

Abstract. *As the market has changed to adopt new advertising techniques and consumers' input, market research faces times of great challenges – and great opportunities. This paper details eight current trends in market research: rethinking working concepts as basic as the well-known purchase funnel; integrating the digital medium into research techniques; investigating the consumer through passive techniques; dealing with the era of big data; translating consumers' word-of-mouth into insights; balancing in-depth technical knowledge and understanding of the “the big picture”; adopting international innovation locally; facing potential data privacy issues. These trends are meant to help marketing and market research practitioners understand how the industry is changing around them and how they must adapt in order to survive. The contemporary environment is both challenging and full of opportunities: companies brave enough to adapt to the industry changes as they happen, who acknowledge and incorporate new methods of addressing and studying consumers – are those who will have an undeniable competitive advantage in the long run.*

Keywords: market research trends, digital research, passive research, big data, user-generated content, data privacy.

EIGHT CONTEMPORARY TRENDS IN THE MARKET RESEARCH INDUSTRY

Alina BARBU

*Cegedim Strategic Data Romania
1B Menuetului St., Bucharest, Romania
e-mail: av_barbu@yahoo.com*

*Management & Marketing
Challenges for the Knowledge Society
(2013) Vol. 8, No. 3, pp. 429-450*

1. Introduction

For the past decades we have been living an era of great changes in the entire world, mostly brought about by technological advances. It is the era of mobile, instant communication, the era of big data. These improvements are reflected in every aspect of life, including consumption and purchase behaviour and, consequently, in the market research profession. Current trends and potential directions of evolution are recurrent themes among industry professionals today.

As confirmation that market research is currently seeing important changes, the ESOMAR Congress 2013 is entitled “Think Big” and proposes themes such as: added value of research, quality of research, updating solutions, identifying the best connection points with consumers and new ROI indicators like Return on Engagement and Return on Customer Experience (ESOMAR, 2013). All themes stress the fact that research around the world is at a crossroads that may change the very outline of the profession.

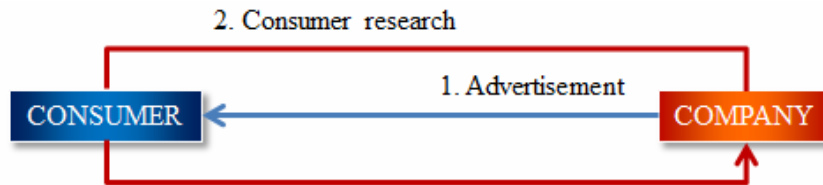
This article looks at the past and current images of the market system, highlights the main changes which led the industry to where it is today, and discusses eight main trends with the potential to trace the future of this domain. It is a collection of connected ideas on understanding consumer behaviour through market research and should interest research practitioners in the economic and academic field alike, as both contribute to the market research industry. As research is conducted both in the economic world and in academia, professionals around the world are working to extend the know-how of both environments, generating more and more information every day. Applied researchers adapt to market realities by incorporating new methods or identifying hot topics of the day, while academia solves technical issues or proposes new quantitative methods. Sometimes, newspapers pick up thoughts that might catch the public eye. Each environment – economic, academia, general public – tends to its own needs and may even do so successfully, but the industry itself is the sum of all these parts and more.

Instead of adding to the building blocks of each environment, this article picks ideas that have emerged in one form or another and attempts to bring them together to shape “the big picture”. By using this methodology, it illustrates the very challenge faced by market research today: never before has so much information been freely available to us, yet are we able to organise it, to identify trends and to predict the future of our profession?

2. The market system then and now: what changed?

Industrialization and mass production of goods marked the beginning of the consumption era and the apparition of a whole range of concepts and activities: consumer, marketing, marketing research and advertising. From the very beginning, manufacturers had to convince people – consumers – that they should buy products they did not necessarily need, but that would make them feel better (Curtis, 2002).

Eight contemporary trends in the market research industry

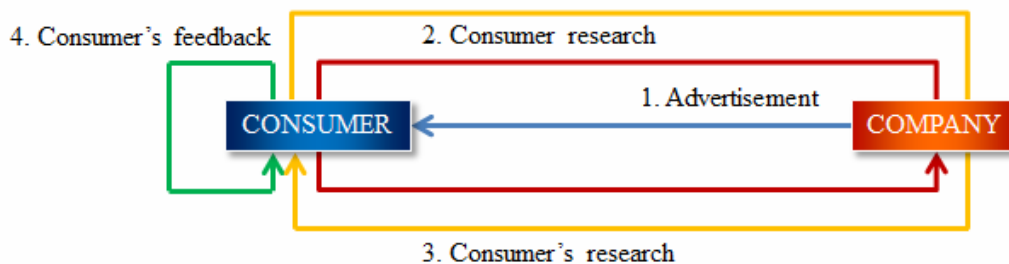


Source: Author's own contribution.

Figure 1. The market system then

Consumers held a passive role in this market model (which we represented in Figure 1): they were studied by companies (very generically, market researchers on behalf of manufacturers) (2) and exposed to advertisement (advertisers on behalf of manufacturers) (1), without being able to contribute their own ideas on a significant scale. For this reason, they were enthusiastic to give their opinion: when the first large-scale segmentation study was conducted in the USA by mail, 83% of contacted persons returned the questionnaire after the first reminder and some even wanted to participate in further surveys (Mitchell, 1983). Difficult to imagine that the modern consumer, who we are now chasing and promising incentives to participate in our surveys, once volunteered to give his opinion, isn't it?

This was a simple enough model – limited in fact in most aspects. Promotional channels were limited, consumers' input was negligible and market research was only just developing. Quantitative analysis was even regarded suspiciously at first. The industry held enormous potential though, which was confirmed in years to come, as more and more boundaries were broken. Today's consumer system is as natural as breathing; we cannot imagine a world without advertisement or market research.



Source: Author's own contribution.

Figure 2. The market system now

Today's consumer, promotional channels and research are greatly different from those described in most classic market theories. The relation between consumer, market and companies moved from completely static – when the consumer was exposed to the information selected by companies and had few to no opportunities to do his own research on products – to absolutely dynamic, when the information that

companies present about themselves is only a tiny fraction of the total amount of data available on them (which we represented in Figure 2). More importantly, companies have little to no control over consumer-generated content (4), such as word of mouth, and over the information consumers may find when doing research on products (3). Furthermore, all components adapted to modern times: as advertisement (1) gained new channels (online, mobile), so did consumer research methods and tools (2).

Despite these radical changes, the fundamental purpose of the system is and will always remain the same: *companies are not interested in what the consumer likes and is liked, but in what persuades the consumer to buy* their products. And 50 years down the road, in the middle of the digital era, consumers still purchase items that make them *feel* in a particular way – rich, important, fashionable, smart or connected.

The real trouble for companies nowadays is that the next generation of consumers no longer trusts promises, as they have plenty to choose from: *“If you don’t do what you promised me I’ll get bored, I’ll go away and talk about my feelings (offline and online)”* (Boullart and Van den Bergh, 2012). Put more sarcastically, but not far from the truth: *“Your consumers’ are just somebody else’s consumers who occasionally buy you”* (Weigel, 2013). Furthermore, these consumers have been investigated perhaps so much that some now need to be incensed in order to provide their opinion and some begin to prize privacy above potential rewards.

This is the challenging environment – and the great opportunity – of our industry today. Just as the market system evolved, we too are doing research quite differently today than we used to a mere decade ago, but exactly what has changed for us and how far can novelty take us? In the following chapter I will present eight modern trends in marketing and market research that have the potential to shape the future of our industry.

3. Eight current trends in market research

3.1. Redefining concepts and tools

Changes on the market and within consumers made us rethink the very basics of the research profession. Using tools that are relevant today is a common concern for everyone involved in marketing and market research. Fortunately, keeping in touch with the latest trends is easy: major research companies provide articles and white papers on methodological developments as well as topics of interest for their activity. Examples come from:

3.1.1. Decision journey and purchase behaviour

The classic funnel model is considered outdated because it fails to include modern triggers; instead, Court et al. (2011) present and describe the modern decision journey based on a study on 20,000 consumers. Their findings suggest that the modern

Eight contemporary trends in the market research industry

consumer embarks upon a circular journey before purchasing a product and, more importantly, continues to research the product post-purchase, which influences brand loyalty.

The Internet is now “*the epicentre of consumer-driven marketing*” (idem). Mandavit et al. (2010) map the modern decision journey of online shoppers, using a cookie-tracking technology, proving a good understanding of the importance of the digital component of purchases. As most websites currently use cookies, this technique could rapidly become the common way to improve consumer online experience – not only shopping, but all kinds of formal interaction with the company or brand. Kahlert (2013) supports the influence of the digital medium in consumers’ purchase paths, but draws attention to the fact that the traditional/digital ratio is influenced by the type of product investigated.

GfK very recently presented a tool to map the online and offline consumer journey (GfK, 2013b), which would integrate information on time and research spent online with offline brand interactions and evaluations of the importance of each interaction towards the purchase. For example, the purchase journey of an undecided tablet PC customer was presented as a dynamic online research open to several brands, relying on user and expert reviews to make a choice. This underlines the complexity of the purchase process nowadays and the importance of various factors (including online reviews and comparison websites) in influencing consumers’ options.

3.1.2. Customer satisfaction and brand equity

Today’s consumer is curious, selective and sceptical about promises; his satisfaction (*what he got* vs. *what he expected*) is crucial in maintaining brand equity and customer share, precisely because he has so many similar products/services to choose from. Sometimes the two aspects are studied individually, but keeping customers satisfied generates good brand equity, which in turn is translated into positive financial indicators.

Shuv-Ami (2010) combines four aspects of consumer behaviour into a new measure of commitment, dividing consumers into three categories (“committed”, “ambivalent” and “not committed”) and tests these categories against overall attitude towards the brand and brand preference. This scale is easy to use in applied research; several other papers at the ANZMAC 2010 conference look at consumer-related aspects and can also become a source of inspiration for applied researchers (ANZMAC, 2010).

Razavi et al. (2012) examine the relationship between service quality, customer perceived value and customer satisfaction in software companies, using factor analysis and structural equation modelling, concluding that service quality predicts customer satisfaction more than perceived value.

Daedalus – Millward Brown develops new methods of evaluating brand equity: “power”, “premium” and “potential”, indicators which can be linked to

financial outcomes (Crăciunescu, 2013). Kim and Kim (2004) calculate brand equity for quick-service restaurants and demonstrate the influence of brand equity on revenue increase.

3.1.3. Emotional engagement – keeping consumers like maintaining a relationship

Nowadays sales are no longer generated by simply saying the right thing at the right time, but by being in the consumer's mind on the long run. Marketers are starting to realise that generating emotional attachment is the key to a long-term consumer-brand relationship and to incorporate this into their strategies – as we noted before, however much the market and channels have changed, people still purchase products that make them feel in a particular way.

GfK quotes Pine and Gilmore in presenting five stages of the economy, culminating in the relationship economy, which is based on trust in a brand. They also introduce two metrics which evaluate customers' experience with a brand and include social interactions into consumer-brand relations (Man, 2012). Sarkar (2011) shows that "brand love" provides long-term brand loyalty, willingness to pay the premium price and generates positive word-of mouth and Boullart and Van den Bergh (2012) propose five steps to "become a brave new marketer": being relevant for consumers, having good touch point management, generating engagement, creating loyalty and "having guts".

Marketing NPV (2008) differentiates between emotional engagement, which they define as a consumer's conscious or subconscious connection with a brand, and behavioural engagement, which they define as any form of interaction with a brand. They note that measuring behavioural engagement is a complex task because of the market dynamic and myriad of available channels, but underline that creating a metric personalised for one's business is crucial in understanding which points/channels to address in order to be relevant for (future) consumers.

We believe the two – emotional and behavioural engagement – are interconnected. One cannot be emotionally involved and do nothing about it, just as one cannot be actively involved and feel nothing about the subject of involvement. Companies may choose to focus on behavioural engagement as it is easier to measure; one can objectively evaluate how many times a person visited a brand website or store etc. However, research can provide insight into emotional engagement, either through classic methods such as the Net Promoter Score or through newer techniques like the Emotional Signature (Beyond Philosophy, 2013), a set of 20 emotions which can increase or decrease brand value, or social media analytics, which will be discussed in a following chapter.

Gamification can be considered a form of behavioural engagement; this is another recent trend which, in general terms, intends to solve problems by using game theory. As Veris (2011) underlines, in an environment marked by respondent fatigue, incorporating gamification into market research may be a solution to increase the

quantity and quality of survey results. For example, he shows that something as simple as changing the wording of questions as to pose a (game-type) challenge to respondents can increase feedback up to 10 times

3.2. Going digital: meeting consumers in the digital world

The digital world is starting to become at least as “real” as the real one – or at least to take up enough of consumers’ time to attract companies’ attention. Kantar’s results on devices and data usage around the world show that smartphones are not far behind PCs and laptops in all regions (Versfeld, 2013). In these conditions, mobile marketing is one of the new channels that companies are starting to take advantage of. A collection of case studies can be found on the Mobile Marketing Association website (Mobile Marketing Association, 2013). The mobile trend is visible even in Romania, which hosted a Mobile Advertising Congress (Mobile Advertising Congress, 2013).

Research also started to use the mobile as a data collection tool. ESOMAR developed a draft guideline for this domain (ESOMAR, 2012a) and ESOMAR 3D Digital Dimensions conference in November 2012 covered a range of topics connected to online and mobile research (ESOMAR, 2012b). Poynter (2013) considers smartphone research the future for Asia-Pacific; in fact, as he noted, developing markets are more likely to adopt new tools (created and first tested by developed markets). For this reason, mobile data collection may be one of the last great technical breakthroughs in the market research industry, holding potential for Romania as well.

3.3. More than words: inside the consumer’s eye and mind

Not only have the marketing tools evolved, but research into consumer’s preferences is well on the way of integrating more than just respondents’ declarations. Martin (2013) warns that people may not say or even be aware what persuades them to change their behaviour, and advocates watching consumers instead of applying traditional market research on them.

While traditional market research still has an important role to play in discovering the consumer, two main trends come to complement its findings:

3.3.1. “Passive research”

“Passive research” methods in general, such as facial and voice recognition, are considered a method of complementing “active research” (Drew, 2013). The idea is not new to market research, for example eye-tracking is now significantly less invasive and uncomfortable than it started out. How far can it actually go?

In terms of advertising, the Minority Report scenario where consumers were quickly identified by retina scan and were displayed personalized ads (Spielberg, 2002) is a likely future. In fact, it has already been tested in Japan and was able to

estimate the viewer's age to within 10 years. Experts estimated that up to 10% of digital ads would incorporate this technology in the following years (Lah, 2010).

Every company wants to know whether their new ad makes people smile or if, instead, it annoys so much that viewers change the channel – if possible, in real time, giving them the opportunity to quickly alter or withdraw ads triggering negative emotions. This offers a fresh source of business for researchers: GfK (2013a) currently uses facial recognition to determine users' emotional response to ads. Using this method on an online panel could considerably increase research speed while cutting costs, giving companies quick feedback on their promotional campaigns – and the ability to adapt to customers' reactions in time.

It is interesting that few of the future predictions mention smart TVs. At the bottom of the list of device ownership for now (Versfeld, 2013), they are the next version of items most likely to be found in households around the world. Now imagine that your smart TV knows your address based on GPS signals and captures a full set of usage statistics for both TV and web. Some smart TVs already integrate motion recognition, harmlessly (or cunningly) incorporated into gaming usage; these can be updated with facial recognition features. It's easy: combine Firefox storage of usage statistics (Mozilla Firefox, 2013) with GfK's EMO Scan – biometric measurements that identify emotional reactions to ads (GfK, 2013a). Intel is already considering facial recognition software for television in order to show personalised ads (Mayhew, 2012) and Microsoft filed patents for systems which identify users' moods based on their computer usage such as facial expressions, speech/IM patterns, browsing history etc. in order to display online ads matching users' moods (Findlay, 2012).

Having socio-demographic information and facial recognition/emotion trackers in the same device will, on the one hand, provide accurate socio-demographic profiles for the stored data, and on another, bring tracking of emotional response to the next level: instant, continuous and covering a wider respondent range than usual research. (At the same time, it will perform TV audience tracking much better than classical household panel research, the accuracy of which relies on people's willingness to declare when and who is using the TV.)

3.3.2. How it works: looking at the brain itself

A true novelty is using neuroscience to determine how brains react to products. Weigel (2013) underlines the importance of building “mental shortcuts” in order to facilitate decision making. Pop and Iorga (2012) present the history and techniques of neuromarketing, a breakthrough that can complement information provided by classic research techniques. Neuroscience, along with the impact of social networks, were presented as cutting edge technologies at the 2010 GfK Research Summit (GfK, 2010) and are the topic for the Romanian workshop “Cutting edge marketing. Insights from brain and technology” (BuyerBrain, 2012). Neuromarketing provides an accuracy that no other research method can achieve, but the complexity of the method and its expensive nature may prevent it from becoming immediately

Eight contemporary trends in the market research industry

widespread in consumer research, particularly in developing countries. The quest to map the human brain is continuing though – because humankind is driven by the desire to understand -, and it remains to be seen how long it takes and how the results will be used (Markoff and Gorman, 2013).

The incorporation of neuromarketing into consumer research is perhaps the best example of our industry being on the brink of becoming *transdisciplinary*, as explained by Begg and Vaughan (2011), but it comes with a great caveat: neuromarketing could easily cross the ethical border and turn advertisement into manipulation (Pop and Iorga, 2012). The most worrying example comes from healthcare, where Srinivasan et al. (2013) showed that introducing high-caloric foods during the suckling period modifies the metabolism irreversibly and Schüssler et al. (2012) found that looking at attractive food advertisement causes a hormonal imbalance which triggers the feeling of hunger. So not only can the next generations be genetically programmed for obesity in their early years, but their physiological response to food ads may bring down their best efforts to stay within the normal weight range later.

3.4. Big data and better data analysis

The modern world stores larger and larger amounts of (consumer) data. The “big data” trend is useful for the future, without completely eliminating traditional market research (Liebenson, 2012). Liebenson (2013) summarizes the key characteristics of big data (volume, variety, velocity and veracity) and relates conclusions of a GreenBook webinar on this topic: the potential is definitely there, but companies (even early adopters) are still lacking a complete strategy. She also notes that big data is a potential threat to traditional market research, as it may be able to analyse conversations faster, identify real attitudes as opposed to declarations and combine attitudinal data with actual purchase behaviour. Murphy (2012) praises Nielsen’s vision to associate with Facebook and Twitter in offering research capabilities and reminds readers that this trend had been predicted for some time and the pace would only increase. He advocates that the future of market research will not focus on data collection, but on several other characteristics, such as owning proprietary data sources and high end analytics and data modelling (Murphy, 2012). But in fact, combining information from research answers and social media is precisely an example of “big data”.

However, exactly how big “big data” is and the risk of confusing “big data” with regular “data analysis” are covered by Mims (2013), who points out that, the quality rather than the size of the data is a much better indicator of gathering useful information.

An example of mixing good data analysis with large amounts of consumer information is Target, which built a pregnancy-prediction statistical model based on consumer purchase data on around 25 products. The model was so accurate that it predicted a teen’s pregnancy and sent her promotional material for baby items before

she had announced her father. They focused on pregnancy because they had found that major changes in a person's life usually triggered changes in their purchase behaviour and switches in their loyalty, but similar models could be built based on any product category. In fact, “*“We have the capacity to send every customer an ad booklet, specifically designed for them, that says, ‘Here’s everything you bought last week and a coupon for it,’ ” one Target executive told me. “We do that for grocery products all the time.”*” (Duhigg, 2012).

But now consumers are collecting data about themselves as well, a trend described by Strong as “the quantified self”. Gaining access to this new data source while respecting people's privacy is a new challenge of the research profession and, as the UK government considered an initiative to provide customers with the personal information that brands have on them, (Strong, 2013) one can imagine companies starting to offer digital tracking possibilities to their clients. It is perhaps the ultimate outsourcing of research – placing it in the hands of the research subject himself -, but its attractiveness is undermined by the fact that it robs companies of most of the control over research conditions.

On a technical note, Muenchen (2013) notices a decreasing usage of SAS and SPSS in academia and forecasts that they will be “replaced” by Stata and R by 2017. As a powerful, open source language, R may become a very useful tool for future treatment of big data and high-end data analysis, unless SAS and SPSS adapt to current needs.

3.5. Consumers have the power

We noted that the two main traits of the modern consumer are: conducting his own research on products and generating information about products. They are interconnected, as people naturally tend to trust other people's experiences rather than companies. Both create concern among marketers, since companies now lack control over the information that consumers are exposed to (Zernigah and Sohail, 2012).

3.5.1. Being found by the potential customer

The first challenge for marketers is becoming visible for potential customers. Dumitrescu et al. name the marketing focused on being found by customers as “inbound marketing” (Dumitrescu et. al., 2012). “*If your customers won’t talk about your stuff, you have to pay newspapers and TV shows to do it for you. That’s why you see lots of ads for cereal and toothpaste*” (Sernovitz, 2012).

HubSpot (2013) has a very practical presentation of the four steps that companies must take in order to transform “strangers” into “promoters”: attract, convert, close and delight. They also provide actual marketing steps that can be taken in each stage, from creating a blog to answer “strangers” questions (*attract* phase) to offering personalised offers and having a social presence (*delight* phase).

Eight contemporary trends in the market research industry

The highest aim of marketers is to have a strong brand community (with an important online component). As defined by Kalman (2009), it gathers a set of like-minded people who identify with a brand and who have the power to become the brand's promoters. Classic marketing techniques, including ads on social websites are not enough; brand communities are built on engaged, active consumers (consumers who interact with brands). Mostly found online – taking advantage of the social consumer through an appropriate social presence – as well as drawn from offline – the affluence of companies using QR codes in Romania in recent years is a very good example.

However, it is not enough to simply create a brand community; it must also be managed. Martin (2010) presents an excellent summary of characteristics of social consumers and shows the key points of social CRM, which is considered more influential than traditional CRM and therefore a necessary step in the evolution of customer relationship management.

3.5.2. Being discussed by the customer

“Word of mouth marketing is about real people talking to each other - consumer to consumer (CtoC) - instead of marketers doing the talking” (Sernovitz, 2012). Consumer satisfaction is crucial in this context, because “bad is stronger than good”, in other words, an unsatisfied customer is more likely to spread the story than a satisfied customer is to spread his (Lax, 2012). On the up side, Sernovitz (2012) advocates that companies can cut the cost of advertising if they can spark enough positive word of mouth marketing – *“Advertising is the cost of being boring”*. As shown in the previous point, the best way in which companies can still control consumers' discussion is through brand communities. For this, however, companies must identify social media strategies to show them who communicates about a company, how, to whom and what the impact would be on company perceptions (ARF Insights, 2012). For example, the strength of the consumer's voice may decide whether Yahoo's acquisition of Tumblr will prove successful (Gomes-Casseres, 2013). Perhaps good news for Yahoo, unsatisfied clients are proven susceptible to changing their minds if appropriate “service recovery” is conducted (Temkin Group, 2012).

Social media analytics software are now available to help researchers understand consumer-generated content, among top companies that offer such solutions are SAS, SAP and IBM. SAS (2013) provides a case study of data and text mining conducted for the UN on the topic of (un)employment. They attributed mood scores to unstructured text data in social media and correlated the emotional content with official employment rates. Significant correlations were found between increases of hostile (USA) or confused (Ireland) moods and spikes in unemployment rates a few months afterwards, showing that social media analytics is not just a market research fad, but is a serious tool which can be used on a government level to help predict important economic trends.

Social media analytics is perhaps the next step in qualitative research, a qualitative approach that looks at unstructured user input (as qualitative methods do) in large samples (which defines quantitative research). Social media analytics has the great advantage of spontaneity over traditional qualitative research, as interviewees may unconsciously alter or censor their behaviour and thoughts when observed.

3.5.3. Taking advantage of social media

Though companies recognize that the modern customer is a “social customer”, most still rely on social media for communication rather than actual commerce (MaRS Market Insights, 2012). Related to the previous points, consumers spread opinions on the product or service online, from Yahoo Answers to Facebook or LinkedIn.

Though only 20% of WoM marketing is claimed to happen online (Sernovitz, 2012), this is stored in archives and can be read by other potential clients much later – GfK (2013b) showed that online reviews are very important in the purchase decision. Barwise and Meehan (2010) relate several examples of social media acting for or against companies, depending on how well they kept their promises.

As the exchange of information takes place at increasingly higher speeds, viral marketing, or electronic word of mouth, is another modern option. Zernigah and Sohail present (2012) results of their study in Pakistan, which shows that viral marketing is overall perceived positively, as long as it is informative and entertaining.

As mentioned in the previous points, the smart new way in which companies are trying to understand and/or control consumer-produced information is by looking at brand communities (Hall, 2009), which were listed in GreenBook’s Market Research Report among the key trends of 2013 (Adams, 2013). It is fascinating how, in the era of pure technology, companies consider their best bet at reaching their clients is to use emotions: the relationship economy, comparing brand loyalty to human relations, evaluating ad liking based on emotion recognition and using the power of the community (providing people with the sense of fulfilment coming from belonging to a community, being bound together by common goals).

Another method of increasing ROI through social communication is “*to go after existing customers and find their friends*”, in other words to use the power of actual recommendation through people’s social networks (McInnes, 2013). 360i (2009) quotes a study of the University of Pennsylvania, which found network neighbours were between three and five times more likely to adopt a service. 360i notes that the study had limitations, but showed a clear potential for ad targeting based on social networks. For marketers and market researchers, this implies a shift in customer segmentation, from the traditional demographics or geographics to the new *sociographics*.

Eight contemporary trends in the market research industry

The aspects discussed in this chapter mostly impact marketers, but market research is also affected: we must now make use of the new methods to analyse consumer-generated content – also see the “big data” trend discussed previously.

3.6. Researchers of the future

Every industry is driven by companies and, ultimately, by people, as we have seen in the schematics of the market system. Until now we looked at changes of concepts and tools, but how do these impact the players themselves?

At company level, major research institutes already ride the change wave and drive the industry forward, as example so far have shown. Not only do they integrate new methods into consumer research, but they also spread them to subsidiaries across the globe (e.g. bringing EMO Scan to Romania), making “innovation” available for everyone.

On the other hand, what will happen to smaller research providers, those who sprung out of the need for faster, cheaper research solutions? Here the answer is less clear, but just as traditional research will not fade, smaller providers will most likely not be run out of the market by research giants. Of course, they may never become industry drivers for lack of resources on a large scale, but instead they can “steal” the new methods, as technology itself becomes more universally available. The likely scenario is that they will continue to exist and challenge the big players in the price war.

At individual level, changes are inevitably reflected in the research professional him/herself. In some companies, the “researcher”, usually with sociology or marketing background, is responsible only for client contact and results interpretation, while the “analyst”, usually a statistician, produces the actual figures. In other companies, a single person performs both tasks and in truth, just like market research is marketing + research, the market researcher is more likely to perform better this way.

In terms of statistics, Hoerl and Snee (2010) discuss the future of the profession, encouraging statistical leadership (the “good cop” approach) and arguing that teaching statistical thinking instead of just theories and methods will eventually create the demand for statistics to solve “*broad, deep problems*”. Their paper builds on Meng’s (2009) practical suggestions to improve the statistical profession, such as presenting subject-oriented statistics at undergraduate level and recommending to “*continuously deepen our foundation as we expand our horizon*”. Begg and Vaughan (2011) stress the importance of interdisciplinary training for biostatistics students; this may be more important than consumer research, as the returns should be better health services and, hopefully, healthier citizens.

I believe this phrase - “*continuously deepen our foundation as we expand our horizon*” - perfectly encapsulates the profession’s challenge and future. On the one hand, applied statisticians (“researchers”) must improve in seeing patterns, understanding market contexts and identifying the hidden needs behind specific research projects. On another, technical statisticians (“analysts”) must become closer to mathematicians,

incorporating big data techniques and advanced data modelling, new technologies (e.g. eye-tracking, facial recognition) and perhaps new sciences into consumer research techniques. If recent years were all about breaking boundaries, the future of the profession will be breaking the boundary between two apparently opposite approaches: seeing the big picture and having the in-depth technical know-how.

3.7. Globally, ours: bringing novelty across the globe

Most examples presented so far come from the experience of the English-speaking environment. But, as case studies from India and Pakistan demonstrate, novelty is swiftly adopted across the globe – as it must be, since “survival of the fittest” in difficult economic situations is a universal challenge. As Poynter (2013) noted, all growing markets benefit from early adoption of new techniques, especially since multinationals provide their local branches with new tools in data collection or data mining, new marketing and statistical methods, new consumer approaches.

Romania is a perfect illustration of this point: here it is a country where the free market only began in 1989 and where Internet penetration barely stands around 50%. This underdeveloped market research industry caught up incredibly well with technological novelties, like conducting qualitative research in Virtual Bucharest (GfK, 2009) and shows concern for questions of global interest – what are the latest consumer trends and how can marketing strategies meet the needs of the modern consumer? (SMARK, 2013) Perhaps the greatest advantage of the Romanian belated adoption of market research was its ability to skip steps, for instance in data collection where we benefited from telephone/CATI and online methods much sooner than countries where market research had to wait for technology to develop. What is important is that we are now sharing the same challenges and concerns as developed countries.

3.8. The end justifies the means? Concerns about data privacy

Dell’s Social Media Predictions for 2013 interestingly omit Facebook from the list of companies with growth potential. This may be for what Wang notes as its “lack of respect for privacy” (DELL Social Media, 2013). Indeed, there are growing concerns about data privacy in the world today, as it has never been easier to collect sensitive data without the person’s consent.

Questions regarding data privacy are numerous – for example: why is Google sharing users’ personal information with app developers? (Tumbokon, 2013) Bitdefender conducted a study on 130,000 popular Android games in Google Play and found that 13% of these collected personal information not needed for the application itself, such as phone numbers, e-mail addresses, GPS coordinates or photos stored on the mobile terminal (Bitdefender, 2013b). Business Insider notes that, on one hand, many smartphones have pre-installed apps that cannot be removed and, on another, users often install free apps which also collect personal information (Wei, 2013). Location services (geotagging) on smartphones may enable third parties to precisely

Eight contemporary trends in the market research industry

locate a user based on photo metadata (Ptacek, 2010) and several social media websites were tested for the protection of photo metadata, with some popular platforms such as Facebook, Flickr and Twitter needing to improve metadata handling (Embedded Metadata Manifesto, 2013). Bitdefender warns about the increase of aggressive advertising and number of viruses designed for Android applications which put users' personal information at risk (Bitdefender, 2013a). This is interesting in view of Facebook Home's recent release, which collects users' information and is designed for the famously vulnerable Android platform (Richter and Egan, 2013). It is unclear which third parties can get hold of user information and it is particularly risky for people who use their personal phones in company networks, but it is certain that social networking profiles and mobile marketing can be employed to easily get hold of users' demographics.

An even more delicate question is raised by The Guardian, which reports that Raytheon developed a data mining application to analyse and predict users' activities based on social media combined with GPS information. Originally created for national security purposes, it stands uncomfortably close to the fine line between justifiable research that might prevent loss of life and invasion of privacy or potentially illegal activities: "*So if you ever did want to try to get hold of Nick, or maybe get hold of his laptop, you might want to visit the gym at 6am on a Monday*" (Gallagher, 2013). A similar problem could be posed by Glass, Google's innovative portable computer, which can record anything the wearer sees, hears and does (Prigg, 2013a) and which was hacked even before hitting the public shelf, taking advantage of a known bug in the Android software (Prigg, 2013b). The extra attraction for marketers is that Glass can also record everything in the wearer's environment, such as household items or people who happen to be nearby while the wearer uses Glass.

It is normal for companies to be interested in revenues. But research professionals must never forget that they have a responsibility towards society and rules to abide by, which make ethical boundaries clear. Hurwitz and Gardenier (2012) summarize contemporary concerns in American Statistical Association's Ethical Guidelines for Statistical Practice. A particularly important aspect for applied statisticians is the warning against "black box" analyses – those conducted without knowing the origin and purpose of the data set. We are not responsible for marketers collecting personal information illegally or conducting manipulative advertisement – but we are responsible for refusing to perform these analyses if they break our code of conduct.

4. Conclusions and recommendations

Ideas were gathered in this article from various sources and ordered into categories, all attempting to trace the current picture of market research. As technological boundaries were broken, the industry has come to provide more realistic results, closer to actual consumer behaviour. Eight current-and-future trends were highlighted and summarized in Figure 3.

REDEFINING CONCEPTS & TOOLS	SIGNS	KEY IDEA	WHAT TO DO
GOING DIGITAL	rethinking concepts, from decision journey to brand equity mobile marketing, mobile research	creating a(n emotional) relationship with the consumer engaging customers in the digital world	understand and use new concepts in research to identify new ROI indicators research on and in the digital world
MORE THAN WORDS	"passive research", neurosciences	traditional research complemented by non-verbal information	introduce these tools where technology allows
BIG DATA & BETTER DATA ANALYSIS	(integrating data from multiple sources into) prediction models	identifying realistic behaviour patterns from multiple points of view	integrate data sources, where reasonable, and hire a statistician
CONSUMERS HAVE GOT THE POWER	user-generated content forming majority of brand-related information	generating positive word of mouth and using social media	translate user-generated content into insights
RESEARCHERS OF THE FUTURE	developing & spreading/adopting new research methods	<i>"continuously deepen our foundation as we expand our horizon"</i>	solid technical background combined with good understanding of "the big picture"
GLOBALLY, OURS	local research follows global industry leaders in terms of methods and topics	innovation available worldwide	(as international provider) help implement new methods in local branches / (as local provider) adapt international findings to local needs and possibilities
THE END JUSTIFIES THE MEANS?	concern over data privacy and manipulative advertisement	need for legislative frame for modern advertising channels & research techniques	always mind ethical guidelines and avoid "black box" analysis

Source: Author's own contribution, italics quote from Meng, 2009

Figure 3. Summary of key findings

Eight contemporary trends in the market research industry

Experts agree that none of the new methods will entirely replace traditional market research in the near future, but instead it will complement it by collecting information that classical methods cannot obtain. However, aspects such as mobile research, passive research, advanced data analysis and integrating data from various sources will become a more familiar part of research in the years to come. The readings and developments quoted in this paper trace a global picture, replicated at local level according to possibilities: most examples of research breakthroughs come from multinational research companies and are handed down from HQ to local branches if technology allows.

In view of these ideas, our two recommendations to research professionals are: *read* and *dare*.

Read as much and as often as you can. Academic training gives researchers the essential theoretical basis to understand how the market works, but the market is in constant change and we must change with it. Read everything from academic articles to daily newspapers; keep an eye on the likes and shares of your Facebook and LinkedIn friends. Every bit of information is a piece of the puzzle and may be the key to understanding the big picture, whether it falls in the trends identified here or it breaks absolutely new grounds. The market research industry is supported by academics and practitioners alike and progress comes from both directions.

Then dare to implement what you have found. We are part of the game and keeping ourselves updated with latest developments in our industry is only the first step. Once we know what we must do, we must set to actually create that modern, better research world for our professional fulfilment, for our beneficiaries (however suspicious they may be of novelty) and, ultimately, for the consumers.

References

- 360i (2009), “360i Point of View on Social Graph Ad Targeting”, *360i Blog*, available at: <http://www.360i.com/reports/social-graph-ad-targeting/> (accessed August 17th, 2013)
- Adams, I. (2013), “Key Takeaways From GreenBook’s 2013 Market Research Report”, *Optimization Group Blog*, available at: <http://blog.optimizationgroup.com/bid/246715/Key-Takeaways-From-GreenBook-s-2013-Market-Research-Report> (accessed March 27th, 2013)
- ANZMAC (2010), Australian and New Zealand Marketing Academy (ANZMAC) Conference 2010, list of papers available at: <http://anzmac.info/conference/2010/papers.html>
- ARF Insights (2012), “Johnson & Johnson’s Social Conversation: Finding Your ‘Ways In’”, available at: <http://www.mediabizbloggers.com/ARF/Johnson--Johnsons-Social-Conversation-Finding-Your-Ways-In---ARF-insights.html> (accessed February 19th, 2013)
- Barwise, P. and Meehan, S. (2010), “The One Thing You Must Get Right When Building a Brand”, *Blog Network*, available at: <http://hbr.org/2010/12/the-one-thing-you-must-get-right-when-building-a-brand/ar/1> (accessed February 15th, 2013)
- Begg, M.D. and Vaughan, R.D. (2011), “Are Biostatistics Students Prepared to Succeed in the Era of Interdisciplinary Science? (And How Will We Know?)”, *The American Statistician*, Vol. 65, No. 2, pp. 71-79

Management & Marketing

- Beyond Philosophy (2013), "Emotional Signature", *Beyond Philosophy website*, available at: <http://www.beyondphilosophy.com/services/research/emotional-signature> (accessed August 16th, 2013)
- Bitdefender (2013a), "Reclamele agresive si virusii de Android transforma datele personale in bun public", *Bitdefender website*, available at: <http://www.bitdefender.ro/news/reclamele-agresive-si-virusii-de-android-transforma-datele-personale-in-bun-public-2719.html> (accessed March 26th, 2013)
- Bitdefender (2013b), "13% din jocurile din Google Play colecteaza date despre utilizator si le transmit mai departe", *Bitdefender website*, <http://www.gandul.info/it-c/13-din-jocurile-pentru-android-iti-colecteaza-numarul-de-telefon-10691781> <http://www.bitdefender.ro/news/13-din-jocurile-din-google-play-colecteaza-date-despre-utilizator-si-le-transmit-mai-departe-2727.html> (accessed March 26th, 2013)
- Boullart, A. and Van den Bergh, J. (2012), "No guts, No glory", available at <http://www.insites-consulting.com/publications/no-guts-no-glory/>, (accessed June 3rd, 2013)
- BuyerBrain (2012), "Cutting Edge Marketing. Insights from brain and technology" workshop, available at: 21 May 2013, <http://buyerbrain.com/blog/cutting-edge-marketing-insights-from-brain-and-technology-workshop/> (accessed May 21st, 2013)
- Court, D., Elzinga, D., Mulder, S. and Vetvik, O.J. (2011), "Winning the consumer decision journey", article available at <http://cmsforum.mckinsey.com/wp-content/uploads/2012/04/Winning-the-consumer-decision-journey.pdf> (accessed March 29th, 2012)
- Crăciunescu, M. (2013), "Millward brown a lansat un nou framework de masurare si analiza a valorii brandului", SMARK (The Romanian Community of Marketing Professionals) international news, available at: http://www.smark.ro/a_25867 (accessed May 14th, 2013)
- Curtis, A. (Prod.) (2002), *The Century of the Self*, Documentary, London: BBC / RDF Media
- DELL Social Media (2013), Social Media Predictions 2013, slides available at: http://www.slideshare.net/dellsocialmedia/social-media-predictions-for-013?fb_action_ids=10151529956274645&fb_action_types=slideshare%3Adownload&fb_source=ticker&action_object_map=%7B%2210151529956274645%22%3A516840655034450%7D&action_type_map=%7B%2210151529956274645%22%3A%22slideshare%3Adownload%22%7D&action_ref_map=%5B%5D (accessed March 3rd, 2013)
- Drew, M. (2013), "Mobile research of the future", presented at the MRMW event 2013, 28 March 2013, available at: <http://www.slideshare.net/merlien/mobile-research-of-the-future-kantar-operations>, (accessed May 21st, 2013)
- Dughigg, C. (2012), "How Companies Learn Your Secrets", *The New York Times*, http://www.nytimes.com/2012/02/19/magazine/shopping-habits.html?pagewanted=1&_r=1&hp (accessed March 18th, 2013)
- Dumitrescu, L., Tichindelean, M. and Vinerean, S. (2012), "Discovering social media behaviour patterns in order to improve the marketing strategy in the current chaotic environment", *Revista Economică*, Vol. 64, No. 6, pp. 24-35
- Embedded Metadata Manifesto (2013), "Social Media sites: photo metadata test results", available at: <http://www.embeddedmetadata.org/social-media-test-results.php> (accessed May 21st, 2013)
- ESOMAR (2012a), "Guideline for conducting mobile market research – Consultation draft", September 2012, available at: <http://www.esomar.org/uploads/public/knowledge-and-standards/codes-and-guidelines/Draft-Guideline-for-conducting-mobile-market-research-September-2012.pdf> (accessed May 21st, 2013)
- ESOMAR (2012b), Conference 3D Digital Dimensions, details at: http://www.esomar.org/events-and-awards/events/global-and-regional/3d-digital-dimensions-2012/92_3d-digital-dimensions-2012.programme.php (accessed May 21st 2013)

Eight contemporary trends in the market research industry

- ESOMAR (2013), ESOMAR Congress 2013, details at: http://www.esomar.org/events-and-awards/events/global-and-regional/congress-2013/135_congress-2013.overview.php (accessed May 20th, 2013)
- Findlay, S. (2012), “Microsoft files emotion monitoring patent, will match ads with user’s moods”, *TheStar.com*, 11 June 2012, http://www.thestar.com/business/2012/06/11/microsoft_files_emotion_monitoring_patent_will_match_ads_with_users_moods.html (accessed May 21st, 2013)
- Gallagher, R. (2013), “Software that tracks people on social media created by defence firm”, *The Guardian*, <http://www.guardian.co.uk/world/2013/feb/10/software-tracks-social-media-defence> (accessed February 11th, 2013)
- GfK (2009), “GfK launches first market research project in Second Life”, *GfK website*, http://www.gfk-ro.com/public_relations/press/multiple_pg/004880/index.en.html (accessed February 9th, 2013)
- GfK (2010), “The Digital Connected Consumer” – GfK Research Summit 2010, *GfK website*, http://www.gfk.com/imperia/md/content/gfkcustomresearch/digital_connected_consumer/digital_emagazine.pdf (accessed January 9th, 2011)
- GfK (2013a), “EMO Scan – Reading emotional response to advertising”, *EMO Scan*, <http://www.gfk.com/emoscan/Pages/default.aspx> (accessed June 1st, 2013)
- GfK (2013b), “GfK analizează traseul complet online și offline al cumpărătorului modern”, *GfK website*, http://www.gfk-ro.com/public_relations/press/multiple_pg/011088/index.ro.html (accessed July 16th, 2013).
- Gomes-Casseres, B. (2013), “Yahoo, Tumblr, and the Loyalty Factor”, *Harvard Business Review Blog Network*, available at: http://blogs.hbr.org/cs/2013/05/yahoo_tumblr_and_the_loyalty_f.html?goback=%2Egde_3393196_member_242550906 (accessed May 22nd, 2013)
- Hall, M. (2009), “How online brand communities work”, *Research-Live.com*, <http://www.research-live.com/magazine/how-online-brand-communities-work/4001790.article> (accessed December 29th, 2012)
- Hoerl, R.W. and Snee, R.D. (2010), “Moving the Statistics Profession Forward to the Next Level”, *The American Statistician*, Vol. 64, No. 1, pp. 10-14, available at: <http://www.tandfonline.com/doi/pdf/10.1198/tast.2010.09240> (accessed May 21st, 2013)
- HubSpot (2013), “Inbound Marketing Methodology”, available at: www.hubspot.com/inbound-marketing (accessed August 16th, 2013)
- Hurwitz, S. and Gardenier, J.S. (2012), “Ethical Guidelines for Statistical Practice: The First 60 Years and Beyond”, *The American Statistician*, Vol. 66, No. 2, pp. 99-103
- Isaacson, B. (2013), “Child Abuse Hotline Ad Uses Photographic Trick That Makes It Visible Only To Children”, *The Huffington Post*, available at: http://www.huffingtonpost.com/2013/05/06/child-abuse-ad_n_3223311.html?ir=Technology (accessed May 6th, 2013)
- Kahlert, F. (2013), “Purchase journeys in the digital age”, *GfK Insights Blog*, available at: <http://blog.gfk.com/blog/2013/01/24/purchase-journeys-in-the-digital-age/> (accessed January 26th, 2013)
- Kalman, D.M. (2009), “Brand Communities, Marketing, and Media”, white paper of Terrella Media, available at: <http://www.terrella.com/bcmarketingwp2.pdf> (accessed August 16th, 2013)
- Kim, W.G. and Kim, H. (2004), “Measuring Customer-Based Restaurant Brand Equity”, *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 45, No. 2, pp. 115-131
- Lah, K. (2010), “Is ‘Minority Report’ becoming reality?”, *CNN Tokyo*, available at: <http://business.blogs.cnn.com/2010/03/11/is-minority-report-becoming-reality/> and video: http://www.youtube.com/watch?v=l_nacxK2U1M (accessed May 21st, 2013)

Eight contemporary trends in the market research industry

- Muenchen, B. (2013), "Forecast Update: Will 2014 be the Beginning of the End for SAS and SPSS?", *R-bloggers*, <http://www.r-bloggers.com/forecast-update-will-2014-be-the-beginning-of-the-end-for-sas-and-spss/> (accessed May 14th, 2013)
- Murphy, L. (2012), "Google, Twitter & Facebook... Oh My! The Implications Of The Twitter/Nielsen Deal For MR", *GreenBook Blog*, <http://www.greenbookblog.org/2012/10/03/google-twitter-facebook-oh-my-the-implications-of-the-twitternielsen-deal-for-mr/> (accessed March 8th, 2013)
- Pop, N.A. and Iorga, A.M. (2012), "A new challenge for contemporary marketing – neuromarketing", *Management & Marketing*, Vol. 7, No. 4, pp. 631-644
- Poynter, R. (2013), "Smartphones: The Future of Marketing Research in Asia Pacific", *ClickZ – Marketing News & Expert Advice*, available at: <http://www.clickz.asia/10613/smartphones-the-future-of-marketing-research-in-asia-pacific> (accessed March 7th, 2013)
- Prigg, M. (2013a), "How Google Glass projects data directly to your eye: Secrets of how search giant's controversial new gadget revealed", *The Daily Mail*, <http://www.dailymail.co.uk/sciencetech/article-2306382/How-Glass-works-New-infographic-reveals-secrets-Goggles-interactive-eyewear.html> (accessed April 9th, 2013)
- Prigg, M. (2013b), "Google Glass HACKED to transmit everything you see and hear: Experts warn 'the only thing it doesn't know are your thoughts'", *The Daily Mail*, <http://www.dailymail.co.uk/sciencetech/article-2318217/Google-Glass-HACKED-transmit-hear-experts-warn-thing-doesnt-know-thoughts.html> (accessed May 2nd, 2013)
- Ptacek, R. (2010), "Smartphone picture uploads can reveal the location of your children's home, school, and play areas", *NBC News*, http://www.kshb.com/dpp/news/local_news/investigations/smartphone-picture-uploads-can-reveal-the-location-of-your-childrens-home-school-and-play-areas (accessed June 28th, 2013)
- Razavi, S.F., Safari, H., Shafie, H. and Khoram, K. (2012), "Relationships among Service Quality, Customer Satisfaction and Customer Perceived Value: Evidence from Iran's Software Industry", *Journal of Management and Strategy*, Vol. 3, No. 3, pp. 28-37
- Richter, M. and Egan, E. (2013), "Answering Your Questions on Home and Privacy", *Facebook website*, <http://newsroom.fb.com/News/599/Answering-Your-Questions-on-Home-and-Privacy> (accessed April 5th, 2013)
- Sarkar, A. (2011), "Romancing with a brand: a conceptual analysis of romantic consumer-brand relationship", *Management & Marketing*, Vol. 6, No. 1, pp. 79-94
- SAS (2013), "SAS® Social Media Analytics", available at: <http://www.sas.com/software/customer-intelligence/social-media-analytics.html> (accessed August 18th, 2013)
- Schüssler, P., Kluge, M., Yassouridis, A., Dresler, M., Uhr, M. and Steiger, A. (2012), "Ghrelin Levels Increase After Pictures Showing Food", *Obesity*, Vol. 20, No. 6, pp. 1212-1217
- Sernovitz, A. (2012), *Word of Mouth Marketing: How Smart Companies Get People Talking*, Greenleaf Book Group Press
- Shuv-Ami, A. (2010), "A New Brand Commitment Scale for Market Segmentation", in: *Proceedings of ANZMAC 2010 Conference*, Christchurch, New Zealand, 29 November – 1 December 2010
- SMARK (2013), Marketing Research Conference 2013, available at: <http://knowhow.smark.ro/marketing-research-conference-2013> (accessed May 28th, 2013)
- Spielberg, S. (dir.) (2002), "Minority Report", *20th Century Fox*, key scenes available at: <http://www.youtube.com/watch?v=yyMdrOGhBhI> (accessed May 28th, 2013)
- Srinivasan, M., Mahmood, S. and Mulchand, S.P. (2013), "Metabolic programming effects initiated in the suckling period predisposing for adult-onset obesity cannot be reversed by calorie restriction", *American Journal of Physiology – Endocrinology and Metabolism*, Vol. 304, No. 5, pp. 486-494

Management & Marketing

- Strong, C. (2013), "The quantified self", *Research-Live.com*, available at: <http://www.research-live.com/comment/the-quantified-self/4009603.article> (accessed March 7th, 2013)
- Temkin Group (2012), "What Happens After a Good or Bad Experience?", available at: <http://www.e-junkie.com/temkingroup/product/484449.php> (accessed March 11th, 2013)
- Tumbokon, K. (2013), "Google Is Sharing Android Users' Personal Information", *Heavy.com*, available at: <http://www.heavy.com/regions/2013/02/google-is-sharing-android-users-personal-information-with-app-developers/> (accessed January 15th, 2013)
- Veris, E. (2011), "Gamification in market research", available at: <http://es.slideshare.net/eliasveris/gamification-in-market-research> (accessed August 17th, 2013)
- Versfeld, R. (2013), "Devices and data: a global view", *Kantar website*, available at: <http://www.kantar.com/media/mobile/mobile-life-data-and-devices-infographic/> (accessed May 9th, 2013)
- Wei, W. (2013), "Your Smartphone Is Tracking You In Ways You've Never Imagined", *Business Insider*, available at: <http://www.businessinsider.com/smartphone-privacy-concerns-2013-4> (accessed April 1st, 2013)
- Weigel, M. (2013), "A tale of humility and indifference", at IPA 44 Club, 19 February 2013, available at <http://martinweigel.org/2013/02/20/a-tale-of-humility-and-indifference/> (accessed May 15th, 2013)
- Zernigah, K.I. and Sohail, K. (2012), "Consumer's attitude towards viral marketing in Pakistan", *Management & Marketing*, Vol. 7, No. 4, pp. 645-662

About the author

Alina BARBU (PhD Stat) has 5-year of experience in market research, of which 3 in healthcare. Although working in the business environment, she follows academic developments in marketing and market research. Her last article, *Prescription at INN Level in Romanian Pharmacies: an Application of Latin Square Designs* (JBMAE, no. 4, 2012), is an example of quantitative methods applied to business issues.