Will Decision Management Systems Revolutionize Marketing?

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Abstract

The ever-increasing volume of available business data and the wide range of rising intelligent software solutions that capitalize on up-to-the-minute information technology have proven to be, from a knowledge worker's perspective, a curse and a blessing all at once. The biggest challenge created by the increasing complexity of the business environment is the intricacy of decision-making and exception handling. The fact that more and more data sources and technologies have become accessible often leads to analysis paralysis.

Enterprise decision management belongs to a novel philosophy aiming to transform a company's information systems from an obstacle in the way of change to a real aid in implementing business adjustments. This approach promotes flexible information-driven processes and the conversion of data into intelligence able to guide, if not automatically make, decisions. A decision management system brings a set of major advantages: the possibility to test a decision's compliance with existing regulation and its compatibility with previous decisions; a method to forecast the effects of a proposed decision before adopting it; predictive analytics and optimization technology.

The current paper aims to analyze emerging trends in the area of organizational decision management, with the purpose of providing an outlook on possible implications for the field of marketing. The research was performed exploring the offers of major providers of decision management software and analyzing case studies and scientific literature regarding decision management systems. The result of the research is a personal standpoint on the most significant applications of decision management systems in marketing, accompanied by a set of conclusions and recommendations addressed to marketing professionals interested in taking advantage of an enormous potential that, so far, has been only faintly recognized.

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Selection and/or peer-review under responsibility of Lumen Research Center in Social and Humanistic Sciences, Asociatia Lumen.

Keywords: decision management; decision management system; business agility; business control; information-driven process;

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doi:10.1016/j.sbspro.2013.08.712
1. Introduction

Business decision management has always been very important, both for individuals and organizations. This is how Garvin and Roberto described decision-making in a Harvard Business Review article from 2001:

“The fact is, decision making is not an event. It's a process, one that unfolds over weeks, months, or even years; one that's fraught with power plays and politics and is replete with personal nuances and institutional history; one that's rife with discussion and debate; and one that requires support at all levels of the organization when it comes time for execution.” (p. 108)

Some aspects have changed from the moment this statement was made, while others remain the same and will probably never change in principle. Decision-making is indeed a process, one that should incorporate knowledge gained from past decisions and continuously adapt to changes in the internal and external environment of a company. Major decisions often require a large time span for stakeholders to gather key information, consent about priorities, opportunities, challenges, possible outcomes and, most importantly, about the plan of action. However, there is so much change and so much information accessible in real time, that the companies that adapt the quickest often have a very strong advantage. This is why there is an urge to create all the appropriate conditions in order to enable decision makers to decide as quickly as possible.

Power plays and politics will most probably never cease to exist as long as people are involved in decision-making. However, the current state of available information technology and data makes it increasingly difficult to disguise a personal motive which influences a decision. Moreover, as decision-making is explicitly becoming a collaborative and information-driven process in more and more companies, the reasoning behind decisions will also have to become explicit and well documented.

Finally, the whole organization needs to support the execution of decisions, but there is also a very special role played by information systems. In some companies, there is a specialized decision management system in place, other companies have more generic or rudimentary systems, but, in any case, these systems should be true facilitators of business agility and business control.

2. Emerging Trends in the Area of Organizational Decision Management

The most important changes affecting organizational decision management over the last few years have been, directly or indirectly, a consequence of unceasingly evolving information technology. The emergence of new tools and expertise has had a significant effect on IT systems, work processes and employee mentality. Listed below is a personal view on the factors having the greatest impact in shaping the way decision management is being thought about:

- Automation of routine tasks and decisions: as IT systems are becoming more and more capable of competently dealing with repetitive tasks, there is an enthusiastic shift towards automation, whose main advantages are economy of time and resources, standardization, avoidance of human errors, automatic quality control and increased predictability; the automation happens when the company recognizes that certain decisions have to be made on a frequent basis, as stated by Pownall (2012): "sufficient reoccurrence of non programmed decision outcomes, can of course then generate a programmed organisational response to given situational stimuli" (p. 15).
• Improved access to key data for the whole range of knowledge workers: employees are encouraged and empowered to base their decisions upon relevant data rather than instinct alone; instead of ordering reports from a specialized person / department, they often receive self-service access to the information they need.

• Changes need to be taken into account rapidly and meticulously: companies are in contact, more than ever, from an informational point of view, with changes taking place in their ecosystem and, as the information is available, there is no excuse for not acting on it.

• Collaborative organizational cultures: the nature of intellectual work is changing substantially, with a growing emphasis on team and network cooperation and an increased dependence on virtual communication technologies; one problem that often occurs in group decision making is that "information mentally considered by individual members, but not mentioned, will have little influence on the eventual decision" (Bazerman & Moore, 2009, p. 51); in order to facilitate better informed decisions, it is important to explicitly require each specialist involved in a decision to state and document personal views and opinions and consequently better utilize everyone's expertise.

Taking all these aspects into account, it becomes clear that, in order to approach decision management in a modern and responsible manner, companies need to allocate attention and resources to build efficient decision management systems that provide both business agility and business control. These systems have to include a flexible IT infrastructure, human potential, expertise and information-driven processes specially conceived with the purpose of being able to fully harness the power of the previously mentioned components. Unfortunately, what Curt Hall said in 2005 about Enterprise Decision Management still holds:

"EDM is more talked about today than it is actually practiced. This is because implementing EDM requires more than just deploying a rule-based system. It requires an infrastructure that allows the technology to be applied across multiple channels. And this means integrating different business processes as well as integrating data from various operational systems and analytic applications."

3. Possible implications for the field of marketing

The tendencies mentioned above have a very powerful effect on all kinds of organizations and on every single line of business. Marketing is particularly impacted, as it is supposed to be most sensitive to the changes taking place in the market and to guide the organization forward in the transforming environment. Here are a few of what I consider to be the most significant effects that the changing philosophy regarding organizational decision management has had on marketing:

• Marketing business processes are becoming more and more reliant on IT systems: when making a marketing decision, in an ideal case, all relevant data sources are taken into consideration, compatibility with previous decisions is being tested, redundancies and gaps are being addressed and forecasts regarding the impact of the new decision are being created. Such analyses and forecasts can be extremely valuable. However, decision makers must act with caution and take into account many more inputs that can be introduced in a model. Ehrenberg, Barnard and Sharp (2000), referring especially to marketing mix decision models, state that: "There are more things in decision-making and its modelling than seem to be dreamt of by decision modellers." (p. 1522)

• Marketing processes need to be extremely responsive to changes due to increased competition: nowadays, it is no longer only elite companies which base their decisions on data and information systems. As the entire IT industry has evolved with spectacular speed in the last few decades and technologies that used to be considered cream of the crop have gradually become mainstream, almost every company is consciously striving to make decisions more intelligently, and this threatens the prospects of the few companies failing to do so.
• Marketing professionals need to make quick and frequent decision changes, usually minor ones that cannot be delayed until they are packaged as bigger software modification requirements: this means that decision logic needs to be separated from the rest of the application logic and placed in the control of marketing teams, rather than having to rely entirely on IT for every revision.

• Flexible IT systems that sustain the do-it-yourself philosophy are most appropriate for marketing teams nowadays: the market environment is changing at such a pace that marketing professionals cannot afford to wait for the IT department to provide them with the necessary data and to accommodate their ad-hoc requests and need to be in full control of the format, volume and periodicity of the data they use for decision-making.

• Marketing IT systems need to be extremely reactive to significant events and automatically alert the appropriate people or take action without human intervention: business events represent aggregations of multiple occurrences which together have important implications, e.g. the inventory for a certain type of products fall below a defined threshold.

• IT systems need to facilitate rapid marketing policy changes that respond to market dynamics, regulatory change, customization and personalization initiatives.

• Marketing decisions often involve stakeholders belonging to different business functions such as finance, sales and operations; decision management processes must assist collective decision-making and facilitate documenting the discussions and debates from which the decisions stem, for future reference and in order to generate an audit trail.

• With so much analytical data at their disposal and equipped with automated processes, marketing decision makers have to be extremely responsible and make sure that they thoroughly think about the way decisions are affecting the company, the customers, the competitors and the environment: "Every decision has an ethical dimension, which should be considered by managers for making good decisions. Practical wisdom is essential in perceiving such a dimension and in making sound moral judgments in the making of decisions. Managers do not need only skills for making correct decisions, but practical wisdom and moral virtues, too." (Mele´, 2010, p. 637)

4. The most significant applications of decision management systems in marketing

Organizational decision management is a topic of increasing interest and marketing is one of the most promising business areas in which it can be applied. Here are some of the numerous applications that I believe organizational data management has in store for marketing professionals:

• Logistics and supply chain management: these are business areas that involve a great deal of repetitive decisions and processes; in order to keep all of the intricacies under control and be able to automate as much as possible, without building a rigid software infrastructure which would make it impossible to accommodate changes in the long term, organizational decision management software provides the solution.

• Personalized offers: as customers are becoming more and more demanding, the lack of a personalized approach is among the most harmful limitations of current marketing practices: "Mass targeting and unstructured follow-up processes when handling customer enquiries demonstrate a lack of strategic thinking in the field." (Ogden-Barnes & Lowther, 2012, p. 5). The criteria based on which the offers vary is a subject of frequent transformation for companies striving to adapt to changes in the market and to become more customer-centric. The client characteristics that are influential at one moment in time, such as size or industry, can increase / decrease in importance or change completely. Unless equipped with decision management software, organizations can often be stuck in an old way of thinking because that is the way the software works. However, in order to capitalize on the true potential of modern software technology, such decisions need to be habitually revised and tested, with the aid of simulation software, before being applied.
Pricing: one of the most repetitive types of decisions requiring sophisticated predictive analytics and optimization techniques are those related to pricing; the cumulative effect of improving such decisions can be very significant for any type of business. In addition, companies can greatly benefit from advanced methods of analyzing how successful previous pricing decisions have been and applying this knowledge when making similar decisions.

Loyalty programs: just like offers, loyalty programs change in strong correlation to the business objectives; decision management systems not only allow the flexibility to change them, but also facilitate experimentation with different variants and running simulations.

Customer segmentation: there are some categories of client data that companies have a predisposition towards collecting and basing their segmentation on. As a result of advances in technology, more and more types of data are becoming available and can be used to create more significant categorizations. Companies could benefit considerably from a greater ease in experimenting with different customer segmentation criteria and from the capability to use data gathered through past experiments, to predict future outcomes.

Customer service: customers expect quick and personalized support for their questions and problems. When a special issue arises, there is often a need to change the way customer interaction is handled and / or create an extra set of rules until the problem is resolved. Such flexibility and control can be given by decision management software.

Lead distribution: the marketing and sales pipeline can vary significantly at times, so there is a need to calibrate the logic behind the distribution of leads among sales teams. Also, the variations in the size or availability of the sales teams can make such a change necessary. Having the ability to make the adjustments in a timely manner can be crucial in terms of revenue.

Service levels prioritization: this is another area requiring frequent and well-timed adjustments; with the aid of decision management software, companies can achieve that and more, especially where optimization is concerned.

Recommendation engines: the creation of recommendation engines involves a great deal of experimenting and calibration in order to provide significant value from a user's point of view. Furthermore, the business purpose that a recommendation engine serves may change over time and the ability of the marketing team to repeatedly test and modify the mechanism behind it quickly and directly, without having to involve the IT department, could be extremely profitable, especially in e-commerce.

Adapting marketing processes to legislative changes: decision management systems facilitate quick dissemination and application of information related to changes in law and regulation concerning company products, customer communications and advertising approaches.

All the promising applications in marketing described above utilize increased business agility which is made possible by decision management systems and which helps companies adapt to transformations in market trends and legislation. "Without this agility, organizations will face fines and penalties, they will miss opportunities and will be overtaken by more responsive, more agile competitors." (Taylor, 2012, p. 2)

5. Conclusions and recommendations

In order to exploit the generous potential of enterprise decision management systems, I consider that companies need to follow a set of principles:

- Automation and flexibility are not necessarily antonymous; IT systems should facilitate adjusting the rules upon which automation is based.
- One should recurrently challenge previous decisions and established ways of thinking; just because a certain approach worked well in the past does not mean it is the best way for the present.
- Customer-centricity requires a great deal of decisions and adjustments.
• Decision management systems work best on repeatable decisions and should not be applied universally.
• Marketing professionals should not rely completely on the analyses and forecasts delivered by the IT systems.
• The ethical dimension of decision making should not be neglected.
• Using analytics is one of the most efficient ways to improve decisions.
• It is best to explicitly identify decisions that need to / can be improved.
• Improved collaboration in the decision-making process helps improve the quality of decisions.
• Having a system in place that requires an explicit documentation of the reasons behind decisions discourages the influence of subjective motives, while fostering accountability and rational approaches to decision making.
• Tracking decisions which have been taken over time, together with the rationale behind them, provides a valuable repository of knowledge and can be used both as a reference and for training new employees.

In conclusion, the decision management approach is all about making business decisions more scientific, more transparent and faster, while at the same time preparing the business to be flexible enough to make the most of this progress. Used in the right way, enterprise decision management systems constitute a very powerful business advantage.

References