7.5   SECTION ANALYSIS – PRINCIPLE COMPONENT EXPLORATORY FACTOR ANALYSIS

The motivations behind the use of principle component exploratory factor analysis as a method of analysis for this investigation have been documented in Chapter 6. In summary these are: a) factor analysis is regularly applied in the social sciences (thus it is a valid technique to use in the context of this study); b) factor analysis is used to indicate the presence of latent variables by measuring other variables that signify the existence of said latent variable; and c) factor analysis condenses sets of complex data, without compromising the integrity of the data, into a reduced set of factors, which are assumed to represent the measures under investigation.

To summarize the process, principle component exploratory factor analysis was used to identify constructs, using the statistical package IBM SPSS Statistics Version 19. A number of multivariate outliers and influential points where identified, however, it was only necessary to delete the four observations that had the strongest influence on the results. The items within each of the seven sections were submitted to seven rounds of exploratory factor analysis. Within each of the EFA analyses, it was necessary to disqualify a number of items as a result of a) low communality estimates within the chosen factor space, or b) since they were loading strongly on more than one factor, or c) poor internal consistency in terms of Cronbach's alpha. The final factor analyses on the retained items was subjected to varimax rotation to obtain a simpler structure and aid interpretation of a solution (Everitt, 2010:225), and these are reported in sections 7.5.1 to 7.5.7.

Table 7.27 shows the factorizability of the individual sections of factors according to the following statistical tests:

- *Kaiser Meyer-Olkin* (KMO) is a measure of sampling adequacy (Field, 2005:640). KMO values range between 0 to 1; values below 0.60 are at the threshold of acceptability, values between 0.70 and 0.80 are good and values exceeding 0.80 are very good and those greater than 0.90 are excellent (Field, 2005:640). Alpha is defined as a measure of reliability that ranges from 0 to 1, with values of 0.60 to 0.70 regarded the lower limit of acceptability.

- *Bartlett's test of sphericity* (BTS) is a statistical test for the overall significance of all correlations within a correlation matrix (Hair *et al.*, 2010:92). BTS should be less than 0.001 (Ho, 2006:218).

- *Cronbach's alpha* is defined as a measure of reliability that ranges from 0 to 1, with values of 0.60 to 0.70 regarded the lower limit of acceptability (Hair *et al.*, 2010:92). Hair *et al.* (2010:125) reflect that in exploratory research, values of 0.60 are acceptable.

All factors produced from the individual sections exceed the minimum criteria for the statistical tests: Kaiser Meyer-Olkin (KMO), Bartlett's test of sphericity and Cronbach's alpha (as a measure of reliability), and hence qualify for factorizability as shown in Table 7.27.

Table 7.27: Factorizability of the individual sections

	IDEAL RANGE	SECTION A	SECTION B	SECTION C	SECTION D	SECTION E	SECTION F	SECTION G
Kaiser Meyer-Olkin	>0.600	0.808	0.720	0.521	0.881	0.603	0.890	0.804
Bartlett's test of sphericity	<0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cronbach's alpha	0 -1	0.786	0.748	0.722	0.868	0.643	0.890	0.830

The specific results and interpretation of each of the seven independent EFA are reported for sections A, B, C, D, E, F and G.

Principle component exploratory factor analysis was applied several times for each section of the questionnaire (A, B, C, D, E, F and G) to reduce the data and obtain clear constructs within each set of items. The process of the EFA combined correlated variables into a factor and in so doing revealed the structure and association between variables. For example, in Table 7.28, three items are found to load strongly against factor A1, which indicates that these items are correlated, the suggested associations between these items is that of dependence and addiction on mobile phones, thus the overall descriptor for factor A1 is *Mobile addiction*. This process of interpretation and description was repeated for every factor identified within each section of the questionnaire and is detailed in the ensuing paragraphs.

7.5.1 Section A: Mobile importance

Table 7.28 shows the arrangement of items into factor components and specifies the respective factor labels.

Table 7.28: Factors loadings for Section A pertaining to mobile importance

	Component[1]			Communality estimate
	Factor A1: Mobile addiction	Factor A2: Empowered choice	Factor A3: Convenient interconnection	
A2 My cell phone is always on – I'm always connected so that I would not miss out on anything	0.842			0.738
A1 I feel like my cell phone is part of me	0.787			0.717
A3 My cell phone is my most important possession	0.773			0.653
A5 My cell phone enables me to not only choose what digital media applications I want to use, but when I want to and for how long		0.857		0.809
A4 I mainly use my cell phone to access digital media applications and content I want to check, to see what is going on	0.321	0.803		0.762
A7 I think location based services delivered through my cell phone would be useful (e.g., using applications to navigate to specific products in a store, knowing which shops stock your brands, receiving special promotions from your stores valid for one day			0.881	0.784
A6 My cell phone connects me to other media (e.g., If I enter a competition advertised in a magazine through SMS, or casting a vote for someone in reality TV, like Idols or Big Brother, or call into a radio station)			0.714	0.624
Eigenvalue	**3.140**	**1.137**	**0.809**	
% of Variance explained	**44.857**	**16.236**	**11.550**	
Cumulative % of variance explained	**44.857**	**61.093**	**72.643**	
Reliability Analysis	**Items A1-A3**	**Items A4-A5**	**Items A6-A7**	**TOTA[2] Items A1-A5**
Cronbach's alpha	**0.774**	**0.724**	**0.547**	**0.786**

1: Note that coefficients smaller than 0.30 are not shown
2: Item A6 and A7 were excluded due to their low item-total correlations

The overall scale reliability when all items were combined were 0.786, with items A6 and A7 excluded due to their low item-total correlations.

Derivation of factor names for section A

FA1: Mobile addiction

The arrangement of items aggregated into factor FA1 is indicative of the postmodern characteristic of *de-differentiation*, through the reversal of roles between subject and object as inferred through the status conferred by individuals to their cell phones. This factor is suggestive of dependence and addictive attributes in individuals' responses to perceptions of their mobile phones.

FA2: Empowered choice

The arrangement of items aggregated into factor FA2 is suggestive of individuals' right to choose what media they wish to consumer under conditions of abundant choice. Using their cell phones to access media facilitates selective consumption of media. This factor is therefore indicative of postmodernism's philosophy for *tolerance of diversity*. Despite tolerance the right for preference is not eliminated.

FA3: Convenient interconnection

The arrangement of items clustered into factor FA3 is suggestive of the postmodern characteristic of *hyperreality* and *de-differentiation,* exemplified through the blurring of boundaries. The boundaries in this instance are between physical and virtual domains of media and the dissolution of boundaries between media forms, which is possible through the use of cell phones.

TOTA: Mobile importance

Collectively these factors point towards the importance of cell phones to individuals in their consumption of media accessed through these devices.

7.5.2 Section B: Advertising value

Derivation of factor names for section B

Table 7.29 shows the arrangement of items into factor components and specifies the respective factor labels.

Table 7.29: Factors loadings for Section B pertaining to advertising value

	Component[1]				Communality estimate
	Factor B1: Personal-isation	Factor B2: Informat-ion resource	Factor B3: Social exchange	Factor FB4: Permiss-ion based	
B13 Advertising sent to me through my personal media like my cell phone, or social network, or email has more meaning to me than advertising in mainstream media	0.877				0.655
B14 I am more likely to make repeat purchases from brands that communicate directly with me	0.795				0.703
B12 I prefer receiving personalised communication through my personal media like my cell phone, or social network, or email	0.710		0.357		0.775
B2 Advertising helps me decide what brands to buy		0.857			0.782
B1 Advertising keeps me informed about brands		0.835			0.688
B11 I would forward a brand communication to my friends if I think it would interest them	0.342		0.754		0.749
B10 Media content is a popular topic of conversation amongst me and my friends We chat about movies, TV programmes, radio shows, things we've seen or heard on the Internet or read in magazines		0.332	0.701		0.615
B7 I prefer short advertisements				0.825	0.695
B6 I only want to receive brand communication on my cell phone from brands that I have given permission to contact me				0.772	0.746
Eigenvalue	**2.860**	**1.358**	**1.287**	**0.903**	
% of Variance explained	**31.773**	**15.094**	**14.299**	**10.036**	
Cumulative % of variance explained	**31.773**	**46.868**	**61.166**	**71.202**	
Reliability Analysis	Items B12-B13	Items B1-B2	Items B10-B11	Items B6-B7	TOTB[2] Items B1-B2, B11-B13
Cronbach's alpha	**0.768**	**0.707**	**0.458**	**0.456**	**0.748**

1: Note that coefficients smaller than 0.30 are not shown
2: Item B6, B7, and B10 were excluded due to their low item-total correlations

The overall scale reliability when all items were combined were 0.748, with items B6, B7 and B10 excluded due to their low item-total correlations.

FB1: Personalisation

The arrangement of items clustered into factor FB1 is suggestive of the postmodern property of *pastiche*, through individuals desire for self-reference as indicated through their preference to receive personalised communication.

FB2: Information resource

The items grouped together under FB2 suggest individuals use advertising as an informational resource.

FB3: Social exchange

The arrangement of items clustered into factor FB3 is suggestive of the postmodern marketing concept of *embedded marketing.* In this instance individuals disseminate marketing through exchanges with others.

FB4: Permission based

The arrangement of items clustered into factor FB4 is suggestive of outcomes of the postmodern characteristic of *fragmentation* and *de-differentiation.* Shorter commercials are a product of fragmentation in the advertising sector, and respondents indicate a preference for short advertisements. Fragmentation has resulted in the proliferation of communication touchpoints, both mass and personal touchpoints. Individuals, in their wish to receive permission based communication through their personal media are exercising an aspect of de-differentiation to differentiate between the types of communication they are receptive to in their personal media.

TOTB: Advertising value

Collectively these factors fall under an umbrella description of advertising value.

7.5.3   Section C: Uniqueness

Table 7.30 shows the arrangement of items into factor components and specifies the respective factor labels.

Table 7.30: Factors loadings for Section C pertaining to uniqueness

	Component[1]		Communality estimate
	Factor C1: Innovation seeking	Factor FC2: Redefinition	
C5 I prefer to follow the latest trends rather than stick to the old ways of doing things	0.890		0.793
C4 It is important for me to keep informed about the latest trends in the product categories I am interested in	0.870		0.773
C2 I take the information I receive and form my own ideas from it		0.838	0.706
C1 I search for information rather than waiting for it to only be sent to me		0.792	0.655
Eigenvalue **% of Variance explained** **Cumulative % of variance explained**	**1.685** **42.119** **42.119**	**1.241** **31.037** **73.156**	
Reliability Analysis	**Items C4-C5**	**Items C1-C2**	**TOTC[2]** **Items C4-C5**
Cronbach's alpha	**0.722**	**0.501**	**0.722**

1: Note that coefficients smaller than 0.30 are not shown
2: Item C1, and C2 were excluded due to their low item-total correlations

The overall scale reliability when all items were combined were 0.722, with items C1 and C2 excluded due to their low item-total correlations.

Derivation of factor names for section C

FC1: Innovation seeking

The arrangement of items clustered into factor FC1 is suggestive of the postmodern characteristic of *anti-foundationalism*, where individuals seek change from established norms and look for innovation.

FC2: Redefinition

The arrangement of items clustered into factor FC2 is indicative of the postmodern characteristic of *de-differentiation,* where individuals de-construct and re-construct information relative to their needs.

TOTC: Uniqueness

Collectively these factors signify uniqueness and early adopters.

7.5.4 Section D: Social evolution

Table 7.31 shows the arrangement of items into factor components and specifies the respective factor labels.

Table 7.31: Factors loadings for Section D pertaining to social evolution

	Component[1]				Communality estimate
	Factor D1: Hyperreal cult	Factor D2: Hyperreal escapism	Factor D3: Interactive collaboration	Factor D4: Dissolved boundaries	
D5 I feel more connected to my friends on social networks sites when they post comments about things I share with them	0.772				0.673
D3 Social networks are very important to keep up and form new friendships	0.770				0.722
D2 My online social networking reinforces my offline friendship	0.736				0.606
D4 When I share interesting posts on my social network my popularity increases amongst my friends	0.702	0.371			0.679
D1 I participate in different social network groups to express different parts of me	0.687				0.557
D8 I like to play games on my social networking sites (e.g., Farmville)		0.817			0.686
D16 I participate in virtual reality sites like Second Life or World of Warcraft		0.759			0.639
D7 I like to send and receive virtual gifts on social network sites		0.749			0.664
D13 I like to interact with my favourite brands on my social network sites			0.818		0.824
D14 I usually pay attention to other fans' posts on brand fan pages			0.813		0.815
D10 I think that social media sites have made the world a more connected place				0.894	0.841
D15 Social network sites help me share stories/things I've done/events with friends (e.g., I don't have to tell each friend individually I can just broadcast to my entire network)	0.411			0.662	0.637
Eigenvalue	**4.992**	**1.715**	**0.897**	**0.741**	
% of Variance explained	**41.598**	**14.288**	**7.474**	**6.175**	
Cumulative % of variance explained	**41.598**	**55.885**	**63.359**	**69.534**	
Reliability Analysis	Items D1-D5	Items D7-D8, D16	Items D13-D14	Items D10, D15	TOTD[2] Items D1-D5, D7, D10, D13-D16
Cronbach's alpha	**0.847**	**0.748**	**0.794**	**0.602**	**0.868**

1: Note that coefficients smaller than 0.30 are not shown
2: Item D8 was excluded due to its low item-total correlation

The overall scale reliability when all items were combined were 0.868, with item D8 excluded due to its low item-total correlations.

Derivation of factor names for section D

FD1: Hyperreal cult

The arrangement of items clustered into factor FD1 is indicative of the postmodern characteristic of *hyperreality.* These items position social media networks as integral communication platforms in contemporary culture, which interlink friends between physical and virtual worlds.

FD2: Hyperreal escapism

The arrangement of items clustered into factor FD2 is also indicative of the postmodern characteristic of *hyperreality.* It infers escapism through participation with virtual games or trading and in so doing exchange of virtual capital between parties.

FD3: Interactive collaboration

The arrangement of items clustered into factor FD3 is suggestive of the postmodern marketing concept of *collaborative marketing.* It recognises customers as co-collaborators in marketing, who exchange information within relevant communities of interest. Multiple stakeholders are involved in marketing; marketing is not only practiced by a division within a specific organisation, but exercised by all stakeholders.

FD4: Dissolved boundaries

The arrangement of items clustered into factor FD4 is indicative of the postmodern characteristic of *de-differentiation.* In this instance it pertains to the fact that using social media networks dissolves boundaries of time, space and place. Social media networks facilitate global connectivity of communities.

TOTD: Social evolution

Social media networks have transformed connections and methods of communicating across societies.

7.5.5 Section E: Fragmentation outcomes

Table 7.32 shows the arrangement of items into factor components and specifies the respective factor labels.

Table 7.32: Factors loadings for Section E pertaining to fragmentation outcomes

	Component[1]		Communality estimate
	Factor E1: Impulsiveness	Factor E2: Indecisiveness	
E2 I often buy things on impulse		0.907	0.825
E3 I tend to get things because I want them and not necessarily because I need them		0.879	0.799
E4 Too many alternatives in the same product category make it difficult for me to choose a product (e.g., shampoo category variants for fine, coloured, greasy, dry, volume-seeking, curly, straight, shiny, combination)	0.664		0.480
E6 These days there are so many different products for different uses that I have discovered needs that I was not aware of previously	0.763		0.584
E7 With such a wide range of products available these days I am not sure beforehand what I am going to buy	0.777		0.615
Eigenvalue	**2.034**	**1.268**	**No items excluded**
% of Variance explained	**40.679**	**25.370**	
Cumulative % of variance explained	**40.679**	**66.049**	
Reliability Analysis	Items E4, E6-E7	Items E2-E3	TOTE Items E2-E4, E6-E7
Cronbach's alpha	**0.581**	**0.773**	**0.643**

1: Note that coefficients smaller than 0.30 are not shown

The overall scale reliability when all items were combined were 0.643 with no items excluded.

Derivation of factor names for section E

FE1: Impulsiveness

The arrangement of items clustered into factor FE1 is a behavioural outcome indicative of the postmodern characteristic of *fragmentation.* Individuals find it difficult to differentiate between their needs and wants.

FE2: Indecisiveness

The arrangement of items clustered into factor FE2 is also a behavioural outcome indicative of the postmodern characteristic of *fragmentation,* where individuals are inundated by the volume of different offerings that they do not necessarily know exactly what they will purchase.

TOTE: Fragmentation outcomes

The two factors comprising section E, namely factors FE1 and FE2 represent behavioural outcomes in response to fragmentation.

7.5.6 Section F: Market exchange

Table 7.33 shows the arrangement of items into factor components and specifies the respective factor labels.

Table 7.33: Factors loadings for Section F pertaining to market exchange

	Component[1]				Communality estimate
	Factor F1: Critical asserti-veness	Factor F2: Authent-ic repres-entation	Factor F3: Resour-ceful collabo-ration	Factor F4: Involved consu-merism	
F10 I would like to tell my brands how to improve their products	0.834				0.749
F11 I would like to feel part of my products' development process	0.817				0.741
F9 I think that if brands listen to me they will be able to give me what I expect from them	0.754				0.669
F13 I think my opinions about products/brands are important	0.668				0.554
F12 I tell my friends about my product/brand experiences	0.621			0.323	0.496
F8 I like to participate in competitions to win things from my favourite brands	0.583				0.499
F5 Brands need to have clear value propositions to catch my interest		0.764			0.658
F6 I prefer to use brands that I see as being authentic		0.710	0.333		0.639
F4 Free-stuff, samples, promotions help me decide which brands (products) to choose		0.644		0.305	0.541
F7 I specifically seek out brands that reflect who I am or who I want to be	0.388	0.545			0.495
F2 I prefer products and brands that are innovative		0.537	0.329		0.467
F19 I value other buyers' reviews of products/brands when I am interested in a product/brand			0.796		0.709
F20 I think user comments about products/brands are more authentic than professional articles written about products/brands			0.734		0.595
F18 I trust the opinions of members in my social network (off or online)			0.699		0.595
F16 When I am DISSATISFIED with brands I express this on blogs, social networks sites, forums, email, instant messaging or Twitter				0.811	0.744
F15 I chat about brands on blogs, social networks sites, forums, email, instant messaging or Twitter when I am HAPPY with them				0.742	0.694
Eigenvalue	**6.105**	**1.607**	**1.092**	**1.042**	
% of Variance explained	**38.153**	**10.041**	**6.825**	**6.511**	
Cumulative % of variance explained	**38.153**	**48.194**	**55.019**	**61.530**	
Reliability Analysis	Items F8-F13	Items F2, F4-F7	Items F18-F20	Items F15-F16	TOTF Items F2, F4-F13, F15-F16, F18-F20
Cronbach's alpha	**0.853**	**0.763**	**0.733**	**0.705**	**0.890**

1: Note that coefficients smaller than 0.30 are not shown

The overall scale reliability when all items were combined were 0.890 with no items excluded.

Derivation of factor names for section F

FF1: Critical assertiveness

The items aggregated into factor FF1 are suggestive of the postmodern marketing concept of *embedded marketing,* which embeds the practice of marketing into customer communities inferring that customers want to take an active role in the development of products or services they use and experience.

FF2: Authentic representation

The arrangement of items grouped under factor FF2 represent an outcome of the postmodern characteristic of *hyperreality* that results in individuals' desire for authenticity. It supports the perspective that authenticity is an important attribute to people, to the extent that even the offerings they use or are exposed to should provide distinctive value propositions.

FF3: Resourceful collaboration

The arrangement of items grouped under factor FF3 is indicative of the postmodern characteristic of *de-differentiation* and postmodern marketing concept of *collaborative marketing.* Digital media provides mechanisms that allow prospective customers to share lived experiences of other customers.

FF4: Involved consumerism

The arrangement of items grouped under factor FF4 represent an outcome of the postmodern marketing concepts of *collaborative* and *diffused marketing,* which are manifested through individuals expressing their perspectives of various offerings on digital platforms.

TOTF: Market exchange

The factors that contribute to section F are indicative of postmodern marketing practices influencing the market.

7.5.7   Section G: P2P value extraction

Table 7.34 shows the arrangement of items into factor components and specifies the respective factor labels.

Table 7.34: Factors loadings for Section G pertaining to peer-to-peer value extraction

	Component[1]		Communality estimate
	Factor G1 : Altruism	Factor G2 : Reciprocity	
G2 I stay online until other users have finished their downloads	0.764		0.586
G5 I feel obliged to share because I download from others	0.755		0.596
G1 I like to explain to other users if they have technical problems with file sharing	0.748		0.561
G3 I download files, not only for myself, but to share with my friends	0.742	0.362	0.681
G4 I think that file sharing is based on reciprocity (a mutual or cooperative interchange of favours)	0.717	0.342	0.631
G8 I have received music from friends that they have downloaded		0.848	0.727
G7 I share music that I have downloaded with friends		0.813	0.744
G6 I watch series or movies that were downloaded		0.795	0.636
Eigenvalue	**3.625**	**1.537**	
% of Variance explained	**45.309**	**19.211**	
Cumulative % of variance explained	**45.309**	**64.520**	
Reliability Analysis	**Items G1-G5**	**Items G6-G8**	**TOTG Items G1-G8**
Cronbach's alpha	**0.824**	**0.789**	**0.830**

1: Note that coefficients smaller than 0.30 are not shown

The overall scale reliability when all items were combined were 0.830 with no items excluded.

Derivation of factor names for section G

FG1: Altruism

The arrangement of items grouped under factor FG1 represent qualities of collaboration and consideration of others needs in the process of peer-to-peer file sharing.

FG2: Reciprocity

The arrangement of items grouped under factor FG2 correspond to shared distribution of content which infers the characteristic of reciprocity.

TOTG: P2P value extraction

The outcome of peer-to-peer file sharing provides values to those that utilise this method of file exchange.

7.6 DESCRIPTIVE MEASURES OF FACTOR SCORES

Descriptive measures of the factor scores of the mean (m), standard deviation (SD), minimum (min) and maximum (max) values, and the sample size (n) are recorded in Table 7.37. The mean is a useful descriptive measure that provides the hypothetical estimate of the general score (Field, 2005:738); the standard deviation is an estimation of the spread of data (Field, 2005:738). The larger the standard deviation, the larger the "average" deviation of data points from the mean.

For purposes of interpretation the following categorization was utilised for the interpretation of mean scores:

- Mean values ranging between 1.00 and 2.33 (low agreement response);
- Mean values ranging between 2.34 and 3.66 (medium agreement response);
- Mean values ranging between 3.67 and 5.00 (high agreement response).

7.6.1 Factor mean scores (all groups)

Factor mean scores obtained from the EFAs were ranked in Table 7.37, by mean score in descending order of value obtained. It is important to keep in mind that the factor scores were calculated by averaging the observed item scores based on the results of the EFAs. The composite scores based on the averaging of the items are therefore interval scales. Interval scales have an arbitrary zero, and relative differences between scale points can be compared, however expressing ratios between scale points would be invalid. All the items were measured on a 5-point scale with 1 indicating "strongly disagree" and 5 indicating "strongly agree". Therefore, the higher the average score, the higher the general agreement in the group on the specific questions. It should however be made clear that

the average is only a general indication of the agreement score. Several conclusions can be made based on these results namely:

- *FB4: Permission based.* In the sample, the mean of Factor *FB4: Permission based* was 4.326 (n=376). This can be interpreted to imply that respondents respond to the postmodern characteristic of fragmentation by exhibiting a preference for shorter commercials and exercise behaviour which is characteristic of de-differentiation by delineating the specific brands they permit to communicate with them via their cell phone.

- *FD4: Dissolved boundaries.* The sample mean for Factor *FD4: Dissolved boundaries*, was 4.135 (n=352). Respondents indicated strong agreement that social media networks enabled them to have greater connectivity, eradicating boundaries and thereby facilitating individual and group communication. The postmodern characteristic that corresponds to this concept of boundary-less communication is de-differentiation.

- *FG2: Reciprocity.* Factor *FG2: Reciprocity*, resulted in an overall mean score of 4.134 (n=317) indicating strong agreement with this factor. Respondents indicated that they positively support the mutual exchange of downloaded content amongst peers. The smaller sample size (n=317) replying to the questions related to peer-to-peer file sharing could indicate either that peer-to-peer file sharing is not a common practice amongst members of the sample, and or that the sample is aware of legalities concerning peer-to-peer file sharing and hence were hesitant to answer questions related to this topic.

- *FA3: Convenient interconnection.* The mean score of Factor *FA3: Convenient interconnection*, was 4.102 (n=381). Respondents indicated a strong agreement that they were positively receptive to innovative applications accessible through their mobile phones to assist their shopping experience, like location-based services. Respondents also indicated that they use their cell phones as a response medium to connect to other media. This score supports the notion that behavioural responses captured by this factor are reflective of the postmodern characteristics of de-differentiation and hyperreality.

- *FF2: Authentic representation.* Factor *FF2: Authentic representation*, resulted in a mean score of 4.039 (n=338). Respondents indicated a strong agreement that

authenticity is an important attribute expected from the brands that form part of their consideration set. This is related to the fact that people associate themselves with brands that they consider representative of themselves; therefore the need for authenticity of the self is reflected through the acquisition of brands that portray authentic values. The same arguments supports that the need for the self to be perceived as innovative is partially fulfilled by associating with innovative brands. This factor is considered to be an outcome of excessive hyperreality, which conversely drives a need for authenticity.

- *FB2: Information resource.* Factor *FB2: Information resource*, produced a mean score of 4.037 (n=376). Respondents agreed that advertising is a source of information and aids decision-making. This result recognises that advertising is still a critical component of the promotion mix.

- *FC2: Redefinition.* Factor *FC2: Redefinition*, resulted in a mean score of 4.009 (n=370). Respondents agreed that they actively seek and or perhaps critically process information. The result obtained is somewhat expected, considering respondents are students enrolled in tertiary education, so one has an expectation that this sample will interrogate information and form their own opinions. This factor addresses postmodern characteristics of de-differentiation and anti-foundationalism.

- *FF1: Critical assertiveness.* Factor *FF1: Critical assertiveness*, produced a mean score of 3.923 (n=339). Respondents generally agreed that they would like to be involved in the development and improvement of products they use. They consider they have valid contributions to offer to this process. This result is strongly indicative of the postmodern marketing concept of embedded marketing.

- *FB3: Social exchange.* Factor *FB3: Social exchange*, produced a mean score of 3.850 (n=376). Respondents generally agreed that media content is a topic of conversation amongst peers and that they would forward relevant communication to peers if they thought it would be of interest to the recipient. This result is indicative of the postmodern marketing concept of embedded marketing. This finding should be compared with factor *FF1: Critical assertiveness*, which also infers manifestations of embedded marketing. Comparison of these dimensions reveals similar mean results, which confirms the practice of embedded marketing amongst

respondents. In addition this result provides positive evidence that media may serve as a social currency in social transactions.

- *FA2: Empowered choice.* Factor *FA2: Empowered choice*, resulted in a mean score of 3.850 (n=379). Respondents tended to agree that they use their cell phones to selectively access and consume content of their choice at their convenience. This finding supports the notion of tolerance of abundant choice and the right for respondents to pick and choose according to their preference.

- *FA1: Mobile addiction.* Factor *FA1: Mobile addiction*, produced a mean score of 3.781 (n=383). Respondents tended to agree about their dependence on their cell phones for connectivity and the integral role these devices play in the respondents' lives. This finding is indicative of the postmodern trait of de-differentiation which characterises the displacement between the role of subject (respondent) and object (cell phone). It is noted, as anticipated, that the mean score obtained in *FA1: Mobile addiction* is closely related to the mean score achieved against *FA2: Empowered choice*, as both dimensions correspond to respondent attitudes and use of cell phones.

- *FF3: Resourceful collaboration.* Factor *FF3: Resourceful collaboration*, resulted in a mean score of 3.693 (n=331). Respondents show that they value the experiences of other consumers, which possibly contributes to the respondents' various brand networks which they draw on when making decisions involving the respective brands. This behaviour is characteristic of the postmodern marketing application of collaborative marketing, which is a sub-component of embedded marketing, and as such is linked to dimensions of *FF1: Critical assertiveness* and *FB3: Social exchange*.

- *FC1: Innovation seeking.* Factor *FC1: Innovation seeking*, produced a mean score of 3.585 (n=369). Respondents expressed their preference to pursue the latest trends. This response supports the postmodern characteristic of anti-foundationalism, which encourages the pursuit of alternatives against conventional norms.

- *FE2: Indecisiveness.* Factor *FE2: Indecisiveness*, resulted in a mean score of 3.539 (n=346). Respondents indicated that they find it difficult to make a choice when

faced with abundant options. This behavioural outcome is a response to the postmodern characteristic of fragmentation.

- *FB1: Personalisation.* Factor *FB1: Personalisation*, produced a mean score of 3.513 (n=373). Respondents tended to agree that they were more receptive to communications from brands that were received through their personal media rather than mainstream media, and indicated a preference for personalised communication received on their personal media platforms. Personalisation is an indication of self-referentiality which is indicative of the postmodern characteristic of pastiche.

- *FD1: Hyperreal cult.* Factor *FD1: Hyperreal cult*, resulted in a mean score of 3.433 (n=354). Respondents affirmed that social networks are an important method of social connectivity amongst social groups. The virtual space of social networks is a real space to its users, despite its lack of physical presence. This dimension evidences the postmodern characteristic of hyperreality.

- *FE1: Impulsiveness.* Factor *FE1: Impulsiveness*, produced a mean score of 3.430 (n=346). Respondents indicated a tendency towards impulsive behaviour, which suggests self-conflict in the rationalisation between wants and needs. This type of behaviour is considered an outcome in response to the proliferation and variety of products on offer, which is a consequence of the postmodernism characteristic of fragmentation. The findings from this factor are comparative to factor *FE2: Indecisiveness*, which is also indicative of the fragmentation trait.

- *FF4: Involved consumerism.* Factor *FF4: Involved consumerism*, resulted in a mean score of 3.125 (n=320). Respondents indicated that they express their satisfaction or dissatisfaction of brands in digital social media. This behaviour is considered to reflect postmodern marketing ideas of collaborative and diffused marketing, which are part of the wider umbrella concept of embedded marketing. Thus linking this dimension to those of *FF1: Critical assertiveness*, *FB3: Social exchange*, and *FF3: Resourceful collaboration*, which also relate to embedded marketing. The comparatively lower mean score obtained against factor *FF4: Involved consumerism* indicates some reluctance on the part of the respondents to express their opinions of brands in the public sphere.

- *FG1: Altruism.* Factor *FG1: Altruism*, produced a mean score of 3.052 (n=303). Respondents appear to take the middle ground in terms of this dimension concerning peer-to-peer file sharing. However on further analysis of responses for specific questions making up this dimension, it is noted that the majority of respondents indicated that they would not stay online to wait for other users to finish their downloads; this result is suspected to have skewed the overall mean score of this dimension towards a medium response. One of the reasons considered to influence the decision for respondents to terminate online connections prior to other users completing their downloads is the high cost associated with broadband access and limitation of data plans that one subscribes to. As with the dimension *FG2: Reciprocity*, the smaller sample achieved in this section could indicate that peer-to-peer file sharing is not a common practice amongst members of the sample, or that the sample is aware of legalities concerning peer-to-peer file sharing and hence are hesitant to answer questions related to this topic.

- *FD3: Interactive collaboration.* Factor *FD3: Interactive collaboration*, resulted in a mean score of 2.967 (n=345). Respondents were generally undecided on this dimension. This dimension represents perceptions towards the postmodern marketing concept of collaborative marketing, which forms part of embedded marketing. Thus linking this dimension to those of *FF1: Critical assertiveness*, *FB3: Social exchange*, *FF3: Resourceful collaboration*, and *FF4: Involved consumerism*.

- *Embedded marketing.* Based on the range of *mean scores* observed in this sample against the dimensions of *FF1: Critical assertiveness*, *FB3: Social exchange*, *FF3: Resourceful collaboration*, *FD3: Interactive collaboration* and *FF4: Involved consumerism*, one is led to conclude that a dichotomy exists within the concept of embedded marketing. Respondents indicate that they have opinions which they think would be beneficial to brands, and that they think brands should listen to them. However, they demonstrate a reluctance to interact with brands and to share their opinions of brands.

In order to determine if these variables are in fact correlated and what the level of correlation is between them. The guidelines depicted in Table 7.35 will be used for interpretation of the correlation co-efficient.

Table 7.35: Interpretation of the size of a correlation

CORRELATION	NEGATIVE	POSITIVE
None	-0.09 to 0.0	0.0 to 0.09
Small	-0.3 to -0.1	0.1 to 0.3
Medium	-0.5 to -0.3	0.3 to 0.5
Strong	-1.0 to -0.5	0.5 to 1.0

Source: Wikipedia (2011)

The correlation matrix depicted in Table 7.36 shows that the correlation coefficients for each of the variables: *FB3: Social exchange*, *FD3: Interactive collaboration*, *FF1: Critical assertiveness*, *FF3: Resourceful collaboration* and *FF4: Involved consumerism* are all above 0.3 and therefore show a medium to strong correlation with each other.

Table 7.36: Correlation matrix for factors associated with embedded marketing

		FB3: Social exchange	FD3: Interactive collaboration	FF1: Critical assertiveness	FF3: Resourceful collaboration	FF4: Involved consumerism
FB3: Social exchange	Pearson Correlation	1.000	0.321	0.396	0.310	0.312
	Sig. (1-tailed)		0.000	0.000	0.000	0.000
	N	376	345	339	331	320
FD3: Interactive collaboration	Pearson Correlation	0.321	1.000	0.410	0.364	0.431
	Sig. (1-tailed)	0.000		0.000	0.000	0.000
	N	345	345	333	325	317
FF1: Critical assertiveness	Pearson Correlation	0.396	0.410	1.000	0.403	0.456
	Sig. (1-tailed)	0.000	0.000		0.000	0.000
	N	339	333	339	331	320
FF3: Resourceful collaboration	Pearson Correlation	0.310	0.364	0.403	1.000	0.423
	Sig. (1-tailed)	4.000	0.000	0.000		0.000
	N	331	325	331	331	320
FF4: Involved consumerism	Pearson Correlation	0.312	0.431	0.456	0.423	1.000
	Sig. (1-tailed)	0.000	0.000	0.000	0.000	
	N	320	317	320	320	320

- *FD2: Hyperreal escapism.* Factor *FD2: Hyperreal escapism*, resulted in a mean score of 1.953 (n=341). Respondents generally disagreed with this dimension. This dimension sought to measure the presence of hyperreality through respondents' intention to play online games. The low mean score may indicate that online gaming is not a significant activity, which is a somewhat unexpected finding. In the context of this study this result is considered to be less representative of the characteristic

of hyperreality, but more of a function of the following limiting factors a) limited accessibility to the Internet, b) lack of appropriate equipment to participate in online gaming, c) poor quality and availability of broadband, and d) high costs to access the Internet. Findings from this factor should therefore be interpreted within the context of the South African technological landscape. It is reasonable to assume that the aforementioned limiting factors deter respondents from participating in online games.

The relative importance of factors, based on their mean scores is illustrated in Table 7.37.

Table 7.37: Relative importance based on factor mean scores (all groups)

	Mean	Min	Max	Std. Deviation	N
FB4: Permission based	4.326	1	5	0.820	376
FD4: Dissolved boundaries	4.135	1	5	0.884	352
FG2: Reciprocity	4.134	1	5	1.019	317
FA3: Convenient interconnection	4.102	1	5	0.931	381
FF2: Authentic representation	4.039	1	5	0.702	338
FB2: Information resource	4.037	1	5	0.821	376
FC2: Redefinition	4.009	1	5	0.830	370
FF1: Critical assertiveness	3.923	1	5	0.833	339
FB3: Social exchange	3.850	1	5	0.913	376
FA2: Empowered choice	3.840	1	5	1.013	379
FA1: Mobile addiction	3.781	1	5	0.966	383
FF3: Resourceful collaboration	3.693	1	5	0.848	331
FC1: Innovation seeking	3.585	1	5	1.034	369
FE2: Indecisiveness	3.539	1	5	1.180	346
FB1: Personalisation	3.513	1	5	1.006	373
FD1: Hyperreal cult	3.433	1	5	1.009	354
FE1: Impulsiveness	3.430	1	5	0.927	346
FF4: Involved consumerism	3.125	1	5	1.267	320
FG1: Altruism	3.052	1	5	1.079	303
FD3: Interactive collaboration	2.967	1	5	1.196	345
FD2: Hyperreal escapism	1.953	1	5	1.098	341

Figure 7.6 provides a graphic representation of factor mean scores for all groups, in descending order.

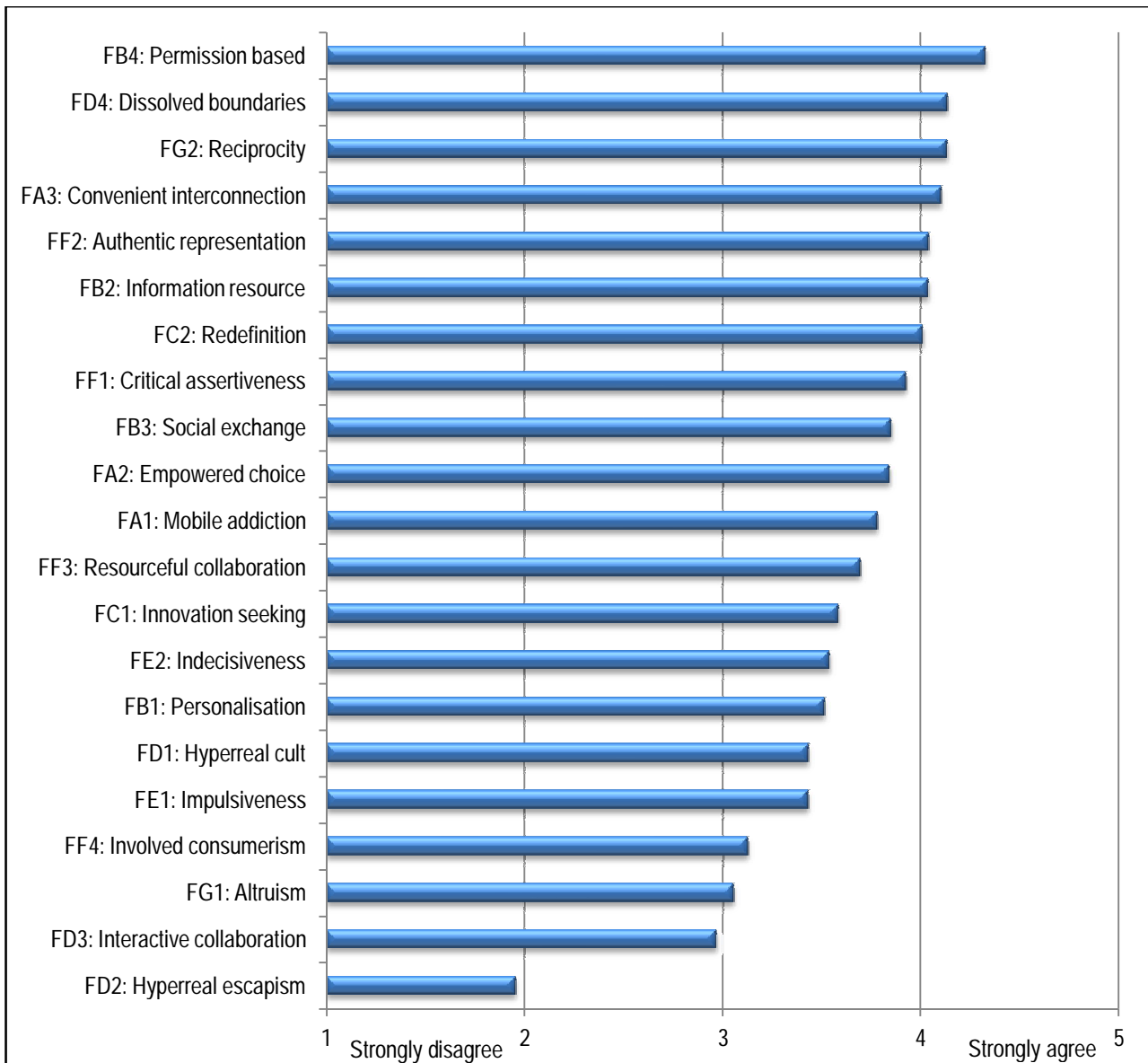**Figure 7.6: Factors mean scores (all groups)**

Figure 7.7 shows mean scores for the seven different sections of questions, at a macro level. It is interesting to note that order of mean scores for the macro level does not correspond directly with the order of mean scores for individual dimensions within a section of questions. Section F: Market exchange had the highest mean score of 3.825 and Section D: Social evolution had the lowest mean score of 3.234.

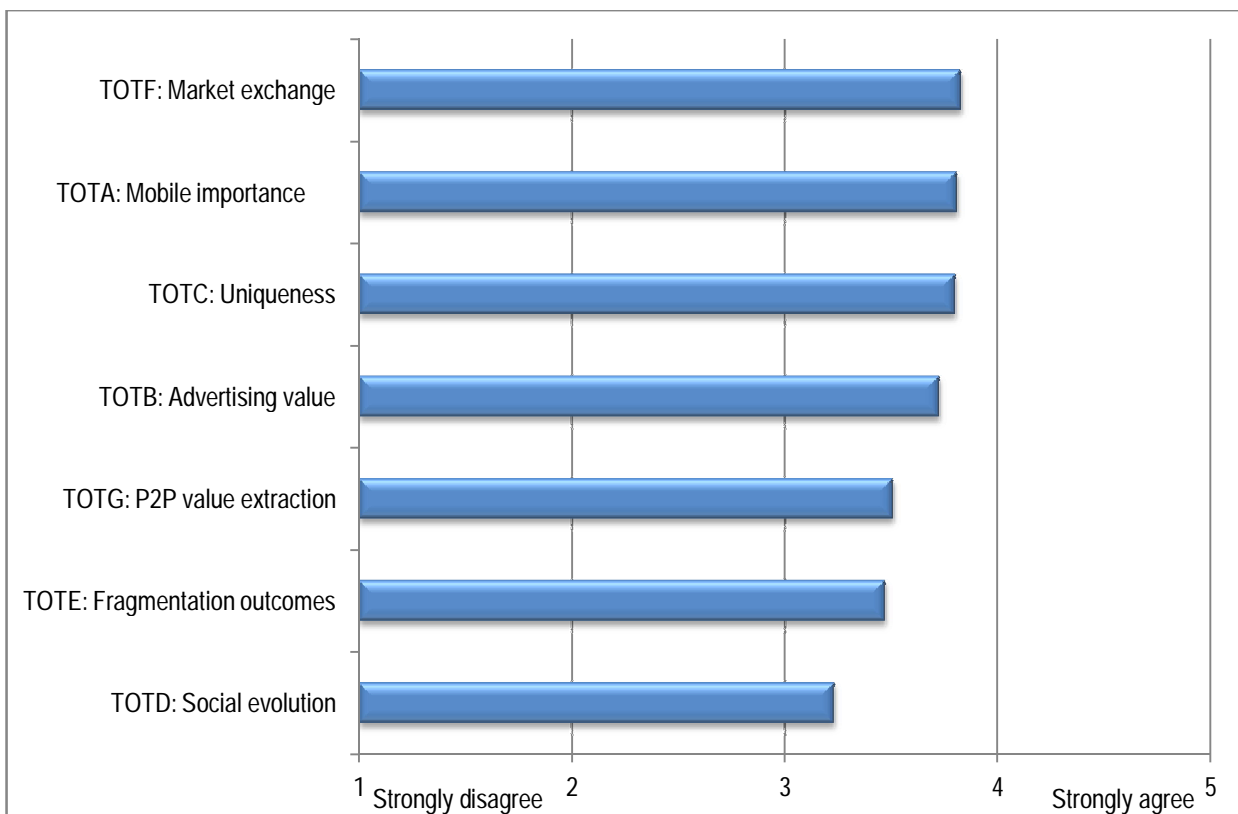**Figure 7.7: Factors mean scores for sections**

Figure 7.8 arranges mean scores for each dependent variable within respective sections of questions. This representation shows that there is high variability between mean scores of the various dimensions that make up sections of questions. For instance in Section D: Social Evolution, factor *FD4: Dissolved boundaries* has a mean score of 4.135, but factor *FD2: Hyperreal escapism* has a mean score of 1.953. Thus the variability of mean scores within Section D is responsible for the low overall mean score of Section D.

Figure 7.8: Factors mean scores (all groups within respective sections)