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The Future of Business and Industrial Marketing and Needed Research

Wesley J. Johnston Editor, *Journal of Business and Industrial Marketing*

Introduction

There are usually no shortages of predictions of what the future will be like. In fact life would be impossible without them. We predict that tomorrow will be similar to today and that our students or customers will still need what we have to offer. That our car will start or the bus will be there at the usual time. The building we work in will still be standing and the visual recognition software will open our office door. It is only when we start to look further into the future that our predictions become less certain. Two recent predictions of the future of marketing serve as interesting examples.

The Institute for the Study of Business Markets at Pennsylvania State University regularly conducts a "b-to-b marketing trends study." The study respondents include both leading members of the academic community as well as marketing executives from a broad range of B-to-B industries. In the study there are three open ended questions asking:

What are the key challenges business marketers will face over the next three to five years?

What are the key capabilities we must build over that same time period? In the areas you identify, please specify who you would feel are "benchmark" firms in terms of performance.

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In the most recent study available, a cognitive map or word cloud identified these key words – understanding, global, ability, value, need, markets and development. These are the 7 key capabilities needed to deal with the identified trends:

- 1. More effectively quantify and communicate value created for customers
- Develop approaches and methods to better understand what customers really need – beyond what they can say or articulate – Stronger "Voice of the Customer" Practice
- 3. Find, sense, identify and assess new opportunities for organic growth
- 4. Develop **closer connections with all stakeholders**: customers, suppliers, channel partners, sales and marketing
- 5. Capitalize on **new growth/emerging markets** in the face of increasing global competition
- 6. Balance short-term requirements without compromising long-term opportunities
- 7. Select the right set of customers for your business and manage them effectively

The American Marketing Association, in an article published in the Marketing News entitled "Marketing in 2024" looks a little further ahead. Some of the predictions of the AMA include:

- Customers will be compensated in some way for allowing brands/marketers to get access to their data
- Companies will increase their effort to communicate in accurate, relevant and timely way with customers
- Lower technical limitations on engaging customers in a "mobile everywhere" smart data environment
- The online world and the offline world boundary will disappear allowing the potential for constant marketing messages to customers
- Brands/marketers will offer customers the ability to execute solutions more effectively in a guaranteed framework for improvement
- Complete integration of Internet access into everything including eyeglasses, shoes and clothing, and perhaps even brain implants
- Seamless integration of data and experience into customized user services
- The convergence of commerce and communication with ecommerce continuing to grow but with a strong desire for person-to-person interaction
- IP and privacy will be the most important issue in 10 years
- Millennials will be in firm control of companies bringing new values to conducting business
- Passive digital technologies will shape the future of marketing

The Future

Combining the ISBM and AMA studies we have a prediction that envisions communication of value to customers in an ever increasing digital world with data as a highly valued resource and new ways to mine it and deliver improved, customized

solutions. While this may seem like what marketing has been attempting to do and will continue to do, it is important to drill down on how things will change especially at a detailed level. Three important aspects of this future are "Big Data", the Internet of Things, and predictive analytical models.

Big Data - refers to a collection of data sets so large and complex, it's impossible to process them with the usual databases and tools. Because of its size and associated numbers, *Big Data* is hard to capture, store, search, share, analyze and visualize. The phenomenon came about in recent years due to the sheer amount of machine data being generated today – thanks to *mobile devices*, *tracking systems*, *RFID and NFC communication devices*, *sensor networks*, social networks, *Internet searches*, *automated record keeping*, *video archives*, *e-commerce*, etc. – coupled with the additional information derived by analyzing all this information, which on its own creates *another enormous data set*. Companies pursue *Big Data* because it can be *revelatory in spotting business trends*, *improving research quality*, and gaining insights in a variety of fields, from logistics to marketing and especially customer resource management. Big Data requires the capability to manage a huge volume of disparate data, at the right speed, and within the right time frame to allow real-time analysis and reaction. Big Data has 3 characteristics:

Volume – how much data
Velocity – how fast that data is processed
Variety – the various types of data

Finally, Big Data is not a single technology but a combination of old and new technologies that helps companies gain actionable insight especially for predictive analytics. The missing ingredient in many applications attempts so far is Value from the effort to manage the data. A significant confounding factor for Big Data will be the Internet of Things.

The Internet of Things - Today the Internet is almost wholly dependent on human beings for data and information. Nearly all of the data available on the Internet were first captured and created by human beings. Currently this amounts to roughly 50 petabytes (a petabyte is 1,024 terabytes). This data was uploaded by typing, pressing a record button, taking a digital picture or scanning a bar code. Interestingly most conventional diagrams of the Internet leave out the most numerous and important components, people, and concentrate on the hardware. In the future, more and more inanimate objections will be built to upload data to the Internet without human involvement. The reason is, people have limited time, attention and accuracy—all of which means they are not very good at capturing data about things in the real world. Once data about inanimate objects is streaming on the Internet, we will be able to track and count everything, and greatly reduce waste, loss and cost. We would know when things needed replacing, repairing or recalling, and whether they were fresh or past their best. The Internet of Things has the potential to change the world, just as the Internet did. And, maybe even more so. (Kevin Ashton, That 'Internet of Things' Thing, RFID Journal, July 22, 2009)

Predictions for the growth of the Internet of Things include:

- Demand for expedited logistics leading to RFID tags for facilitating routing, inventorying, and loss prevention
- Cost reduction leading to diffusion into 2nd wave of applications including surveillance, security, healthcare, transport, food safety, and document management
- Ability of devices located indoors to receive geolocation signals enabling locating people and everyday objects
- Miniaturization, power efficient electronics, and available spectrum bandwidth creating teleportation and telepresence leading to the ability to monitor and control distant objects
- Software agents and advanced sensor fusion blending the physical world with the web

The implication for Big Data is the amount of information managed by enterprise data centers will grow by 50 fold in the next ten years. Gartner estimates there will be nearly 26 billion devices on the Internet of Things by 2020. According to ABI Research more than 30 billion devices will be wirelessly connected to the Internet of Things by 2020.

For marketing to cope with the rise of Big Data fueled by the Internet of Things one answer/opportunity seems to be predictive analytical models. Predictive analytical models are not new. Every time you buy a book on Amazon and they suggest other books you may be interested in reading they are using predictive analytics in a correlation model. The attempt is to move from simple data analysis and answering the question of "What happened?" to "What will happen?" and even to "What is the best that could happen and how do I bring it about?"

The real time deployment of predictive analytical models dealing with Big Data is not a simple process. New hardware configurations involving Hadoop distributed processing systems had to be configured to manage the data and insure continuity in case of server overload. There is also a five step process for building the model:

- 1. Data distillation
- 2. Model development and validation
- 3. Model deployment
- 4. Real-time model scoring
- 5. Model refresh

While Amazon was a pioneer, a number of other companies have begun building capabilities in successfully using predictive analytics including United Parcel Service, Walmart, and Target. The most common job title at UPS headquarters is marketing analyst and there are more than 300. Walmart is requiring its top 10 suppliers to be RFID capable to support streaming data for inventory and other supply chain solutions. Target can predict with simple correlation of data when is the ideal time to promote other products to customers. The possibility to integrate marketing value chains from end consumer purchase back through the entire supply chain in real time becomes possible

with streaming data and predictive analytics. This means efficient consumer response – inventory assortment, replenishment, promotion and product introductions.

Conclusion

The further we look into the future, however, the less certain our predictions become. One of my favorite books is <u>The Next 100 Years</u> by George Friedman. Friedman is the founder and CEO of a leading private intelligence and forecasting company. In his book he predicts a number of seemingly very unlikely events, but then backs them up with strong rationale for their occurrence. He makes a very important prediction connected to the growing use of computers that seems to support not only the growth of predictive analytical modeling, but also the importance of the US in this process:

"As populations decline due to shifts in reproductive patterns, the United States becomes the center for radically redefined modes of social life."

This prediction is based on the declining birth rates in all countries and the reasoning that a modern economy is dependent on computers and corporations. And, programming computers requires knowledge of English, the language of computing.

But, 100 years into the future? Still many Japanese firms create 100 year business plans. Two statements strike me at this point, one from my publisher and one from a famous economist:

My publisher tells me "The future for business-to-business marketing is bright!"

The economist tells me "In the long run we will all be dead."