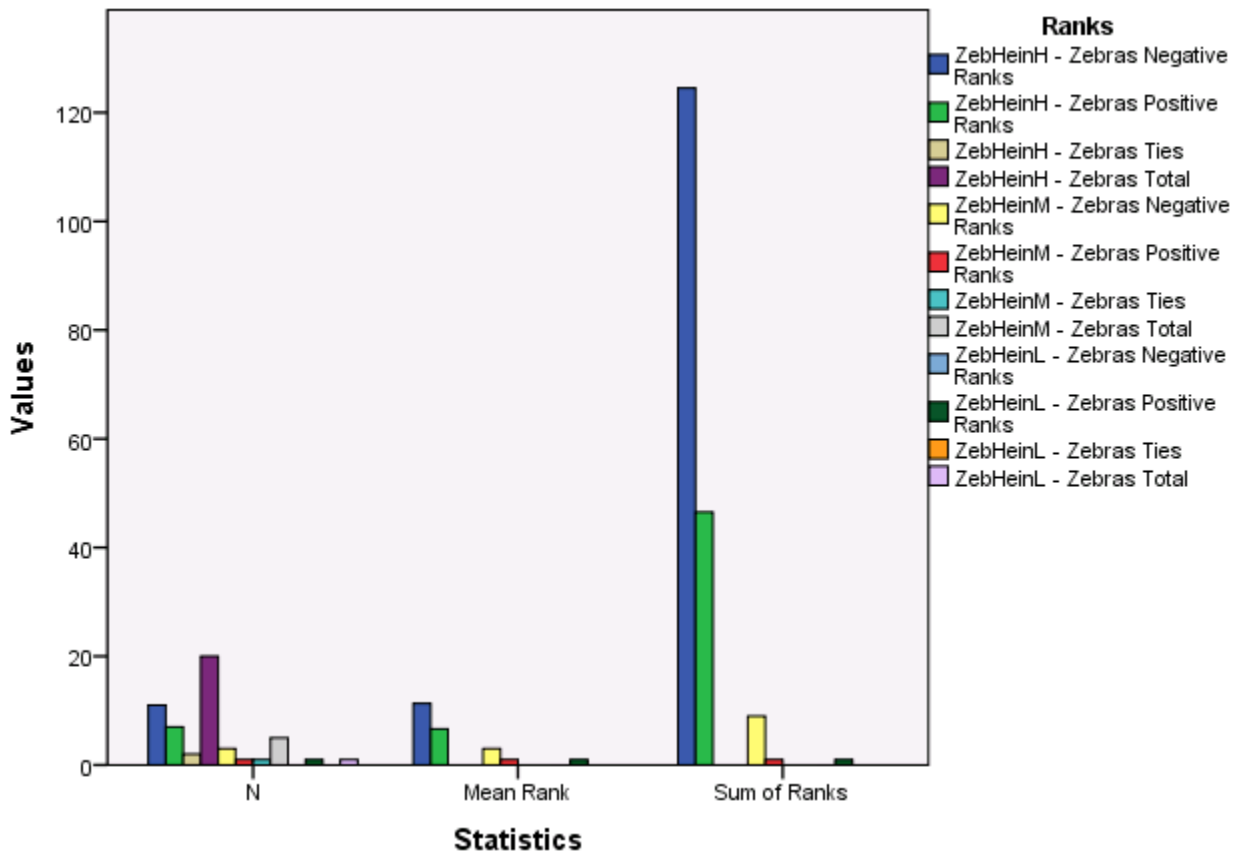
	Percentiles	
	50th (Median)	75th
Zebra	5.66666666666767	6.25000000000100
Zebra	6.00000000000100	7.00000000000100
Zebra	.	.
ZebraH	5.16666666666767	6.58333333333433
ZebraM	6.00000000000100	6.00000000000100
ZebraL	.	.

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
ZebHeinH - Zebras	Negative Ranks	11 ^a	11.32	124.50
	Positive Ranks	7 ^b	6.64	46.50
	Ties	2 ^c		
	Total	20		
ZebHeinM - Zebras	Negative Ranks	3 ^d	3.00	9.00
	Positive Ranks	1 ^e	1.00	1.00
	Ties	1 ^f		
	Total	5		
ZebHeinL - Zebras	Negative Ranks	0 ^g	.00	.00
	Positive Ranks	1 ^h	1.00	1.00
	Ties	0 ⁱ		
	Total	1		

- a. ZebHeinH < Zebras
- b. ZebHeinH > Zebras
- c. ZebHeinH = Zebras
- d. ZebHeinM < Zebras
- e. ZebHeinM > Zebras
- f. ZebHeinM = Zebras
- g. ZebHeinL < Zebras
- h. ZebHeinL > Zebras
- i. ZebHeinL = Zebras

Ranks



Test Statistics^a

	ZebHeinH - Zebras	ZebHeinM - Zebras
Z	-1.703 ^b	-1.461 ^b
Asymp. Sig. (2-tailed)	.089	.144

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

1.2 Medium

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebbras and ZebHeinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebbras and ZebHeinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.964	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebbras and ZebHeinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.556	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles
						25th
Zebra	68	3.90931372549 0297	.651210012621 592	3.00000000000 01000	5.00000000000 01000	3.33333333333 3433
Zebra	60	3.95555555555 5655	.639169266243 583	3.00000000000 01000	5.00000000000 01000	3.33333333333 3433
Zebra	21	3.59523809523 8195	.646725574145 710	3.00000000000 01000	5.00000000000 01000	3.00000000000 0100
ZebraH	68	5.02205882352 9512	1.59391057523 9903	1.00000000000 01000	7.00000000000 01000	4.33333333333 3433
ZebraM	60	3.91944444444 4545	1.41902982250 6514	1.00000000000 01000	7.00000000000 01000	3.08333333333 3433
ZebraL	21	3.43650793650 8036	1.66539634127 8948	1.00000000000 01000	7.00000000000 01000	2.00000000000 0100

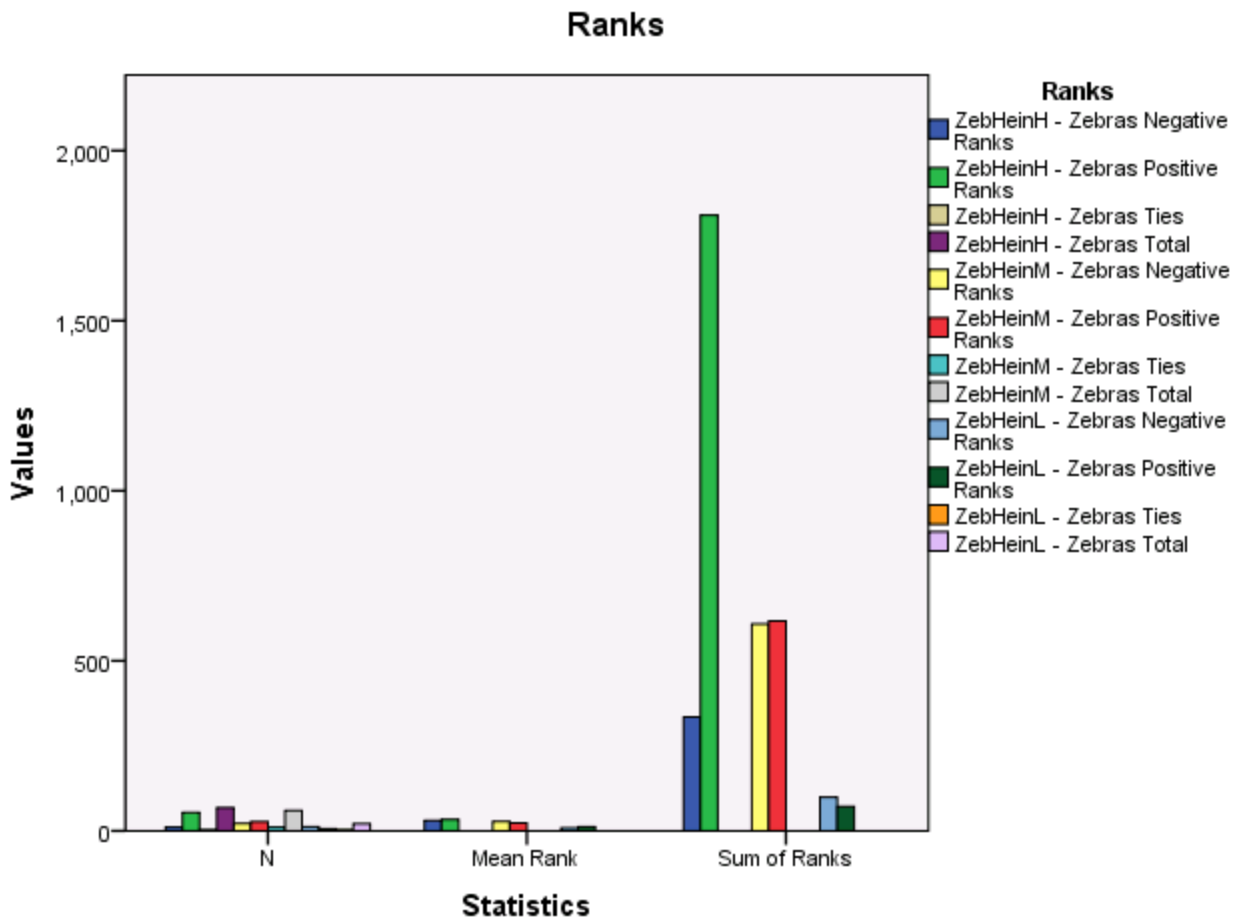
Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Zebra	4.00000000000100	4.458333333333433
Zebra	4.00000000000100	4.333333333333433
Zebra	3.333333333333433	4.00000000000100
ZebraH	5.333333333333433	6.00000000000100
ZebraM	4.00000000000100	5.00000000000100
ZebraL	3.00000000000100	4.66666666666766

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
ZebHeinH - Zebras	Negative Ranks	11 ^a	30.45	335.00
	Positive Ranks	54 ^b	33.52	1810.00
	Ties	3 ^c		
	Total	68		
ZebHeinM - Zebras	Negative Ranks	22 ^d	27.64	608.00
	Positive Ranks	27 ^e	22.85	617.00
	Ties	11 ^f		
	Total	60		
ZebHeinL - Zebras	Negative Ranks	12 ^g	8.25	99.00
	Positive Ranks	6 ^h	12.00	72.00
	Ties	3 ⁱ		
	Total	21		

- a. ZebHeinH < Zebras
- b. ZebHeinH > Zebras
- c. ZebHeinH = Zebras
- d. ZebHeinM < Zebras
- e. ZebHeinM > Zebras
- f. ZebHeinM = Zebras
- g. ZebHeinL < Zebras
- h. ZebHeinL > Zebras
- i. ZebHeinL = Zebras



Test Statistics^a

	ZebHeinH - Zebras	ZebHeinM - Zebras	ZebHeinL - Zebras
Z	-4.826 ^b	-.045 ^b	-.589 ^c
Asymp. Sig. (2-tailed)	.000	.964	.556

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

1.3 Low

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebras and ZebraHeinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebras and ZebraHeinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Zebras and ZebraHeinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.002	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Zebra	55	1.77575757575	.595091532381	1.00000000000	2.66666666666
		7676	220	01000	67664
Zebra	27	1.79012345679	.600200451901	1.00000000000	2.66666666666
		0223	633	01000	67664
Zebra	23	1.63768115942	.585282833107	1.00000000000	2.66666666666
		0390	229	01000	67664
ZebraH	55	4.16969696969	1.50051119858	1.00000000000	7.00000000000
		7070	8572	01000	01000
ZebraM	27	3.75308641975	1.64756383893	1.00000000000	7.00000000000
		3187	1840	01000	01000
ZebraL	23	2.72463768115	1.13106802978	1.00000000000	4.66666666666
		9520	8998	01000	67670

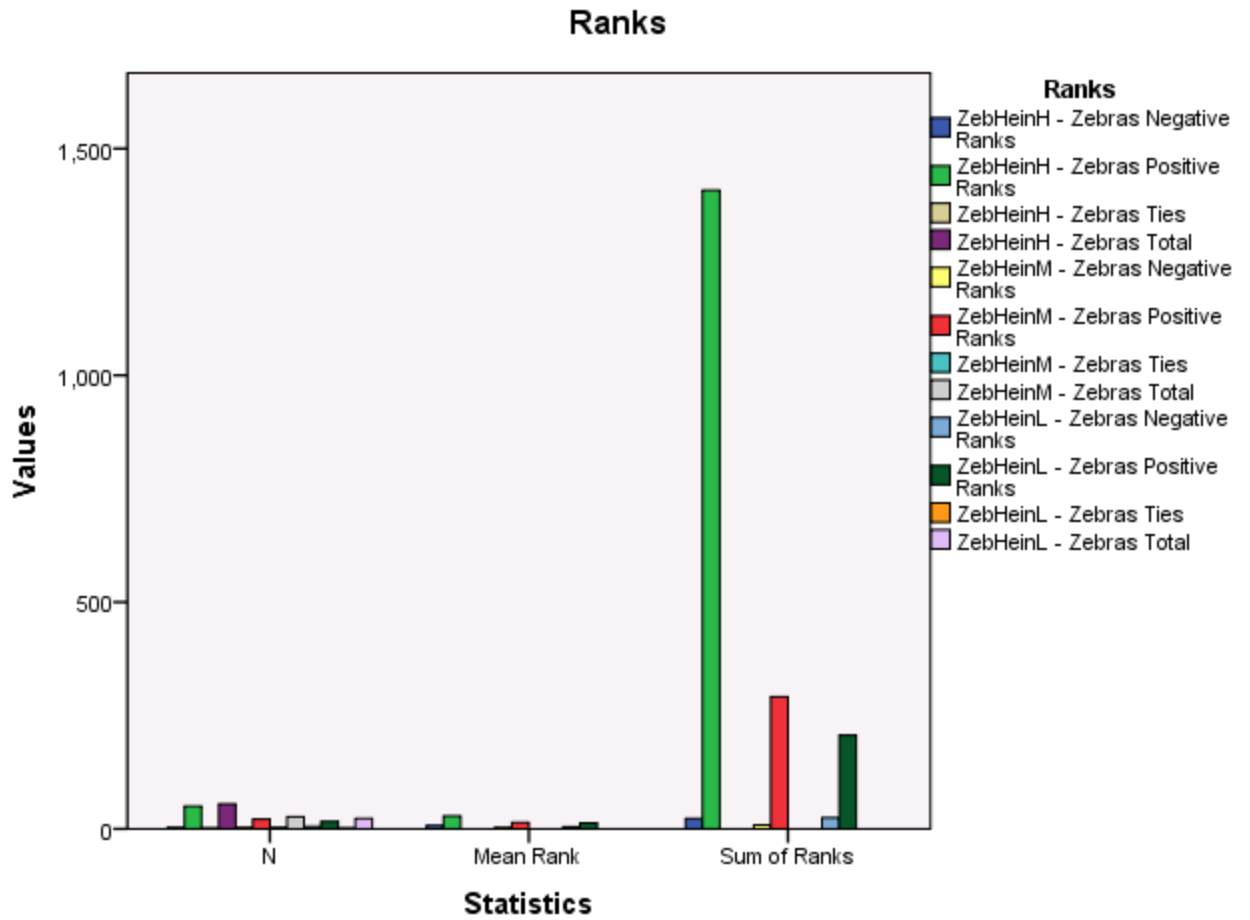
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
Zebra	1.00000000000100	2.00000000000100	2.33333333333433
Zebra	1.00000000000100	2.00000000000100	2.33333333333433
Zebra	1.00000000000100	1.33333333333433	2.00000000000100
ZebraH	3.00000000000100	4.33333333333433	5.00000000000100
ZebraM	2.00000000000100	4.00000000000100	5.00000000000100
ZebraL	1.33333333333433	3.00000000000100	3.33333333333433

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
ZebHeinH - Zebras	Negative Ranks	3 ^a	7.67	23.00
	Positive Ranks	50 ^b	28.16	1408.00
	Ties	2 ^c		
	Total	55		
ZebHeinM - Zebras	Negative Ranks	3 ^d	2.83	8.50
	Positive Ranks	21 ^e	13.88	291.50
	Ties	3 ^f		
	Total	27		
ZebHeinL - Zebras	Negative Ranks	5 ^g	4.90	24.50
	Positive Ranks	16 ^h	12.91	206.50
	Ties	2 ⁱ		
	Total	23		

- a. ZebHeinH < Zebras
- b. ZebHeinH > Zebras
- c. ZebHeinH = Zebras
- d. ZebHeinM < Zebras
- e. ZebHeinM > Zebras
- f. ZebHeinM = Zebras
- g. ZebHeinL < Zebras
- h. ZebHeinL > Zebras
- i. ZebHeinL = Zebras



Test Statistics^a

	ZebHeinH - Zebras	ZebHeinM - Zebras	ZebHeinL - Zebras
Z	-6.135 ^b	-4.049 ^b	-3.170 ^b
Asymp. Sig. (2-tailed)	.000	.000	.002

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

2. Wendy's-Heineken

2.1. High

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.313	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.041	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.317	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Wendys	16	5.92708333333 3434	.442922742197 377	5.33333333333 3433	6.66666666666 6767
Wendys	5	6.00000000000 0100	.707106781186 648	5.33333333333 3433	7.00000000000 0100
Wendys	1	5.66666666666 6767	.	5.66666666666 6767	5.66666666666 6767
WenHeinH	16	5.20833333333 3434	1.94698247057 8801	1.00000000000 0100	7.00000000000 0100
WenHeinM	5	3.46666666666 6767	1.92353840616 7234	1.66666666666 67667	6.00000000000 01000
WenHeinL	1	3.66666666666 6766	.	3.66666666666 67664	3.66666666666 67664

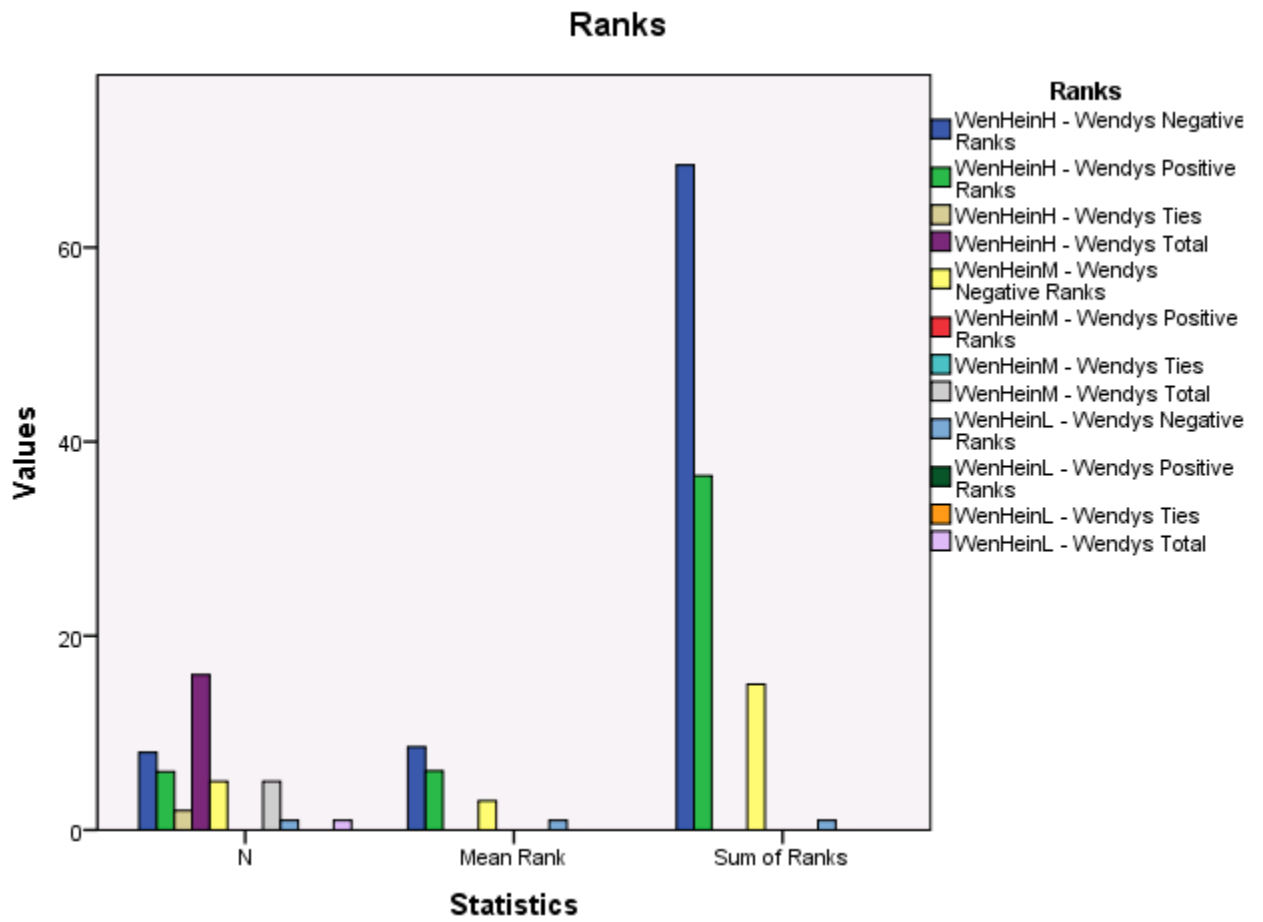
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
Wendys	5.66666666666767	6.00000000000100	6.25000000000100
Wendys	5.33333333333433	6.00000000000100	6.66666666666766
Wendys	.	.	.
WenHeinH	4.25000000000100	5.83333333333434	6.83333333333433
WenHeinM	1.83333333333433	2.66666666666766	5.50000000000100
WenHeinL	.	.	.

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
WenHeinH - Wendys	Negative Ranks	8 ^a	8.56	68.50
	Positive Ranks	6 ^b	6.08	36.50
	Ties	2 ^c		
	Total	16		
WenHeinM - Wendys	Negative Ranks	5 ^d	3.00	15.00
	Positive Ranks	0 ^e	.00	.00
	Ties	0 ^f		
	Total	5		
WenHeinL - Wendys	Negative Ranks	1 ^g	1.00	1.00
	Positive Ranks	0 ^h	.00	.00
	Ties	0 ⁱ		
	Total	1		

- a. WenHeinH < Wendys
- b. WenHeinH > Wendys
- c. WenHeinH = Wendys
- d. WenHeinM < Wendys
- e. WenHeinM > Wendys
- f. WenHeinM = Wendys
- g. WenHeinL < Wendys
- h. WenHeinL > Wendys
- i. WenHeinL = Wendys



Test Statistics^a

	WenHeinH - Wendys	WenHeinM - Wendys
Z	-1.009 ^b	-2.041 ^b
Asymp. Sig. (2-tailed)	.313	.041

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

2.2. Medium

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.003	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.570	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.005	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Wendys	67	3.89800995024 8856	.653245732042 399	3.00000000000 01000	5.00000000000 01000
Wendys	48	3.95138888888 8990	.677185048733 847	3.00000000000 01000	5.00000000000 01000
Wendys	16	4.04166666666 6768	.758897836290 286	3.00000000000 01000	5.00000000000 01000
WenHeinH	67	4.51741293532 3483	1.67451041348 8367	1.00000000000 01000	7.00000000000 01000
WenHeinM	48	3.73958333333 3434	1.30007557972 7049	1.00000000000 01000	6.00000000000 01000
WenHeinL	16	2.67708333333 3433	1.17767622727 8335	1.00000000000 01000	5.00000000000 01000

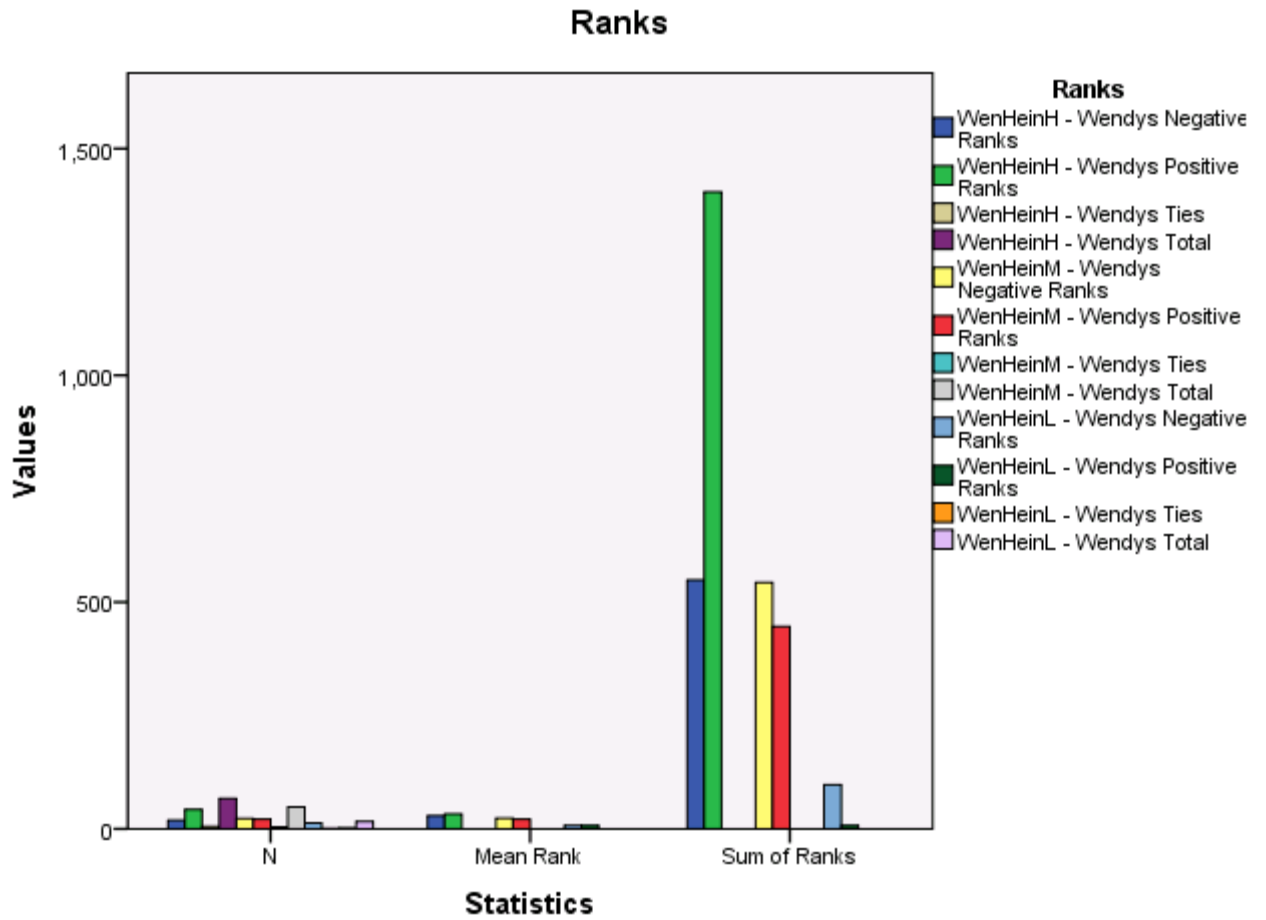
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
Wendys	3.33333333333433	4.00000000000100	4.33333333333433
Wendys	3.33333333333433	4.00000000000100	4.33333333333433
Wendys	3.08333333333433	4.16666666666766	4.66666666666767
WenHeinH	3.66666666666766	4.66666666666767	6.00000000000100
WenHeinM	3.08333333333433	4.00000000000100	4.91666666666767
WenHeinL	2.00000000000100	2.41666666666767	3.00000000000100

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
WenHeinH - Wendys	Negative Ranks	19 ^a	28.87	548.50
	Positive Ranks	43 ^b	32.66	1404.50
	Ties	5 ^c		
	Total	67		
WenHeinM - Wendys	Negative Ranks	23 ^d	23.63	543.50
	Positive Ranks	21 ^e	21.26	446.50
	Ties	4 ^f		
	Total	48		
WenHeinL - Wendys	Negative Ranks	13 ^g	7.50	97.50
	Positive Ranks	1 ^h	7.50	7.50
	Ties	2 ⁱ		
	Total	16		

- a. WenHeinH < Wendys
- b. WenHeinH > Wendys
- c. WenHeinH = Wendys
- d. WenHeinM < Wendys
- e. WenHeinM > Wendys
- f. WenHeinM = Wendys
- g. WenHeinL < Wendys
- h. WenHeinL > Wendys
- i. WenHeinL = Wendys



Test Statistics^a

	WenHeinH - Wendys	WenHeinM - Wendys	WenHeinL - Wendys
Z	-3.005 ^b	-.569 ^c	-2.830 ^c
Asymp. Sig. (2-tailed)	.003	.570	.005

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

2.3. Low

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Wendys and WenHeinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Wendys	48	1.68402777777 7878	.560984847577 981	1.00000000000 01000	2.66666666666 67664
Wendys	29	1.79310344827 5962	.575034802973 400	1.00000000000 01000	2.66666666666 67664
Wendys	24	1.51388888888 8989	.501005430333 777	1.00000000000 01000	2.33333333333 34334
WenHeinH	48	4.02430555555 5658	1.53600968376 5460	1.00000000000 01000	7.00000000000 01000
WenHeinM	29	3.35632183908 0561	1.52214091728 9096	1.00000000000 01000	6.66666666666 67670
WenHeinL	24	2.80555555555 5655	1.15852924697 7948	1.00000000000 01000	4.00000000000 01000

Descriptive Statistics

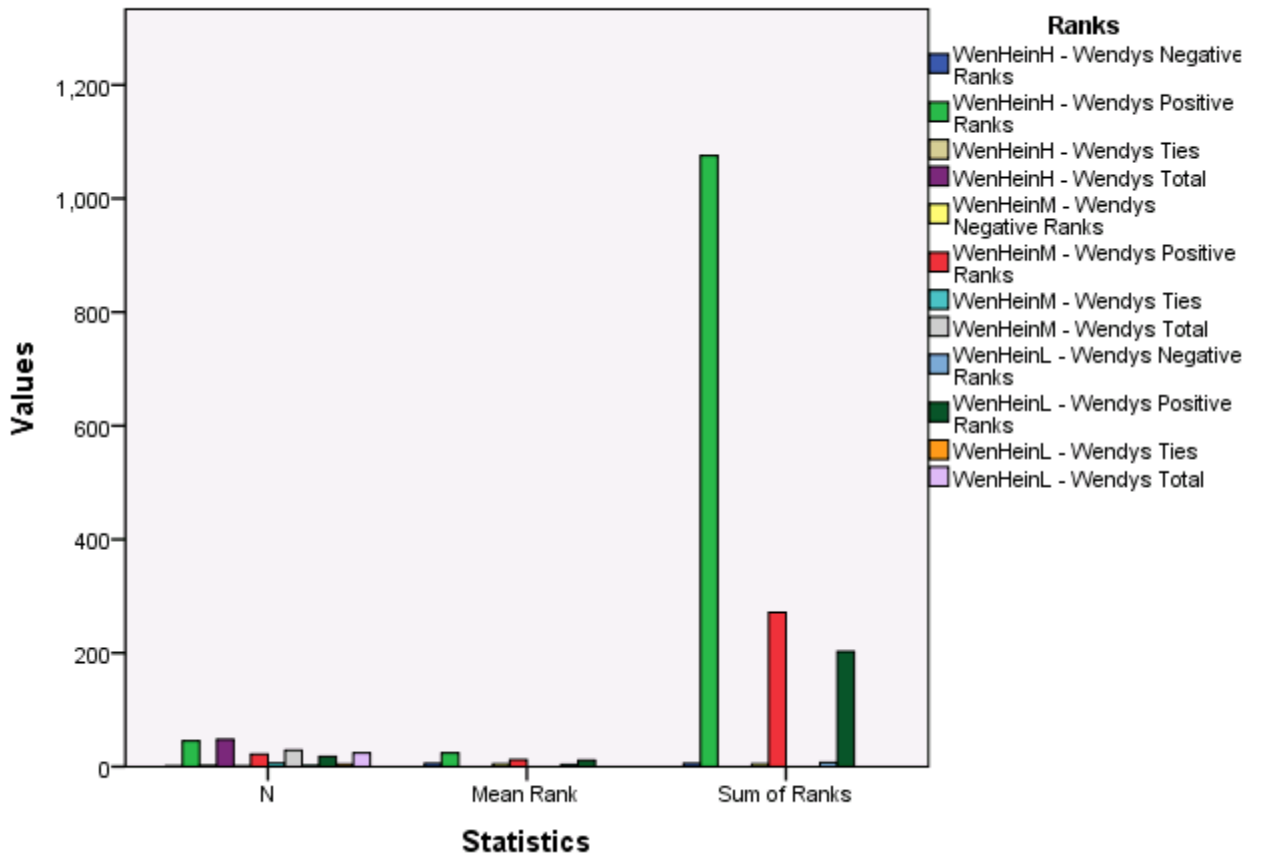
	Percentiles		
	25th	50th (Median)	75th
Wendys	1.00000000000100	2.00000000000100	2.00000000000100
Wendys	1.33333333333433	2.00000000000100	2.16666666666767
Wendys	1.00000000000100	1.33333333333433	2.00000000000100
WenHeinH	3.00000000000100	4.00000000000100	5.00000000000100
WenHeinM	2.00000000000100	3.33333333333433	4.33333333333434
WenHeinL	1.75000000000100	3.00000000000100	4.00000000000100

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
WenHeinH - Wendys	Negative Ranks	1 ^a	5.50	5.50
	Positive Ranks	45 ^b	23.90	1075.50
	Ties	2 ^c		
	Total	48		
WenHeinM - Wendys	Negative Ranks	1 ^d	4.50	4.50
	Positive Ranks	22 ^e	12.34	271.50
	Ties	6 ^f		
	Total	29		
WenHeinL - Wendys	Negative Ranks	2 ^g	3.75	7.50
	Positive Ranks	18 ^h	11.25	202.50
	Ties	4 ⁱ		
	Total	24		

- a. WenHeinH < Wendys
- b. WenHeinH > Wendys
- c. WenHeinH = Wendys
- d. WenHeinM < Wendys
- e. WenHeinM > Wendys
- f. WenHeinM = Wendys
- g. WenHeinL < Wendys
- h. WenHeinL > Wendys
- i. WenHeinL = Wendys

Ranks



Test Statistics^a

	WenHeinH - Wendys	WenHeinM - Wendys	WenHeinL - Wendys
Z	-5.849 ^b	-4.066 ^b	-3.651 ^b
Asymp. Sig. (2-tailed)	.000	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

3. Steers-Windhoek

3.1. High

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.057	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Steers	69	6.18840579710	.523088680385	5.33333333333	7.00000000000
		1550	748	3433	0100
Steers	77	6.21428571428	.536569909863	5.33333333333	7.00000000000
		5813	136	3433	0100
Steers	52	6.15064102564	.600707294971	5.33333333333	7.00000000000
		1128	293	3433	0100
SteerWinH	69	5.78985507246	1.27752446925	2.00000000000	7.00000000000
		3867	1785	01000	01000
SteerWinM	77	5.00865800865	1.47862353603	1.00000000000	7.00000000000
		8107	8791	01000	01000
SteerWinL	52	4.39102564102	1.67477915019	1.00000000000	7.00000000000
		5740	9918	01000	01000

Descriptive Statistics

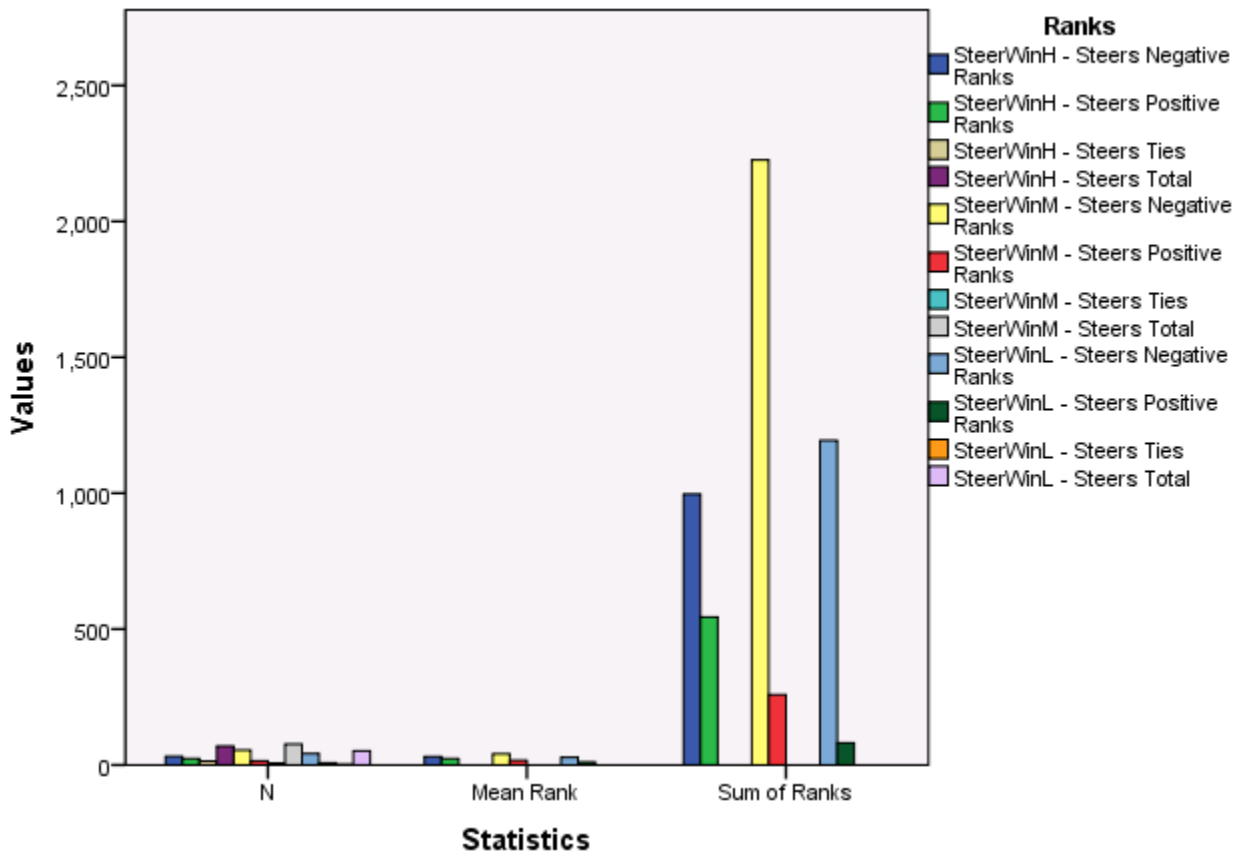
	Percentiles		
	25th	50th (Median)	75th
Steers	5.66666666666767	6.00000000000100	6.66666666666767
Steers	6.00000000000100	6.33333333333433	6.66666666666767
Steers	5.66666666666767	6.16666666666766	6.66666666666767
SteerWinH	5.00000000000100	6.00000000000100	7.00000000000100
SteerWinM	4.00000000000100	5.33333333333433	6.00000000000100
SteerWinL	3.33333333333433	4.33333333333433	5.66666666666767

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SteerWinH - Steers	Negative Ranks	32 ^a	31.13	996.00
	Positive Ranks	23 ^b	23.65	544.00
	Ties	14 ^c		
	Total	69		
SteerWinM - Steers	Negative Ranks	55 ^d	40.47	2226.00
	Positive Ranks	15 ^e	17.27	259.00
	Ties	7 ^f		
	Total	77		
SteerWinL - Steers	Negative Ranks	42 ^g	28.43	1194.00
	Positive Ranks	8 ^h	10.13	81.00
	Ties	2 ⁱ		
	Total	52		

- a. SteerWinH < Steers
- b. SteerWinH > Steers
- c. SteerWinH = Steers
- d. SteerWinM < Steers
- e. SteerWinM > Steers
- f. SteerWinM = Steers
- g. SteerWinL < Steers
- h. SteerWinL > Steers
- i. SteerWinL = Steers

Ranks



Test Statistics^a

	SteerWinH - Steers	SteerWinM - Steers	SteerWinL - Steers
Z	-1.903 ^b	-5.767 ^b	-5.379 ^b
Asymp. Sig. (2-tailed)	.057	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

3.2 Medium

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.009	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.765	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.440	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Steers	26	4.42307692307 7023	.641579248124 548	3.00000000000 01000	5.00000000000 01000
Steers	36	4.55092592592 6027	.551792813148 274	3.33333333333 34334	5.00000000000 01000
Steers	10	4.10000000000 0101	.545463898161 593	3.33333333333 34334	5.00000000000 01000
SteerWinH	26	5.17948717948 7280	1.32407038829 6127	1.66666666666 67667	7.00000000000 01000
SteerWinM	36	4.45370370370 3804	1.15443321564 4347	1.00000000000 01000	7.00000000000 01000
SteerWinL	10	3.86666666666 6766	.945424328274 884	2.66666666666 67664	5.33333333333 34330

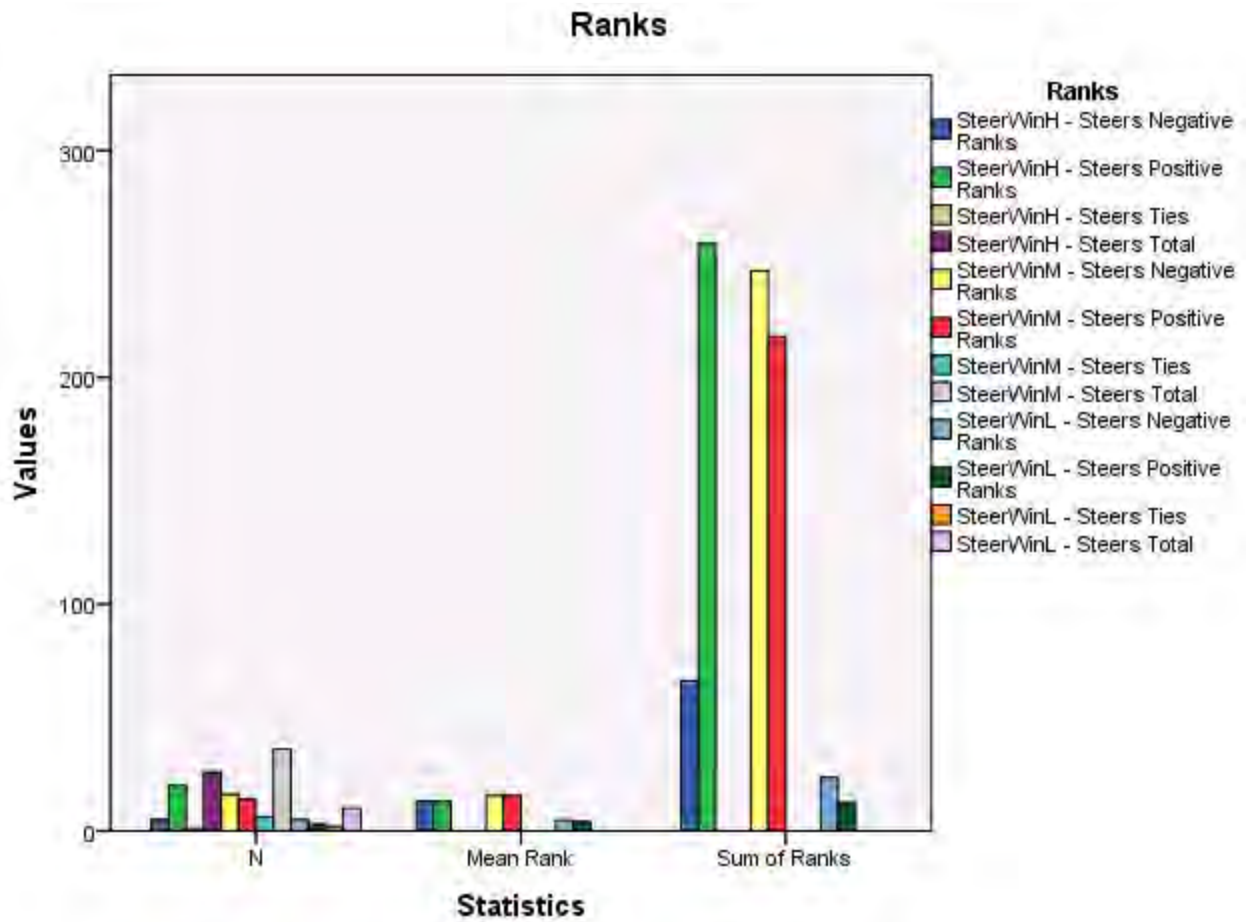
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
Steers	4.000000000000100	4.666666666666767	5.000000000000100
Steers	4.000000000000100	4.833333333333434	5.000000000000100
Steers	3.666666666666766	4.000000000000100	4.666666666666767
SteerWinH	4.333333333333433	5.333333333333433	6.000000000000100
SteerWinM	4.000000000000100	4.500000000000100	5.000000000000100
SteerWinL	3.000000000000100	3.666666666666766	5.000000000000100

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SteerWinH - Steers	Negative Ranks	5 ^a	13.20	66.00
	Positive Ranks	20 ^b	12.95	259.00
	Ties	1 ^c		
	Total	26		
SteerWinM - Steers	Negative Ranks	16 ^d	15.44	247.00
	Positive Ranks	14 ^e	15.57	218.00
	Ties	6 ^f		
	Total	36		
SteerWinL - Steers	Negative Ranks	5 ^g	4.70	23.50
	Positive Ranks	3 ^h	4.17	12.50
	Ties	2 ⁱ		
	Total	10		

- a. SteerWinH < Steers
- b. SteerWinH > Steers
- c. SteerWinH = Steers
- d. SteerWinM < Steers
- e. SteerWinM > Steers
- f. SteerWinM = Steers
- g. SteerWinL < Steers
- h. SteerWinL > Steers
- i. SteerWinL = Steers



Test Statistics^a

	SteerWinH - Steers	SteerWinM - Steers	SteerWinL - Steers
Z	-2.605 ^b	-.299 ^c	-.773 ^c
Asymp. Sig. (2-tailed)	.009	.765	.440

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

3.3 Low

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.317	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.068	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Steers and SteerWinL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.465	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Steers	1	2.33333333333 3433	.	2.33333333333 34334	2.33333333333 34334
Steers	4	1.91666666666 6767	.687184270936 377	1.00000000000 01000	2.66666666666 67664
Steers	4	1.66666666666 6767	.471404520791 132	1.00000000000 01000	2.00000000000 01000
SteerWinH	1	4.33333333333 3433	.	4.33333333333 3433	4.33333333333 3433
SteerWinM	4	3.83333333333 3433	.192450089729 975	3.66666666666 67664	4.00000000000 01000
SteerWinL	4	2.41666666666 6766	2.04350823975 0047	1.00000000000 01000	5.33333333333 34330

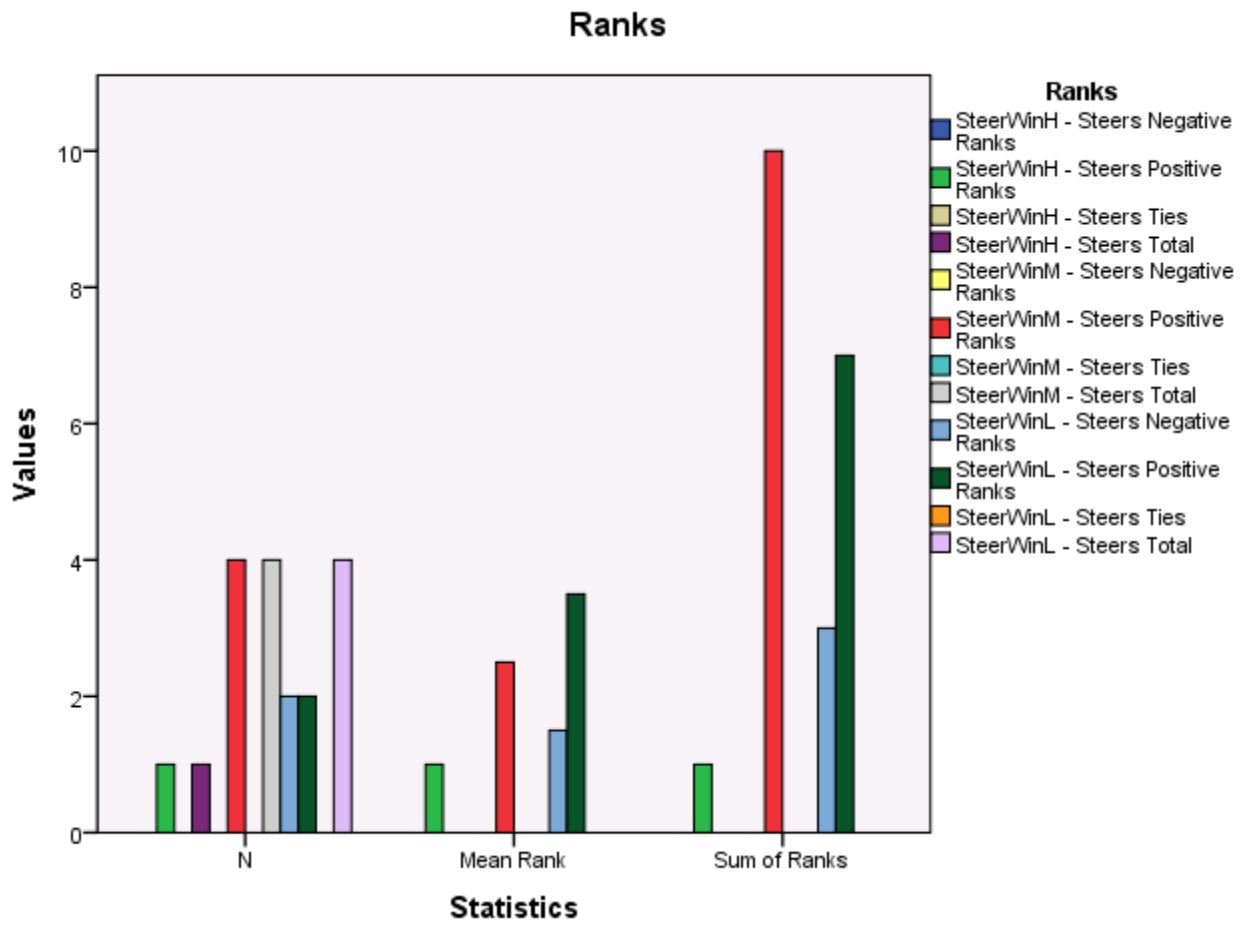
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
Steers	.	.	.
Steers	1.250000000000100	2.000000000000100	2.500000000000100
Steers	1.166666666666767	1.833333333333433	2.000000000000100
SteerWinH	.	.	.
SteerWinM	3.666666666666766	3.833333333333433	4.000000000000100
SteerWinL	1.000000000000100	1.666666666666767	4.583333333333433

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SteerWinH - Steers	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	1 ^b	1.00	1.00
	Ties	0 ^c		
	Total	1		
SteerWinM - Steers	Negative Ranks	0 ^d	.00	.00
	Positive Ranks	4 ^e	2.50	10.00
	Ties	0 ^f		
	Total	4		
SteerWinL - Steers	Negative Ranks	2 ^g	1.50	3.00
	Positive Ranks	2 ^h	3.50	7.00
	Ties	0 ⁱ		
	Total	4		

- a. SteerWinH < Steers
- b. SteerWinH > Steers
- c. SteerWinH = Steers
- d. SteerWinM < Steers
- e. SteerWinM > Steers
- f. SteerWinM = Steers
- g. SteerWinL < Steers
- h. SteerWinL > Steers
- i. SteerWinL = Steers



Test Statistics^a

	SteerWinM - Steers	SteerWinL - Steers
Z	-1.826 ^b	-.730 ^b
Asymp. Sig. (2-tailed)	.068	.465

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

4. KFC-Windhoek

4.1. High

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.001	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
KFC	64	6.23177083333 3433	.567037839456 746	5.33333333333 3433	7.00000000000 0100
KFC	68	6.33823529411 7747	.559087882680 404	5.33333333333 3433	7.00000000000 0100
KFC	38	6.17982456140 3609	.572625766700 955	5.33333333333 3433	7.00000000000 0100
KFCWindH	64	5.43750000000 0100	1.77069521714 7370	1.00000000000 01000	7.00000000000 01000
KFCWindM	68	4.72549019607 8531	1.66536384549 4301	1.00000000000 01000	7.00000000000 01000
KFCWindL	38	4.10964912280 7120	1.73217057144 2989	1.00000000000 01000	7.00000000000 01000

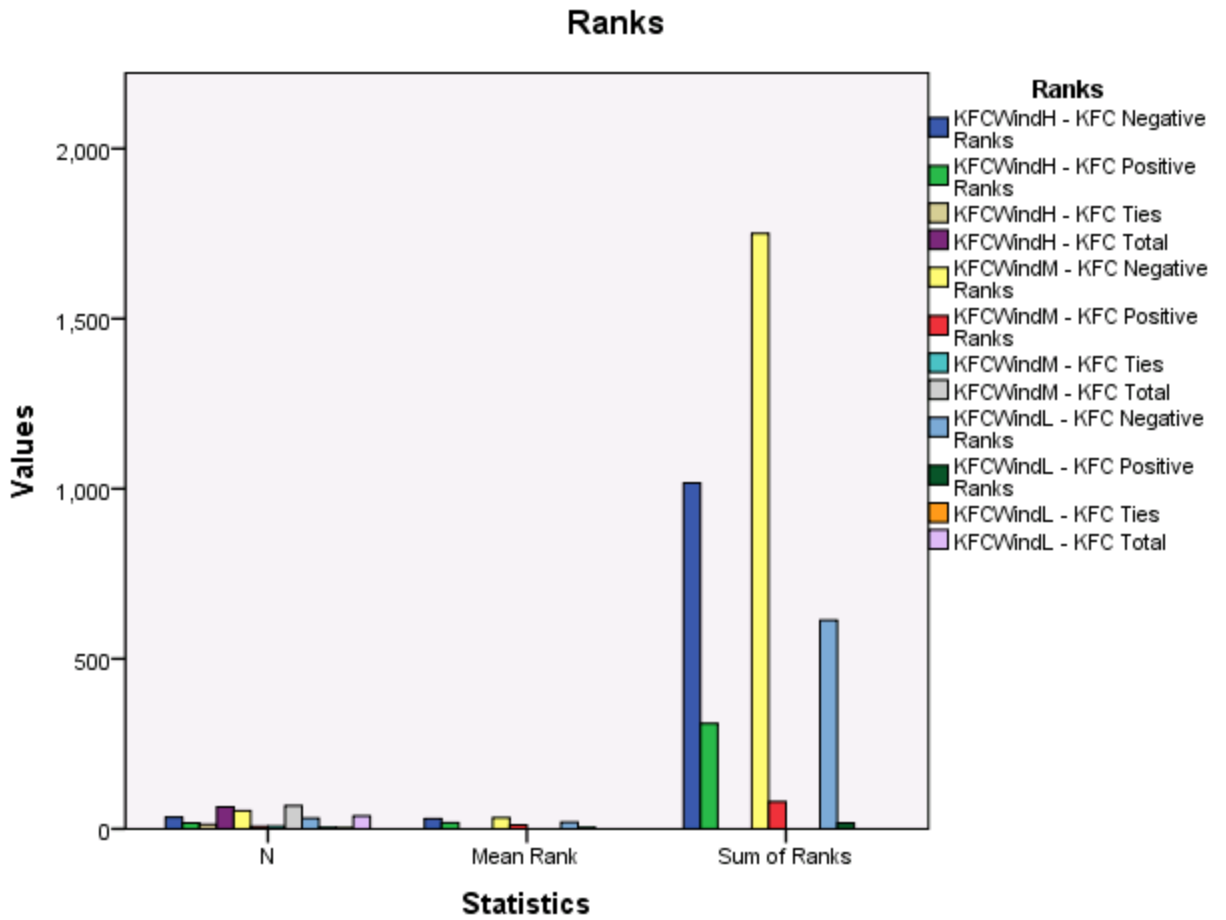
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
KFC	6.000000000000100	6.000000000000100	6.916666666666767
KFC	6.000000000000100	6.333333333333433	7.000000000000100
KFC	5.666666666666767	6.000000000000100	6.750000000000100
KFCWindH	5.000000000000100	6.000000000000100	7.000000000000100
KFCWindM	4.000000000000100	5.000000000000100	6.000000000000100
KFCWindL	3.000000000000100	3.833333333333433	5.083333333333433

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
KFCWindH - KFC	Negative Ranks	34 ^a	29.90	1016.50
	Positive Ranks	17 ^b	18.21	309.50
	Ties	13 ^c		
	Total	64		
KFCWindM - KFC	Negative Ranks	53 ^d	33.03	1750.50
	Positive Ranks	7 ^e	11.36	79.50
	Ties	8 ^f		
	Total	68		
KFCWindL - KFC	Negative Ranks	31 ^g	19.77	613.00
	Positive Ranks	4 ^h	4.25	17.00
	Ties	3 ⁱ		
	Total	38		

- a. KFCWindH < KFC
- b. KFCWindH > KFC
- c. KFCWindH = KFC
- d. KFCWindM < KFC
- e. KFCWindM > KFC
- f. KFCWindM = KFC
- g. KFCWindL < KFC
- h. KFCWindL > KFC
- i. KFCWindL = KFC



Test Statistics^a

	KFCWindH - KFC	KFCWindM - KFC	KFCWindL - KFC
Z	-3.325 ^b	-6.157 ^b	-4.885 ^b
Asymp. Sig. (2-tailed)	.001	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

4.2. Medium

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.432	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.056	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.009	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
KFC	21	4.41269841269	.576433111709	3.00000000000	5.00000000000
		8513	631	01000	01000
KFC	36	4.27777777777	.669043382464	3.00000000000	5.00000000000
		7880	233	01000	01000
KFC	20	4.46666666666	.451119465252	3.66666666666	5.00000000000
		6766	736	67664	01000
KFCWindH	21	4.01587301587	1.70041233717	1.00000000000	6.50000000000
		3116	0739	01000	01000
KFCWindM	36	3.76388888888	1.55143302931	1.00000000000	6.66666666666
		8989	3465	01000	67670
KFCWindL	20	3.32500000000	1.65652616863	1.00000000000	6.33333333333
		0100	3853	01000	34330

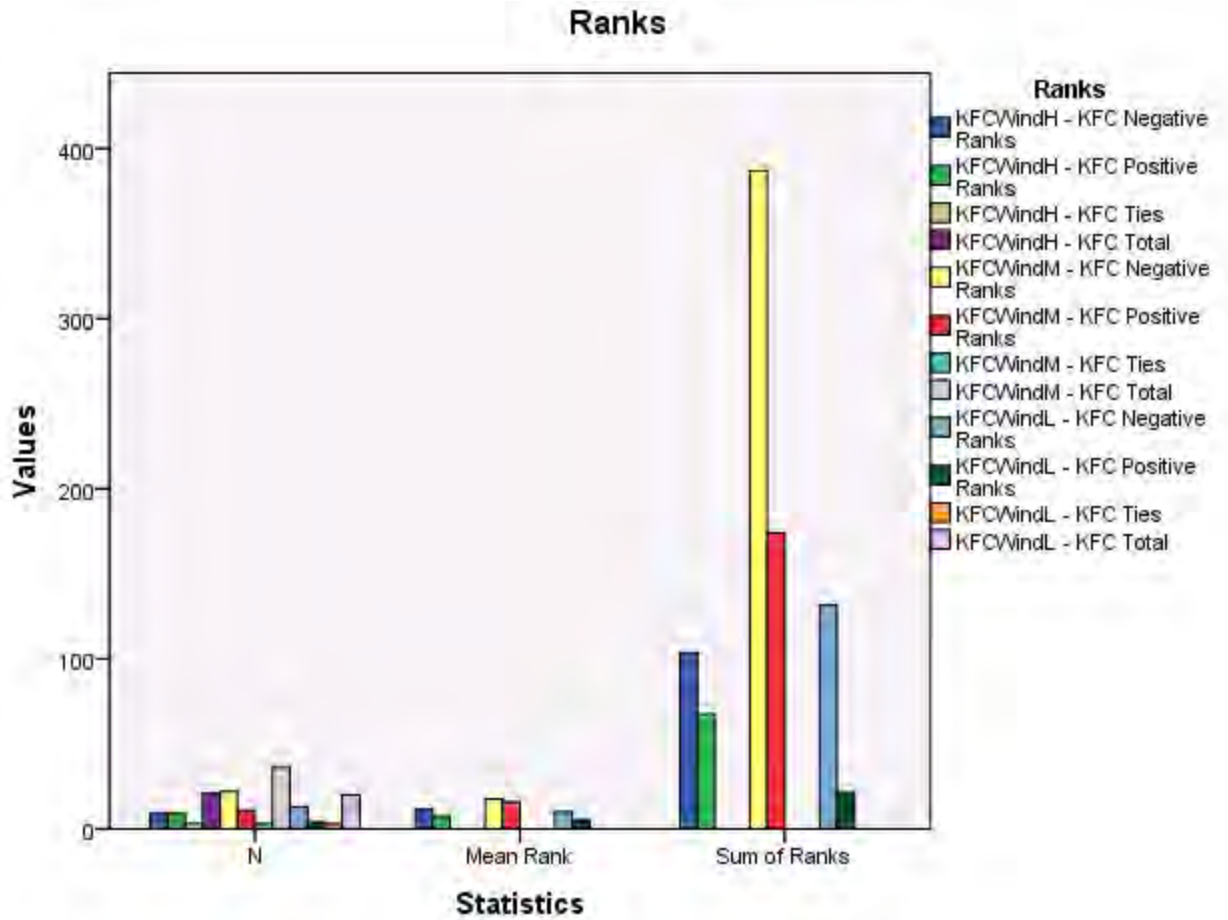
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
KFC	4.00000000000100	4.33333333333433	5.00000000000100
KFC	3.75000000000100	4.33333333333433	5.00000000000100
KFC	4.08333333333433	4.66666666666767	4.66666666666767
KFCWindH	3.00000000000100	4.50000000000100	5.33333333333434
KFCWindM	2.75000000000100	4.16666666666766	4.91666666666767
KFCWindL	1.83333333333433	3.25000000000100	4.75000000000100

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
KFCWindH - KFC	Negative Ranks	9 ^a	11.50	103.50
	Positive Ranks	9 ^b	7.50	67.50
	Ties	3 ^c		
	Total	21		
KFCWindM - KFC	Negative Ranks	22 ^d	17.59	387.00
	Positive Ranks	11 ^e	15.82	174.00
	Ties	3 ^f		
	Total	36		
KFCWindL - KFC	Negative Ranks	13 ^g	10.12	131.50
	Positive Ranks	4 ^h	5.38	21.50
	Ties	3 ⁱ		
	Total	20		

- a. KFCWindH < KFC
- b. KFCWindH > KFC
- c. KFCWindH = KFC
- d. KFCWindM < KFC
- e. KFCWindM > KFC
- f. KFCWindM = KFC
- g. KFCWindL < KFC
- h. KFCWindL > KFC
- i. KFCWindL = KFC



Test Statistics^a

	KFCWindH - KFC	KFCWindM - KFC	KFCWindL - KFC
Z	-.786 ^b	-1.910 ^b	-2.606 ^b
Asymp. Sig. (2-tailed)	.432	.056	.009

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

4.3. Low

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.285	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.345	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between KFC and KFCWindL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.655	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
KFC	3	1.6666666666666667	.3333333333333333	1.3333333333333333	2.0000000000000000
		6767	433	34332	01000
KFC	8	1.7291666666666666	.590516991678	1.0000000000000000	2.3333333333333333
		6767	001	01000	34334
KFC	5	2.1333333333333333	.691214711777	1.0000000000000000	2.6666666666666666
		3433	691	01000	67664
KFCWindH	3	3.4444444444444444	2.83496684937	1.3333333333333333	6.6666666666666666
		4545	1894	34332	67670
KFCWindM	8	2.5000000000000000	1.93546680313	1.0000000000000000	5.3333333333333333
		0100	3583	01000	34330
KFCWindL	5	2.4000000000000000	1.63978318349	1.0000000000000000	5.0000000000000000
		0100	9946	01000	01000

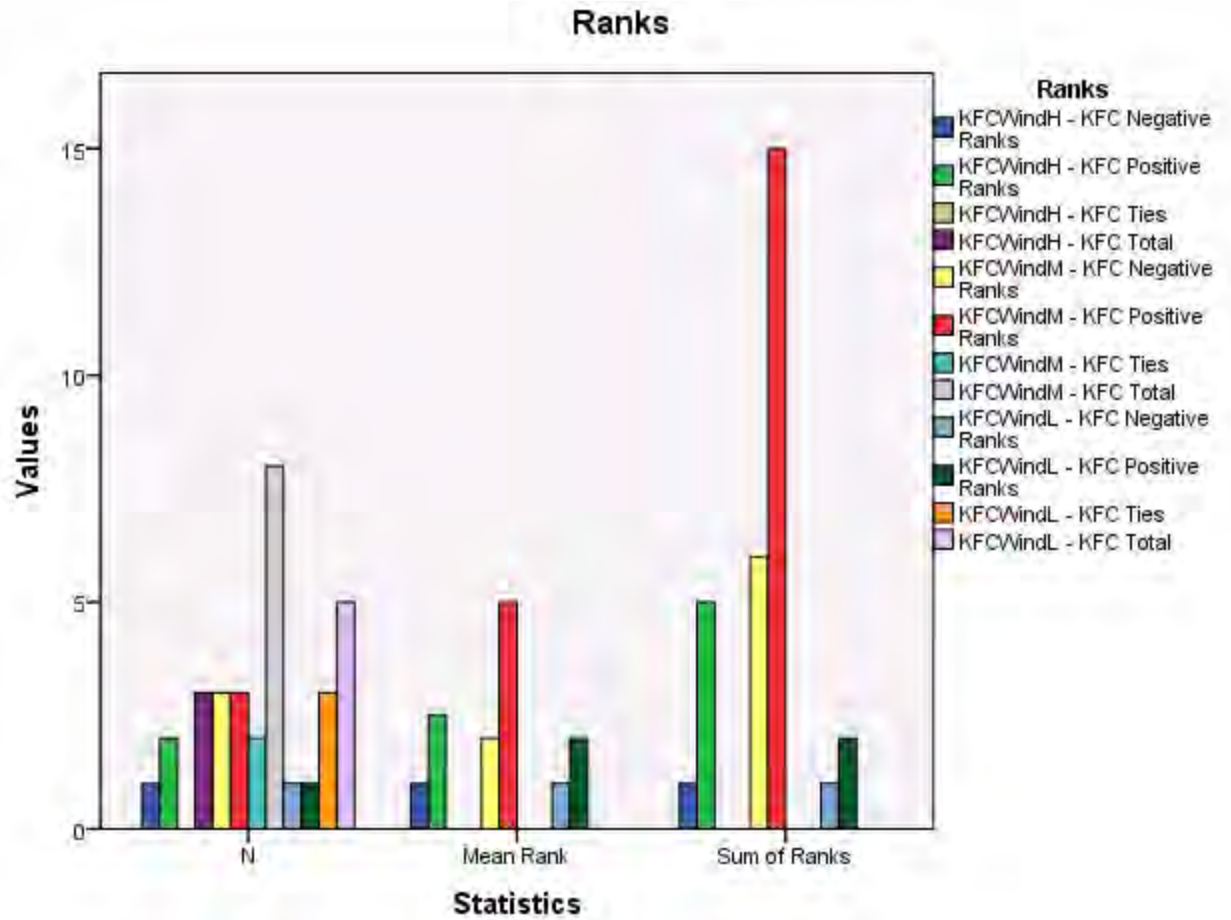
Descriptive Statistics

	Percentiles		
	25th	50th (Median)	75th
KFC	1.3333333333333333	1.6666666666666667	2.0000000000000000
KFC	1.0833333333333333	1.7500000000000000	2.3333333333333333
KFC	1.5000000000000000	2.3333333333333333	2.6666666666666666
KFCWindH	1.3333333333333333	2.3333333333333333	6.6666666666666666
KFCWindM	1.0000000000000000	1.3333333333333333	4.7500000000000000
KFCWindL	1.0000000000000000	2.3333333333333333	3.8333333333333333

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
KFCWindH - KFC	Negative Ranks	1 ^a	1.00	1.00
	Positive Ranks	2 ^b	2.50	5.00
	Ties	0 ^c		
	Total	3		
KFCWindM - KFC	Negative Ranks	3 ^d	2.00	6.00
	Positive Ranks	3 ^e	5.00	15.00
	Ties	2 ^f		
	Total	8		
KFCWindL - KFC	Negative Ranks	1 ^g	1.00	1.00
	Positive Ranks	1 ^h	2.00	2.00
	Ties	3 ⁱ		
	Total	5		

- a. KFCWindH < KFC
- b. KFCWindH > KFC
- c. KFCWindH = KFC
- d. KFCWindM < KFC
- e. KFCWindM > KFC
- f. KFCWindM = KFC
- g. KFCWindL < KFC
- h. KFCWindL > KFC
- i. KFCWindL = KFC



Test Statistics^a

	KFCWindH - KFC	KFCWindM - KFC	KFCWindL - KFC
Z	-1.069 ^b	-.943 ^b	-.447 ^b
Asymp. Sig. (2-tailed)	.285	.345	.655

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

5. Spur-Samuel Adams

5.1. High

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Spur and SpurSadaH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.155	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Spur and SpurSadaM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Spur and SpurSadaL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Spur	17	6.46078431372	.525493854245	5.33333333333	7.00000000000
		5591	488	3433	0100
Spur	89	6.52059925093	.556651823835	5.33333333333	7.00000000000
		6431	458	3433	0100
Spur	119	6.51540616246	.540275962058	5.33333333333	7.00000000000
		5086	635	3433	0100
SpurSadaH	17	5.88235294117	1.54533876396	1.66666666666	7.00000000000
		6570	8971	67667	01000
SpurSadaM	89	5.06179775280	1.41608321819	1.00000000000	7.00000000000
		9090	5090	01000	01000
SpurSadaL	119	4.37955182072	1.57246857665	1.00000000000	7.00000000000
		8391	0121	01000	01000

Descriptive Statistics

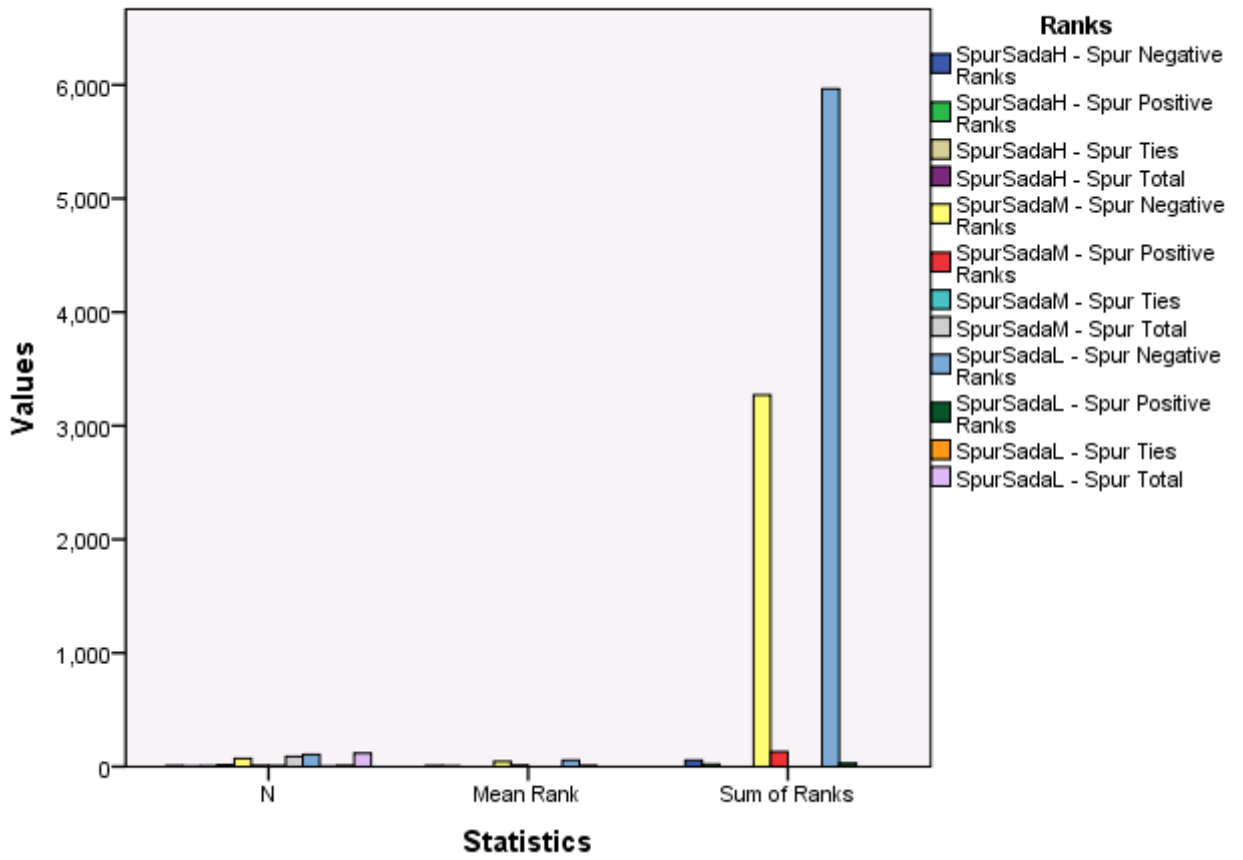
	Percentiles		
	25th	50th (Median)	75th
Spur	6.000000000000100	6.500000000000100	7.000000000000100
Spur	6.000000000000100	6.666666666666767	7.000000000000100
Spur	6.000000000000100	6.666666666666767	7.000000000000100
SpurSadaH	5.000000000000100	6.666666666666767	7.000000000000100
SpurSadaM	4.000000000000100	5.333333333333433	6.000000000000100
SpurSadaL	3.000000000000100	4.333333333333433	5.666666666666767

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SpurSadaH - Spur	Negative Ranks	8 ^a	7.13	57.00
	Positive Ranks	4 ^b	5.25	21.00
	Ties	5 ^c		
	Total	17		
SpurSadaM - Spur	Negative Ranks	72 ^d	45.44	3272.00
	Positive Ranks	10 ^e	13.10	131.00
	Ties	7 ^f		
	Total	89		
SpurSadaL - Spur	Negative Ranks	106 ^g	56.27	5964.50
	Positive Ranks	3 ^h	10.17	30.50
	Ties	10 ⁱ		
	Total	119		

- a. SpurSadaH < Spur
- b. SpurSadaH > Spur
- c. SpurSadaH = Spur
- d. SpurSadaM < Spur
- e. SpurSadaM > Spur
- f. SpurSadaM = Spur
- g. SpurSadaL < Spur
- h. SpurSadaL > Spur
- i. SpurSadaL = Spur

Ranks



Test Statistics^a

	SpurSadaH - Spur	SpurSadaM - Spur	SpurSadaL - Spur
Z	-1.424 ^b	-7.272 ^b	-8.979 ^b
Asymp. Sig. (2-tailed)	.155	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

5.2. Medium

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Spur and SpurSadaH equals 0.	Related-Samples Wilcoxon Signed Rank Test	.078	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Spur and SpurSadaM equals 0.	Related-Samples Wilcoxon Signed Rank Test	.083	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Spur and SpurSadaL equals 0.	Related-Samples Wilcoxon Signed Rank Test	.020	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Spur	5	3.93333333333 3433	.596284794000 044	3.00000000000 01000	4.33333333333 34330
Spur	31	4.39247311827 9670	.624423270346 090	3.00000000000 01000	5.00000000000 01000
Spur	17	4.52941176470 5983	.514495755427 627	3.66666666666 67664	5.00000000000 01000
SpurSadaH	5	5.26666666666 6767	1.38242942355 5281	3.33333333333 34334	7.00000000000 01000
SpurSadaM	31	4.75268817204 3111	1.06794278503 8089	2.66666666666 67664	6.66666666666 67670
SpurSadaL	17	3.58823529411 7747	1.28305955826 9068	1.00000000000 01000	5.33333333333 34330

Descriptive Statistics

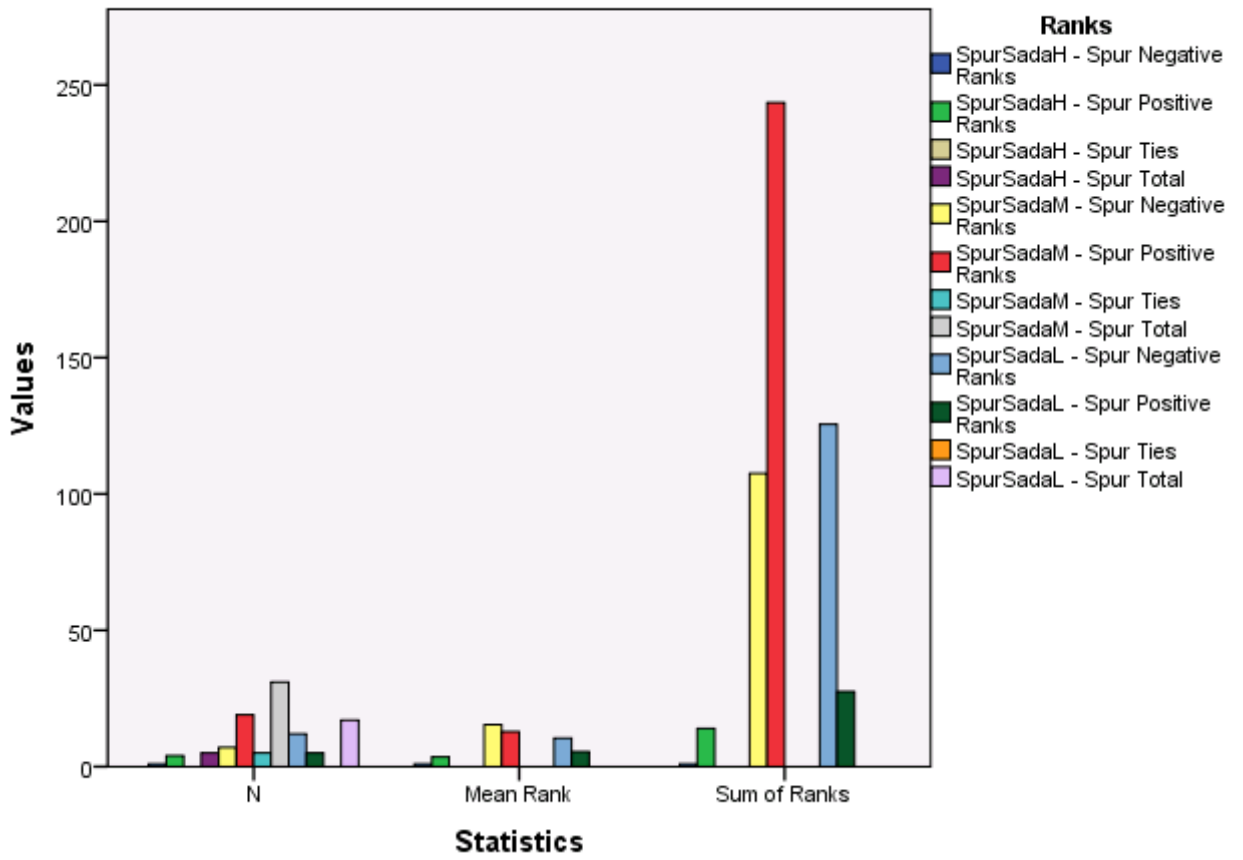
	Percentiles		
	25th	50th (Median)	75th
Spur	3.333333333333433	4.333333333333433	4.333333333333433
Spur	4.000000000000100	4.666666666666767	5.000000000000100
Spur	4.000000000000100	4.666666666666767	5.000000000000100
SpurSadaH	4.000000000000100	5.333333333333433	6.500000000000100
SpurSadaM	4.000000000000100	5.000000000000100	5.666666666666767
SpurSadaL	2.666666666666767	4.000000000000100	4.333333333333433

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SpurSadaH - Spur	Negative Ranks	1 ^a	1.00	1.00
	Positive Ranks	4 ^b	3.50	14.00
	Ties	0 ^c		
	Total	5		
SpurSadaM - Spur	Negative Ranks	7 ^d	15.36	107.50
	Positive Ranks	19 ^e	12.82	243.50
	Ties	5 ^f		
	Total	31		
SpurSadaL - Spur	Negative Ranks	12 ^g	10.46	125.50
	Positive Ranks	5 ^h	5.50	27.50
	Ties	0 ⁱ		
	Total	17		

- a. SpurSadaH < Spur
- b. SpurSadaH > Spur
- c. SpurSadaH = Spur
- d. SpurSadaM < Spur
- e. SpurSadaM > Spur
- f. SpurSadaM = Spur
- g. SpurSadaL < Spur
- h. SpurSadaL > Spur
- i. SpurSadaL = Spur

Ranks



Test Statistics^a

	SpurSadaH - Spur	SpurSadaM - Spur	SpurSadaL - Spur
Z	-1.761 ^b	-1.734 ^b	-2.334 ^c
Asymp. Sig. (2-tailed)	.078	.083	.020

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

6. McDonalds-Samuel Adams

6.1. High

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between McDonald and McDSadH equals 0	Related-Samples Wilcoxon Signed Rank Test	.035	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between McDonald and McDSadM equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between McDonald and McDSadL equals 0	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles
						25th
McDonald	12	6.47222222 2222322	.481125224324 788	5.66666666666676 7	7.000000000 000100	6.000000000 000100
McDonald	89	6.63295880 1498227	.454480899967 207	5.33333333333343 3	7.000000000 000100	6.166666666 666766
McDonald	109	6.50305810 3975637	.508154517919 975	5.33333333333343 3	7.000000000 000100	6.000000000 000100
McDSadH	12	5.52777777 7777878	1.24282452285 6321	3.00000000000010 0	7.000000000 000100	4.500000000 000100
McDSadM	89	4.76591760 2996354	1.41012730931 9056	1.00000000000010 00	7.000000000 0001000	4.000000000 000100
McDSadL	109	4.51223241 5902242	1.72128206447 4917	1.00000000000010 00	7.000000000 0001000	3.000000000 000100

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
McDonald	6.500000000000100	7.000000000000100
McDonald	7.000000000000100	7.000000000000100
McDonald	6.666666666666767	7.000000000000100
McDSadH	5.666666666666766	6.583333333333433
McDSadM	5.000000000000100	6.000000000000100
McDSadL	4.666666666666767	6.000000000000100

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
McDSadH - McDonald	Negative Ranks	6 ^a	5.50	33.00
	Positive Ranks	2 ^b	1.50	3.00
	Ties	4 ^c		
	Total	12		
McDSadM - McDonald	Negative Ranks	78 ^d	42.04	3279.50
	Positive Ranks	3 ^e	13.83	41.50
	Ties	8 ^f		
	Total	89		
McDSadL - McDonald	Negative Ranks	90 ^g	49.04	4413.50
	Positive Ranks	4 ^h	12.88	51.50
	Ties	15 ⁱ		
	Total	109		

a. McDSadH < McDonald

b. McDSadH > McDonald

c. McDSadH = McDonald

d. McDSadM < McDonald

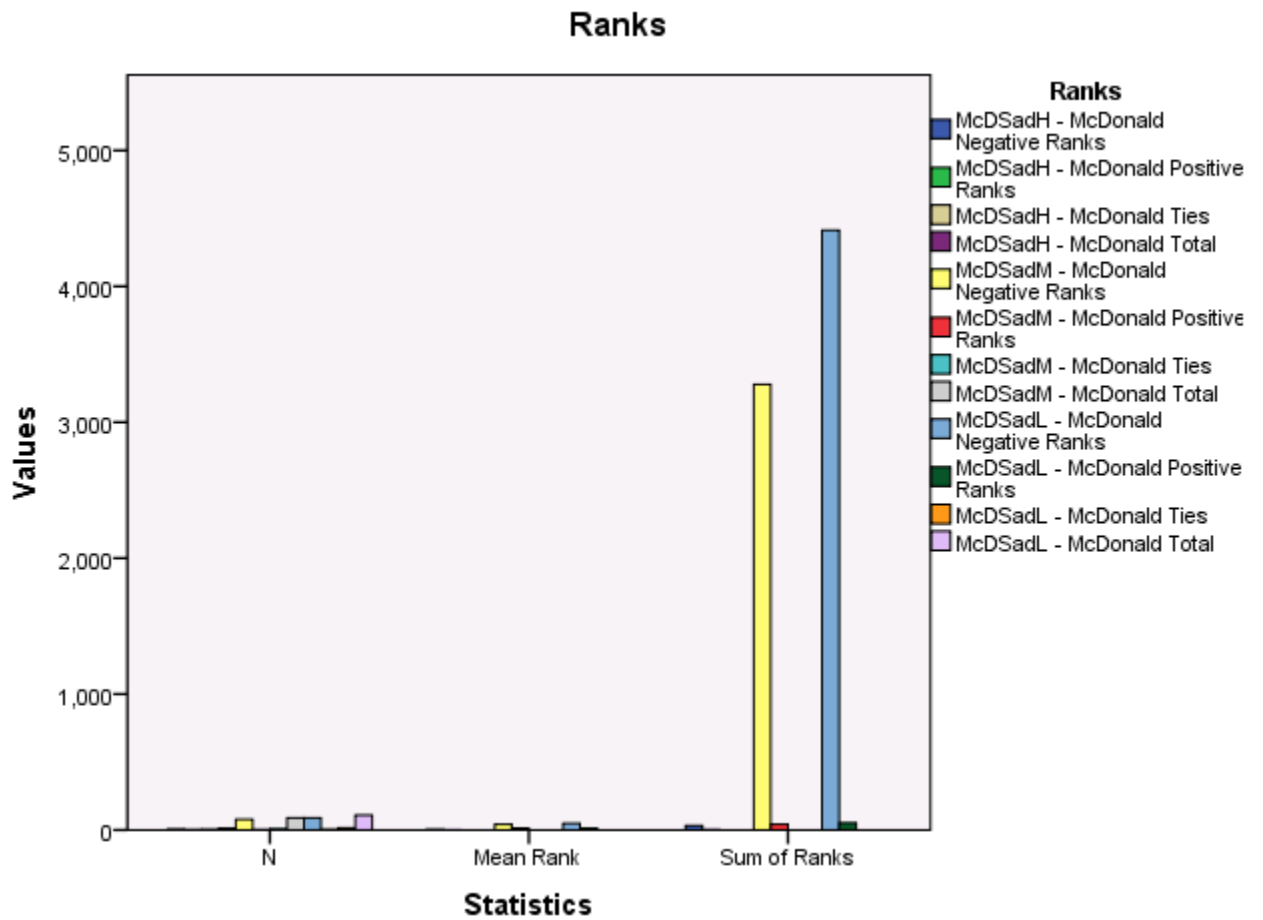
e. McDSadM > McDonald

f. McDSadM = McDonald

g. McDSadL < McDonald

h. McDSadL > McDonald

i. McDSadL = McDonald



Test Statistics^a

	McDSadH - McDonald	McDSadM - McDonald	McDSadL - McDonald
Z	-2.103 ^b	-7.633 ^b	-8.230 ^b
Asymp. Sig. (2-tailed)	.035	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

6.2. Medium

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between McDonald and McDSadH equals 0	Related-Samples Wilcoxon Signed Rank Test	.180	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between McDonald and McDSadM equals 0	Related-Samples Wilcoxon Signed Rank Test	.296	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between McDonald and McDSadL equals 0	Related-Samples Wilcoxon Signed Rank Test	.012	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles
						25th
McDonald	3	4.3333333333333	.5773502691	3.66666666666	4.666666666	3.66666666666
		434	89726	67664	6667670	6766
McDonald	19	4.429824561403	.6742984224	3.00000000000	5.000000000	4.00000000000
		608	90542	01000	0001000	0100
McDonald	17	4.392156862745	.7381968846	3.00000000000	5.000000000	3.83333333333
		199	60877	01000	0001000	3433
McDSadH	3	5.2222222222222	1.575271875	4.00000000000	7.000000000	4.00000000000
		323	417636	0100	000100	0100
McDSadM	19	3.973684210526	1.455368051	1.00000000000	6.000000000	3.00000000000
		415	848766	01000	0001000	0100
McDSadL	17	3.274509803921	1.370499169	1.33333333333	5.666666666	2.16666666666
		669	593504	34332	6667670	6767

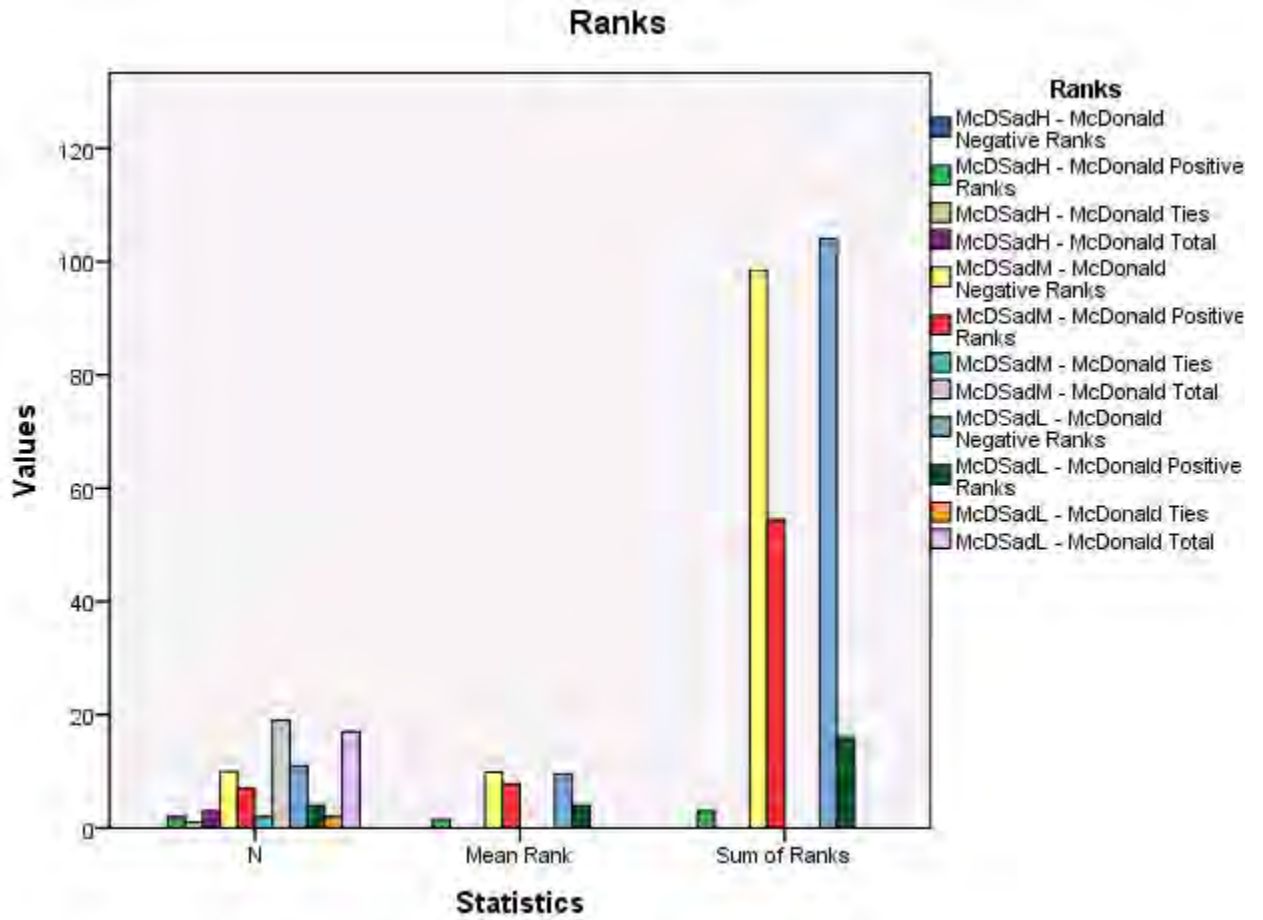
Descriptive Statistics

	Percentiles	
	50th (Median)	75th
	McDonald	4.6666666666667
McDonald	4.6666666666667	5.00000000000100
McDonald	4.6666666666667	5.00000000000100
McDSadH	4.6666666666667	7.00000000000100
McDSadM	4.00000000000100	5.00000000000100
McDSadL	3.3333333333334	4.00000000000100

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
McDSadH - McDonald	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	2 ^b	1.50	3.00
	Ties	1 ^c		
	Total	3		
McDSadM - McDonald	Negative Ranks	10 ^d	9.85	98.50
	Positive Ranks	7 ^e	7.79	54.50
	Ties	2 ^f		
	Total	19		
McDSadL - McDonald	Negative Ranks	11 ^g	9.45	104.00
	Positive Ranks	4 ^h	4.00	16.00
	Ties	2 ⁱ		
	Total	17		

- a. McDSadH < McDonald
- b. McDSadH > McDonald
- c. McDSadH = McDonald
- d. McDSadM < McDonald
- e. McDSadM > McDonald
- f. McDSadM = McDonald
- g. McDSadL < McDonald
- h. McDSadL > McDonald
- i. McDSadL = McDonald



Test Statistics^a

	McDSadH - McDonald	McDSadM - McDonald	McDSadL - McDonald
Z	-1.342 ^b	-1.045 ^c	-2.513 ^c
Asymp. Sig. (2-tailed)	.180	.296	.012

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

APPENDIX C: ETHICAL CLEARANCE APPROVAL



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17 August 2011

Mr. RH Salisbury (812818016)
School of Management

Dear Mr. Salisbury

PROTOCOL REFERENCE NUMBER: HSS/0738/011D
PROJECT TITLE: An Analysis of Complementary Competence Co-branding Potential in the Beer Industry

EXPEDITED APPROVAL

I wish to inform you that your application has been granted Full Approval through an expedited review process:

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Professor Steven Collings (Chair)
HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

cc. Supervisor – Prof. R.C O'Neill
cc. Prof. D Vigar-Ellis
cc. Post Graduate Office