Classifying Potential Online Consumers of Macedonian Apparel

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With the increasing rate of internet penetration Macedonian apparel manufacturers are granted the opportunity to increase their retailing potential by embracing a new retail channel. The purpose of this research is to identify appropriate and distinct segments of potential internet consumers, to allow apparel retailers to develop efficient and effective online strategies for the local Macedonian market. To address the question a paper based survey was conducted, on a target population of frequent internet users. Factor analysis and cluster analysis were used to obtain a three-cluster solution, tested by a discriminant analysis (98.5 per cent score). The two potential internet apparel shoppers segments were characterized by higher perceived usefulness of online shopping, and efficient shopping orientation; while they differed regarding their previous experience with online shopping, apparel purchasing expenditure and age. The third and largest segment consisted of consumers highly involved with apparel products, with strong recreational shopping orientation, hesitant to buy local apparel online.

Keywords: apparel e-shopping, consumer behaviour, consumer segmentation

KLASIFIKACIJA POTENCIJALNIH ONLAJN POTROŠAČA MAKEDONSKE ODEĆE

Sa povećanjem internet penetracije makedonski proizvođači odevnih proizvoda dobijaju mogućnost za povećanje njihovog maloprodajnog potencijala prihvatajući novi maloprodajni kanal. Cilj ovog istraživanja je identifikacija pogodnih i distinktivnih segmenata potencijalnih internet potrošača, što bi omogućilo razvoj efikasne i efektivne onlajn strategije u maloprodaji odeće na lokalnom makedonskom tržištu. U tom cilju sprovedeno je istraživanje u kome je ciljna grupa populacija koja često koristi internet. Upotrebljene su faktor analiza i klaster analiza a dobijeno rešenje ima tri klastera. Za testiranje rešenja upotrebljena je diskriminaciona analiza sa tačnošću od 98.5%. Identificirana su dva potencijalna segmenta internet potrošača odeće koje karakteriše povećana percepirana korisnost onlajn kupovine i efikasna šoping orijentacija; dok se segmenti razlikuju u steknutom iskustvu koje imaju sa onlajn kupovinom, troškovima za odeću i uzrastu. Treći i najveći segment predstavlja potoršače koji su vrlo involvirani odećom, sa jako izraženom rekreativnom šoping orijentacijom, neodlučni u internet kupovini odeće lokalnih proizvođača.

Ključne reči: e-šoping odeća, ponašanje potrošača, segmentacija potrošača

1 INTRODUCTION

Retailing on the Internet started as early as 1990, went through the turbulent phase of the dot com bubble on the turn of the millennia, and emerged as a viable retail strategy for a number of products, including apparel. However, on the emerging South-East European markets e-retail is yet to be established. Macedonia is a typical example of a market where internet penetration is relatively high, still in 2009 only 2% of the population had purchased goods or services via the Internet, according to Eurostat [1], of which none purchased apparel products. In comparison, in 2009 the EU 15 average of online purchases was 33% of all individuals, of which 19% purchased apparel. Furthermore, Macedonia has a well developed apparel industry searching for appropriate manners to retail their products. As a cost-efficient method of retailing, which can connect the manufacturers with consumers

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without any intermediaries e-retail is an option apparel manufacturers can pursue in order to develop their retail network. However, any marketing strategy, including e-retail strategies, has to pay attention to the consumer. In the case of e-retail strategies, where the consumer is able to terminate the online transaction at any given point, consumer knowledge grows in importance. Thus, the purpose of this research is to identify appropriate and distinct segments of potential internet consumers to allow apparel retailers to develop efficient and effective online strategies for the local Macedonian market.

Since the late 1990s academic research on consumer behaviour in the online environment has grown in complexity, yielding often contradictory conclusions on who the internet consumer is. In an attempt to summarise the existing body of literature the Online Shopping Acceptance Model was developed [2]. The model included intrinsic consumer characteristics, such as demographic characteristics, personal traits, and social influences; factors related to shopping in general, such as shopping motivation and orientation, as well as factors connected to the online environment, like internet experience, and shopping in an online environment – previous experience with e-shopping and perceptions of e-shopping. As such the model provided a base for selecting constructs for the segmentation of potential internet consumers in this research.

Findings on the importance of demographic characteristics were mixed. Several authors concluded that they provide only a limited description of consumer behaviour [3, 4]. Gender, age, income and education were the commonly investigated demographic parameters relating to e-retail. In apparel shopping women are traditionally an important segment, which transcended to the online environment. Women tend to browse, buy and spend more on apparel online [5, 6, 7]. In fact, online apparel purchase differed from the pattern of man buying online more often then women, as clothing was one of the rare products that women buy online more often [8]. Some early studies showed that online buying increased with the increase of age [9]. This may be explained by the fact that older consumers, who had made an effort to browse for a product of interest usually bought the product, while younger consumers showed a tendency to browse more for products which they would not necessarily buy [10]. Early internet consumers were often found to belong to the higher income groups [9], while with the acceptation of online shopping the importance of

income decreased [8]. On the other hand, education did not significantly influence the process of e-shopping [9], as shopping is a relatively simple operation.

Innovativeness is the most common personality trait investigated regarding online buying [2]. Innovativeness determines how quickly and to what degree individuals adopt new innovations, compared to the general population. Domain specific internet innovativeness was found to influence apparel shopping [6].

Shopping orientations and motivations are concepts adopted in e-research literature from traditional marketing. Shopping orientation is a multidimensional complex describing an individuals' shopping lifestyle and the activities an individual accentuates while shopping [11]. Even though it is often equated with shopping motivation, it is a broader concept embracing also parameters as shopping behaviour and shopping attitudes [11]. Various shopping orientations were found in the online environment. Due to the time and effort saving nature of e-shopping, internet consumers were often with an efficient shopping orientation [9, 12]. For consumers with economic shopping orientations the internet provided a means for fast price comparisons, thus was helpful in the decision-making process [13]. Apparel shoppers often have a recreational shopping orientation, reaping a psychological reward from the process of shopping per se [14].In the online environment recreational shopping orientation was dominant with apparel shoppers [15]. Some shopping orientations may be deemed inappropriate for the online retail channel. For instance, internet consumers showed less loyalty [15]. In addition, the online environment would not be appropriate for consumers with dominant experiential orientation, who value in-store atmosphere and interactions within the shopping environment [3, 16].

Previous internet experience was also found to influence online shopping. Individuals who spent more time online weekly bought online more readily [17]. Regarding online apparel shopping, the online apparel buyers were characterised by higher levels of internet knowledge and spent more time online in general [5]. Similarly, previous positive experience with online shopping was an important internal source of information which increased the intention to buy online, due to increased consumer trust in the internet as retail medium [18].

The influence of the perceived benefits on online shopping is most often investigated in terms of Davis' Technology Acceptance Model [19]. This theory

states that the higher the perceived usefulness of a technological system like, e-shopping, is, the more positive the attitude towards using that system would be. Positive attitudes can further on lead to a higher intention to buy online and a higher rate of actual online purchasing. The perceived benefits of e-shopping can be utilitarian, as well as hedonistic; and are contrasted by the perceived risks, such as online safety [20]. Moreover, the influence of the social environment was found to be a mediating factor in shaping the attitudes towards a certain action, including e-shopping [21]. The influence of the social environment can be determined by an individuals' subjective norm on e-shopping, i.e. the perceived pressure asserted by relevant referent groups to perform e-shopping. Acceptance of e-shopping by the relevant reference groups increased consumers' intentions to buy online [22].

2 METHODOLOGY

As internet access is an imperative of online shopping, the survey targeted a population of frequent internet users. According to Eurostat [1] 69% of people in the age brackets of 16 to 24 years and 50% of people aged 25 to 34 used the internet everyday or almost every day in 2009. With further increase of age internet usage declined rapidly. Therefore, a core target group of 16 to 24 years was surveyed, as well as an additional target group of persons aged 25 to 35 years.

To define the potential internet apparel buyers a paper based survey was used. The survey was distributed to a convenience sample of high school and university students, and a smaller random sample of the targeted higher age group. The survey included factors affecting online shopping acceptance, such as: demographic parameters (gender, age and apparel purchasing expenditure), internet innovativeness, internet knowledge, perceived usefulness of online shopping, subjective norms for online shopping, apparel shopping orientation (economical, efficient, recreational, loyal and experiential), previous experience with online shopping (buying, browsing, and browsing for apparel), and willingness to buy locally produced apparel online. Apparel purchasing expenditure was used as a surrogate for income, as due to the age of the respondents it was expected that the majority of them would not be able to provide accurate data. The scales used for measuring certain constructs were based on instruments existing in literature [5, 13, 15, 16, 20]. The scale items were measured on a five point Linkert scale.

3 RESULTS AND DISCUSSION

3.1 Profile of the sample

Through the survey a total of 362 questionnaires were distributed, of which 340 were completed and used for the analysis. Of the 340 respondents 42.4% were male, whereas 57.6% were female. The age of respondents varied between 15 and 35 years, with respondents between 15 and 19 years of age being the dominant group with 53.5%, followed by respondents of 20 to 24 years (28.8%), and respondents from 24 to 35 years (17.6%). As assumed, the internet usage rate among the respondents was high. Almost all the respondents had internet access (99.4%). In addition, most of them were heavy internet users - 53% of the respondents used the Internet more than 10 hours per week.

3.2 E-shopping acceptance profile of the sample

A factor analysis, using the principle component method, was conducted to aggregate the 15 parameters describing e-shopping proneness into six components. The loadings and communalities of the rotated components are presented in *Table 1*.

The first component was labelled *clothing involvement*, describing female consumers who often browse clothing online, have high yearly clothing expenditures, and recreational shopping orientation. The second component was *internet scepticism*, correlated with low internet innovativeness, low perceived usefulness of online shopping, and a high subjective norm. The third component was *internet ability*, related to consumers with high internet innovativeness and knowledge, who have had previous experience with online shopping. The fourth component described a *complex shopping orientation*, being related to three different types of shopping orientation. The fifth component *economic local buying* was correlated to an inclination towards buying Macedonian apparel online and an economic shopping orientation. The sixth component was correlated solely with age.

3.3 Identification of segments

To identify homogenous segments of prospective online buyers of Macedonian apparel, based on their aptitude towards online buying, a cluster analysis was conducted. The clustering was based on the six components revealed by the factor analysis. The clusters were obtained by a K-means algorithm. The number of clusters was determined by examining a scree plot in a cubic clustering criterion. Three

Table 1: *Rotated loadings for apparel e-shopping*

| Variable | Component | | | | | | Commun-alities |
	1	2	3	4	5	6	
Gender	**0.628***	-0.023	-0.366	0.221	-0.229	0.240	0.689
Age	0.043	-0.013	0.111	0.029	0.021	**0.933***	0.885
Internet innovativeness	0.166	**-0.571***	**0.471***	0.005	0.083	0.049	0.585
Internet knowledge	0.002	-0.003	**0.750***	-0.010	0.137	-0.044	0.583
Previous experience (buying)	0.087	0.212	**-0.662***	0.005	0.046	-0.285	0.574
Previous experience (browsing)	-0.178	0.080	-0.491	0.025	0.389	0.022	0.431
Browsing for clothing	**0.673***	-0.424	0.043	0.053	-0.051	-0.159	0.666
Perceived usefulness	0.147	**-0.729***	0.085	0.032	0.242	0.088	0.628
Subjective norm	-0.167	**0.719***	-0.092	0.107	0.068	0.055	0.572
Economic shopping orientation	0.281	0.481	0.109	0.134	**0.427***	-0.041	0.524
Efficient shopping orientation	0.338	0.305	0.014	**0.591***	-0.046	-0.193	0.597
Recreational shopping orientation	**-0.796***	0.137	-0.003	0.140	0.090	0.024	0.681
Loyal shopping orientation	-0.130	0.071	-0.101	**0.763***	-0.137	0.071	0.638
Experiential shopping orientation	-0.204	-0.192	0.086	**0.600***	0.365	0.098	0.589
Buying of Macedonian apparel online	0.072	0.114	-0.025	0.058	**-0.744***	-0.009	0.576
Yearly clothing expenditure	**0.607***	0.001	0.334	-0.191	0.176	0.115	0.561
Eigen Values	2,891	2,022	1,452	1,277	1,128	1,008	

clusters were obtained, consisting of 78, 165 and 97 respondents. The final cluster centres are presented in *Table 2*.

3.4 Testing the clustering solution

A discriminant analysis was used to test the solution (*Tables 3* and *4*). As the discriminant analysis was used to confirm the solution, the six components were defined as independent variables, whereas cluster membership was defined as a dependent variable.

The discriminant analysis showed that 98.5% of the original cases were classified correctly and confirmed the three-cluster solution. The value of Wilks' Lambda of 0.144 for the first function and 0.458 for the second function showed a significant level of separation between the clusters by the discriminant functions. The signi-ficance of F-values showed separation

between the clusters significance level of 5%, with the exception of component four, which has a significance level of 10%. However, the fourth component showed little correlation with the three clusters obtained by the analysis. The graphic representation of the three clusters based on the two discriminant functions is given in *figure 1*.

3.5 Description of segments

Each cluster can be best described by the significant values of the cluster centres (*Table 2*). The graphical representation of the final cluster centres of each cluster is presented in *Figure 2*.

Cluster 1: "adult internet enthusiasts" was the smallest of the three clusters, containing 22.9% of the surveyed population. The relatively small size of the cluster might be due to the smaller number of respondents from 25 to 35 years. This cluster can be best separated by the components age and internet ability. Individuals in this cluster were mainly in the age brackets of 25 to 35 years (71.8%), followed by respondents aged 20 to 24. These individuals are certain in their internet abilities, showing the highest index of internet knowledge and internet innovativeness. Both internet knowledge and internet innovativeness are good predictors of online shopping acceptance. The intention to buy products online grows with previous experience in online shopping. Most members of this cluster had previous experience with online shopping (67.9%), supporting the assumption that they would present a good target market for online apparel retailers. Although clothing

Table 2: *Final cluster centres*

| | Component | Cluster mean value (n) | | |
		1 (78)	2 (165)	3 (97)
1	Clothing involvement	0.00441	0.30870*	-0.52865*
2	Internet scepticism	-0.17934	0.26271	-0.30266
3	Internet ability	0.60033*	0.06290	-0.58973*
4	Complex shopping orientation	0.04638	0.08134	-0.17566
5	Economic local buying	0.00088	-0.46121*	0.78382*
6	Age	1.36591*	-0.44341*	-0.34410

Table 3: *Results from the discriminant analysis (1)*

Discriminant function	Variance (%)	Canonical correlation	Wilks' Lambda	χ² (p)	Hit rate (%)
1	64,9	0,829	0,144	649,65 (0.0)	98,5
2	35,1	0,736	0,458	261,27 (0.0)	

Table 4: *Results from the discriminant analysis (2)*

	Component	F (p)	df	Coefficient standard		Coefficient	
				1. Fct.	2. Fct	1. Fct.	2. Fct
1	Clothing involvement	24.370 (0.00)	2;337	0.208	0.638	0.222	0.681
2	Internet scepticism	12.139 (0.00)	2;337	-0.054	0.500	-0.056	0.516
3	Internet ability	38.087 (0.00)	2;337	0.765	0.313	0.845	0.346
4	Complex shopping orientation	2.141 (0.12)	2;337	0.118	0.194	0.119	0.195
5	Economic local buying	65.310 (0.00)	2;337	-0.273	-0.864	-0.321	-1.015
6	Age	213.461 (0.00)	2;337	1.008	-0.336	1.513	-0.504

expenditure was not a factor that distinguished this cluster, most cluster members spending was in the upper brackets, making them an appropriate target group for producers of higher priced garments.

Cluster 2: "apparel shopping fans" was the largest of the three clusters, containing 48.5% of the total surveyed population. The cluster was best described by the components age, economic local buying and clothing involvement. The component age indicated the difference between the first and the second cluster, as members of this cluster are mainly between 15 and 19 years (67,9%), whereas members older than 24 years were not present. The component economic local buying indicated the difference between the first and the third cluster: only 2.4% of the members of this cluster would buy locally produced apparel online, and they are least inclined to have an economic shopping orientation. Members of this cluster were strongly involved with clothing as a product. Firstly, they were mainly female (70,3%), which is a group showing higher propensity towards buying clothes. The majority of cluster members had high clothing expenditure (60%). The frequency of browsing for clothes online was highly accentuated, accompanied by a recreational shopping orientation. Additionally, they showed a strong experiential shopping orientation. As a result, it would be difficult to sell clothing online to members of this cluster.

Cluster 3: "economic local buyers" contained 28.5% of the surveyed population, best described by the component economic local buying. It differed from the first cluster regarding the component internet ability, and from the second cluster regarding the component clothing involvement. Members of this cluster were the most decisive in their intentions for buying locally produced apparel online (40.2%). This may be due to their beliefs that local apparel is better value for many, as the members of this cluster had a strong economic shopping orientation. In contrast to the first cluster they were the least secure in their internet abilities, with the lowest values for internet knowledge and internet innovativeness, and had little previous experience with online buying (13,4% had bought clothing online). Also, the members of this cluster were the least interested in clothing, characterised by their low clothing expenditures and below average browsing for clothes online. As members of this cluster do not enjoy shopping for clothes, e-retail could provide them with an efficient way of dealing with the tedious task of obtaining clothes.

4 CONCLUSIONS

Due to the increased internet penetration among young, urban users e-retail becomes a viable retail strategy for local apparel manufacturers to pursue. This research presented a segmentation of internet users based on their online
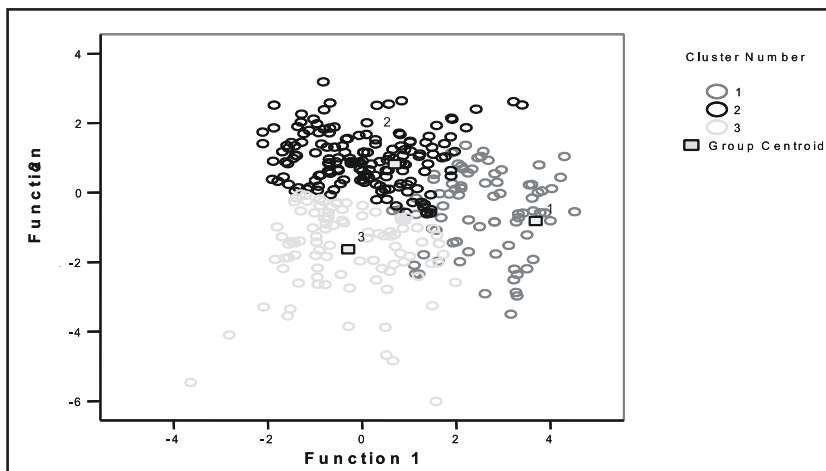

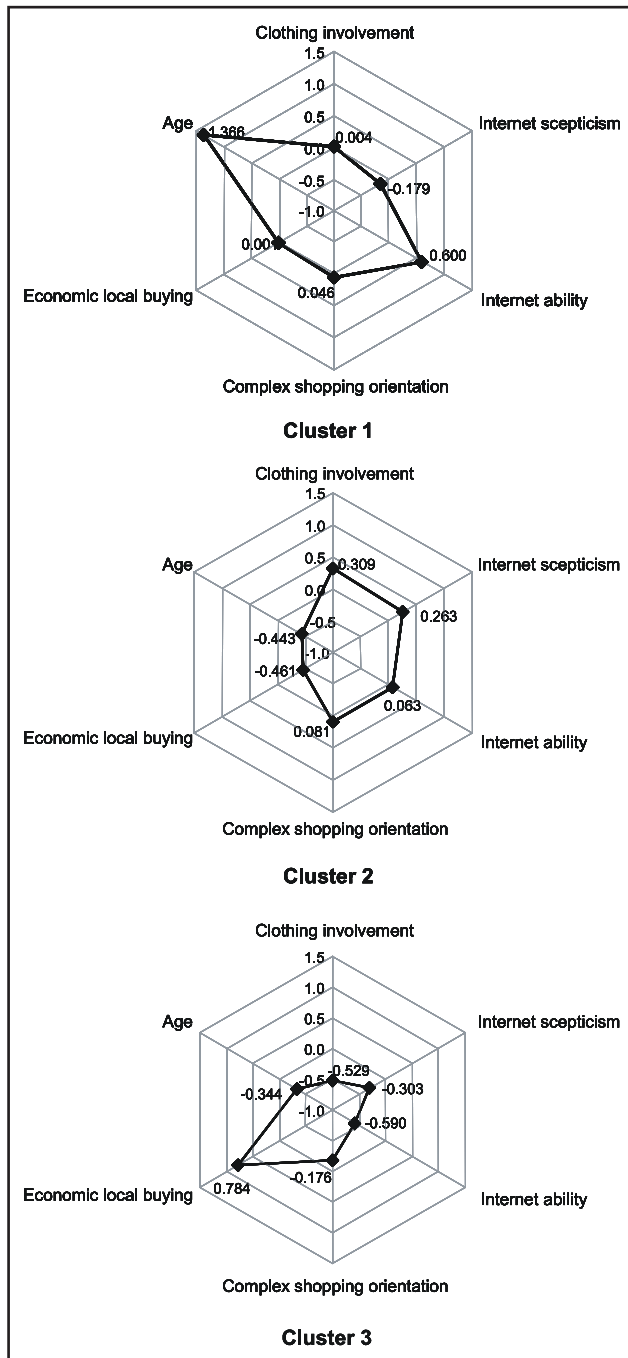**Figure 1:** *Graphical representation of the clusters*

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Figure 2: *Final cluster centres*

expectations that an online store would have to satisfy. Being older, members of this cluster have higher incomes which lead to higher clothing expenditures. As such they can be targeted by retailers of higher priced garments. Conversely, the members of the third cluster reported the lowest degree of internet skills, accompanied by a low interest in clothing in general, low clothing expenditure, and a strongly pronounced economic shopping orientation. Still, they are the most interested in buying locally produced apparel online. To them online buying of clothes would be an efficient and economic solution to the tedious task of buying clothes. As such, they are an appropriate target group for budget apparel retailers. When targeting this group e-retailers should pay special attention to the ease of use of their web site, since members of the cluster showed low internet skills.

The second cluster, although lucrative, shows little interest in buying local apparel online. To target this cluster local producers would have to show that online buying of clothes can be fun, so as to satisfy their recreational shopping orientation, as well as to strengthen their brand image in order to make locally produced clothing more appealing.

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buying propensity. On this basis the population is divided in three clusters which local apparel retailers can target.

The first and the third cluster would be possible early online buyers of locally produced apparel goods. The members of the first cluster have highly developed internet skills. In addition, a significant number of members in this cluster have already purchased products online on a market where e-retail is not well developed. Therefore, they will have built

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