

: *What is the future of decision support and analytics?*

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Decision support and business analytics can provide managers the numbers and metrics for both day-to-day and strategic decisions. Managers need and want quick access to revenue and sales data that they can "slice and dice" to monitor performance. Managers need predictive estimates and comparative metrics. Advice is increasingly needed to make complex financial and human resources decisions. Diagnosing problems and acting on symptoms proactively is crucial in a competitive business environment. Managers need analytics, business intelligence, and decision support to know the numbers and hence to know the business. Computer-based decision support capabilities provide visibility about activities and performance in real-time and enhance the control needed to identify problems, to make good decisions, and to increase revenues. As a close observer, the future for decision support and analytics deployment, research, and development seems excellent.

Since the article by Shim, Warkentin, Courtney, Power, Sharda, and Carlsson (2002) explored the past, present, and future of decision support technology, the domain of computerized decision support has continued to evolve, expand, and mature. Both technology and social developments have shaped this evolution. Computer-based decision tools now support people and teams anywhere and everywhere. New applications using a wide array of networked technologies including mobile tools and e-services are now well established. People want decision support "on the go".

Cognitive decision support tools like Watson have created new possibilities for knowledge-driven decision support. Algorithmic decision making is now part of the expanded domain of model-driven DSS. Communications-driven DSS are embedded in and deployed using mobile devices, high definition video conferencing, and telepresence technologies. Data-driven DSS are firmly established in business intelligence and analytics. Finally, document-driven DSSs have become digital repositories of immense size and that continue growing. Search technologies provide rapid access to documents, images, and sound that provide evidence and background for decision making.

A Genpact Insight post argues "the future of decision-making involves a creative mix of data, analytics, and artificial intelligence (AI), with just the right dash of human judgment."

Stottler (2019) at Kepner-Tregoe asserts "The challenge facing companies over the next 5-10 years will be figuring out how to use the data that is available to them, refine it into information, and from that information harvest actionable insights to drive decisions. ... The future of work for the next decade will to a large extent be focused managing the data the company has today and helping the

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organization use data in new ways to solve problems and exploit new opportunities."

Supposedly "predictive analytics can help businesses run more efficiently and become more profitable." Also, according to Sincavage (2019) "When decision-makers and business executives have reliable data analyses, recommendations, and follow-ups through artificial intelligence systems, they can make better choices for their business and employees."

Researchers need to discuss the continuing evolution of decision support and analytics technologies and issues related to the continued broadening of the DSS definition, innovative applications, and the increasing impact of computerized decision support. Researchers should especially focus on four categories of decision support tools, including real-time data-driven decision support and analytics, cognitive aids, personal decision support wearables, and ambient and IoT decision environments. Problems and issue associated with telepresence and virtual reality should be assessed in the context of decision support. Managers need to understand the state of the art of algorithms, machine learning, and model-driven decision support. Finally, it is important to examine the major implications of pervasive, widely diffused, and prevalent decision support and analytics upon individuals, groups, organizations, and nation-states. Decision-making is changing and in the future, there will be greater use of data, more analysis and analytics, quantitative algorithms, and artificial intelligence (AI) sorted out by people with better training and greater experience.

Looking at the present to discern trends is useful, but creating the future of decision support is also part of our obligation and role as decision scientists, decision support developers, and researchers. Vision, hard work, and ideas create the next generation of decision support. In our post-industrial, digital age, using data-based technologies, analytics, and decision support to transform an organization is the key to success. We face however an ongoing challenge of deciding which technologies will have the greatest impact. Technologists have promised that decision support and analytics will improve decision quality and efficiency, in our increasingly complex and uncertain world, both outcomes seem necessary and possible. Now is the time to deliver on the long-standing promise of decision support.

References

Genpac Insight, "The future of decision-making: augmented intelligence," at URL <https://www.genpact.com/insight/point-of-view/the-future-of-decision-making-augmented-intelligence>

Shim, J. P., M. Warkentin, J. F. Courtney, D. J. Power, R. Sharda, & C. Carlsson, "Past, present, and future of decision support technology," *Decision Support Systems* 33 (2), 111-126 at URL <https://www.sciencedirect.com/science/article/pii/S0167923601001397>

: What is the future of decision support and analytics?

Sincavage. D., "How Artificial Intelligence Will Change Decision-Making For Businesses," Tenfold at URL <https://www.tenfold.com/business/artificial-intelligence-business-decisions> last accessed 8/1/2019.

Stottler, W., "The Future of Work - Data-driven decision making," Kepner-Tregoe Blog 2019 at URL <https://www.kepner-tregoe.com/blog/the-future-of-work-data-driven-decision-making/>

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