Management Science

From the Editor

David Simchi-Levi

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In January 2018, when I came on board as editor in chief of *Management Science*, I focused on structural changes and new initiatives that imply a "change in direction so that the journal better serves and promotes research" conducted by the entire management science community and is "true to its name, a journal dedicated to the science of management, with the ability to impact practice and the ability to serve as the top outlet for new big-idea, high-impact papers" (Simchi-Levi 2018, p. 2).

Three years later, it is appropriate to reflect on the impact of these changes as well as trends that have emerged in management research. These are the objectives of my editorial statement.[1]

1. Background

It has been an exciting three years for *Management Science*. The introduction of the new editorial board at the beginning of 2018 paved the way for some major changes in the journal. They include

• Modifying departmental structure: This includes the introduction of three new departments—big data analytics, healthcare management, and revenue management and market analytics—and the integration of three departments, decision analysis, behavioral economics, and judgment and decision making, into a single unit.

• Repositioning of existing departments: Finance has expanded its footprint to include financial technology (fintech) and machine learning as well as cryptocurrency-related technology. Information systems has also expanded its footprint to include the development of predictive analytics that combine a methodological advance with an important and novel managerial application. Finally, accounting is now emphasizing papers that span the intersection of accounting and other fields important to management science, such as risk management, data science, strategy, operations, finance, entrepreneurship, healthcare, and marketing.

• Encouraging diverse methodologies: *Management Science* is now focusing on a healthy mix of computer science, operations research, social science, and statistics, so the journal is truly interdisciplinary, publishing scientific research on the practice of management.

• Introducing the Fast Track submission process: This is a submission process designed to attract short papers with high-quality, original, and high-impact research that is of broad interest. The intent is to disseminate high-quality work quickly while maintaining *Management Science*'s publication standards.

Overall, the board has emphasized that, independent of topic and methodology, papers published must be relevant to the management science community and must focus on the science and practice of management.

2. The Impact

I am pleased to report that these changes are making an impact.

2.1. Submission Volume

The number of new submissions in 2020, including both regular and Fast Track papers, is projected to cross the 3,850-submission line and is estimated to be 3,868, which is about 13% higher than 2019. See Figure 1.

A few observations: Submission volume of regular papers for 2020 is projected to be around 3,400 papers, and the volume of submissions for Fast Track papers is expected to be around 500. The latter volume represents a 50% increase relative to the number of Fast Track papers submitted in 2019, indicating a high interest in the new submission process.

The significant increase in submission volume in 2020 relative to 2019 (when comparing Q1–Q3 of both years and when comparing actual 2019 submissions to the 2020 projection) is driven by a significant increase across almost all the departments. The percentage increase is the largest for big data analytics and healthcare management although, in absolute

Figure 1. (Color online) Data for 2020 Represents a Projection Based on Regular and Fast Track Papers Submitted Between January 1, 2020, and November 30, 2020
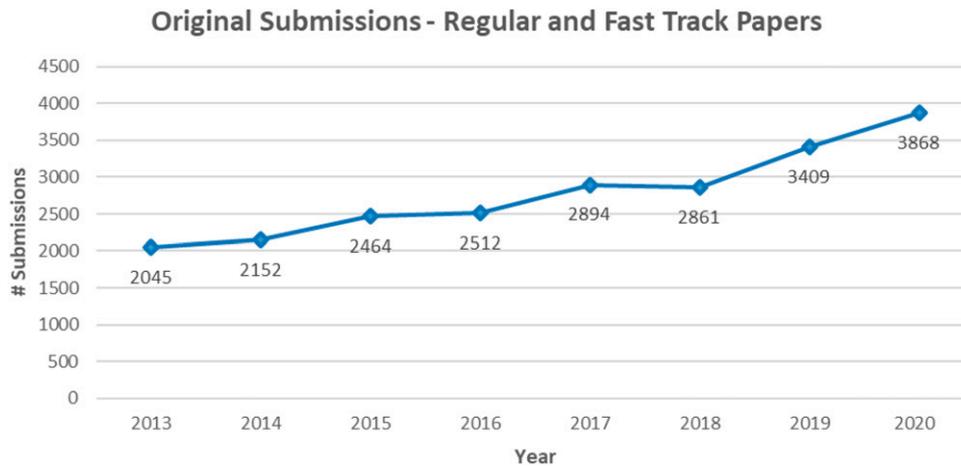
terms, the largest increase is in accounting and finance. Let me elaborate.

2.1.1. The Accounting Department. The repositioning of the accounting department has made a big impact! Indeed, the accounting department has experienced significant growth in submissions over the past 12 months. Specifically, the department received 322 new regular submissions between October 1, 2019, and September 30, 2020—a 23.8% increase over the 260 submissions received during the same period in 2018–2019. Similar growth was observed in Fast Track submissions.

This growth in submissions has allowed the department to pivot away from traditional accounting papers, that is, papers that only focused on the accounting literature, toward papers that integrate accounting with the other management science disciplines. For example, of the 50 papers accepted by the accounting department in the past two years, 38 of them (76%) have clear overlaps with areas such as big data analytics, business strategy, entrepreneurship, fintech, healthcare, marketing, operating management, and organizations.

2.1.2. The Finance Department. The finance department has a high submission volume, having received approximately twice the number of submissions as the second leading department (decision analysis) over the past two years. One important driver of this increase is the decision taken in 2018 to expand the footprint of the finance department to include fintech: blockchain, cryptocurrencies, and artificial intelligence applications. Indeed, in the last 12 months, 20% of the accepted finance papers have been in areas related to fintech.

Given the significant increase in submission volume, the department editors decided to raise the publication bar and reduce their acceptance rate, which is targeted at 7%. The department editors are also emphasizing desk reject of papers that have little or no chance of publication. This allows referees to receive fewer, higher quality papers and sends a clear signal to the community about the quality standards of the finance department.

2.1.3. Operations-Related Departments. The introduction of the three new departments—big data analytics, healthcare management, and revenue management and market analytics—cannibalizes papers that, in the past, would have been submitted to operations management. Given this observation, it is appropriate to reflect on the number of submissions to operations-related departments. The total number of submissions across all operations-related departments represents about 20% of the total submission volume to *Management Science*.

2.2. Review Cycle Time
Management Science continues to maintain an outstanding cycle time. Indeed, the average time from submission to first decision is below 70 days for regular papers. The data also suggest that Fast Track delivers on its commitment to provide authors with a faster review with initial decisions returned to most authors in fewer than 30 days.

Equally important, review times to final decision have been dramatically decreasing: from an average of 214 days in 2014 to 129 days in 2019.

2.3. Acceptance Rate
Management Science's acceptance rate this year across all submissions, regular and Fast Track, is about 11.8%, which is similar to the acceptance rate in the last few years. This acceptance rate is not uniform

across all departments; it varies from as low as 3% to as high as 20%, depending on the department.

The bar is significantly higher for Fast Track papers, and as a result, the acceptance rate for this submission process is around 5%, significantly lower than that of regular papers.

2.4. Backlog

A challenge faced by the journal is to control the *time from acceptance to publication*. At 13–14 months in 2018–2019, this delay is significantly lower than 2017 (27 months). However, with the significant increase in submission volume, the *Management Science* backlog has been steadily increasing. We are currently at a backlog of around 17.5 months. This has an impact on authors' satisfaction and impact factor. Recently, the *Management Science* editorial board asked for, and INFORMS approved, an increase in the journal's page allocation from 6,000 pages in 2020 to 8,000 pages in 2021. Given our acceptance rate and submission volume, this will reduce the publication delay to about 12 months.

2.5. Fast Track

The data reported earlier suggests that interest in Fast Track submission is on the rise. Indeed, Fast Track submission volume in 2020 is projected to be 50% higher than in 2019, and average time to first decision is quite short at about 30 days.

Authors should keep in mind that Fast Track is not just about speed; it is more about a different style of writing and a different review process. The review process for Fast Track papers emphasizes that department and associate editors should focus on whether the contribution claimed in the paper is worthy of a Fast Track publication, and reviewers should mostly focus on whether the analysis justifies the findings and not whether the findings are worthy of publication.

As observed in Simchi-Levi (2020), authors and readers could benefit from reviewing a few examples of accepted Fast Track papers. These publications can inform the community on the type of paper and writing style emphasized by Fast Track. For this reason, the editorial board would like to highlight a few recently accepted Fast Track papers. In healthcare management, Ganju et al. (2020) focus on racial bias in diabetes treatment and how clinical information systems can reduce that bias. In operations management, to give another example, Lee et al. (2020) analyze the ongoing shortage of pharmaceutical drugs and the impact of a new federal policy that requires operational transparency on alleviating drug shortages.

2.6. Ranking and Impact Factor

Management Science has been and continues to be one of the most prestigious journals in the field.

The journal's (two-year) impact factor has increased from 3.544 in 2017 to 4.219 in 2018. In 2019, we saw a slight decline to 3.935. Similarly, the five-year impact factor has increased from 4.927 in 2017 to 5.555 in 2018. This measure was 5.467 in 2019. More importantly, the *Management Science* impact factor, either two- or five-year, has been consistently among the best of the management science and operations research journals.

Finally, the number of downloads of *Management Science* papers, a measure indicating interest in research published by the journal, was 560,302 in Q1–Q3 2020. This is more than double the number of downloads of most other management science and operations research journals.

3. Emerging Trends in Management Research

From my vantage point as the editor in chief, I have observed emerging trends in the nature of papers submitted to *Management Science*. First, a significant volume of submissions includes real-world or laboratory data. Second, although *Management Science* has been more multidisciplinary, interdisciplinary research does seem to be on the rise. Finally, a significant volume of submissions is focused on methods to explain, predict, and change human behavior.

Below, I discuss each trend and the journal response.

3.1. Data-Related Initiatives

A recent analysis done for *Management Science*'s 65th anniversary, see Hopp and Simchi-Levi (2020), finds that 60% of the 2018 published papers include real-world data, and about 15% include laboratory data. These data-rich papers are critical for scientific progress and impact, but they raise ethical and replicability challenges. To address these challenges, the board has established the following initiatives (Simchi-Levi 2019):

• Data and code disclosure policy: The objective of the policy is to ensure the availability of the material necessary to replicate the research published in the journal. Beyond the specific details, it is important to highlight two key aspects of the policy:

○ There is no need to replicate every element of a paper. Authors need to provide sufficient material to replicate the essential content.

○ Authors can ask for an exception or delay. The department editor will consider the trade-off between the benefits of enforcing the data disclosure policy versus blocking the publication of an important paper.

To enforce the policy, the board has appointed a data editor whose responsibility is to ensure that accepted papers comply with the data and code disclosure policy and to verify the ability to replicate results published by the journal.

• Data provenance policy: Recently, we have seen a few submitted papers that raise legal and ethical questions, for example, papers that apply scraped data from a variety of websites, some of which ban such practice, or papers that use fake accounts to generate data. In response to these developments, *Management Science* has modified its data provenance policy. Beyond the formal wording of the policy, it is important to clarify its intent. The objective of the policy is for authors not to use data obtained by means that materially harm individual, business, public sector, or societal interests.

• Replication project: The editorial board initiated a replicability project with the objective to report replicability of laboratory experiments published by *Management Science.* I am pleased to report that we now have a team of eight academics (with significant experience in behavioral operations) committed to addressing the replicability challenge. The team includes members from five institutions with established labs, which allows us to conduct each replication in multiple locations.

The team has collected survey results from the community in which they asked participants to vote for the papers they would like to see replicated. The papers were in the following five areas: inventory management, supply chain (contracting), queueing, forecasting, and sourcing. The team chose the two papers with the highest number of votes from each category for a total of 10 papers.

The next steps include obtaining institutional review board approvals; developing a detailed replication plan for each paper (including specific hypotheses to be replicated, sample sizes, and treatments to be conducted); communicating with the authors of the papers for feedback to make sure they agree with the replication plan; and obtaining the original software from the authors or developing new software if the original is not available.

3.2. Interdisciplinary Research
Evidently, management practice breaks boundaries between functional areas; therefore, it is essential for research to do so as well. This type of research has increased modestly over the past decade; see Hopp and Simchi-Levi (2020).

To accelerate this process, the editorial board initiated a few special issues that bring together editors from different disciplines to collaborate on a specific topic. The first, introduced in 2018, was a special issue on data-driven prescriptive analytics that focused on papers leveraging predictive and descriptive analytics to derive effective solutions for business problems. The special issue attracted a significant number of submissions in part because it emphasized interdisciplinary research that brings together disciplines such

as finance, marketing, operations management, and data science.

Following the success of the first interdisciplinary special issue, in 2019, the editorial board introduced a special issue on business and climate change.

Climate change poses major risks and opportunities for a wide array of companies and industries—and for society at large. Of course, "climate change" is a topic that needs to be studied through several different functional lenses, including accounting and finance, business strategy, entrepreneurship and innovation, operations, and organizations—in particular, cross-disciplinary ones. For these reasons, coeditors include senior people from the various disciplines covered by the journal. The submission deadline for the special issue is February 28, 2021. As of December 15, 2020, 122 papers have been submitted to the special issue.

In 2020, the board introduced a third special issue on blockchain and cryptoeconomics. The rise of blockchain and digital finance leads the management science community to rethink managerial decision making, handling supply chain processes, storing and analyzing data, and executing financial transactions. Industry changes and challenges also call for new theory, mechanisms, and comprehensive empirical studies to inform the design of various systems and measure their impact on society, especially in research areas represented by *Management Science,* including but not limited to accounting, finance, healthcare, operations, marketing, and stochastic systems.

3.3. Modeling Human Behavior
As observed in Simchi-Levi (2018), papers published in *Management Science* should attempt to include behavioral data because we analyze systems that involve people, and hence, we need more realistic models that capture human behavior. Although not every paper in "*Management Science* can or should include behavioral data, those that do will foster the development of new scientific methods that explain, predict, and hopefully help change behavior" (Simchi-Levi 2018, p. 2).

Such papers have been on the rise in *Management Science.* A case in point is the decision analysis department. Currently, this department is the second largest department in the journal, and this year (2020), the department is projected to receive more than 500 submissions. Around 45% of the submission volume in the department has been in the area of behavioral economics, 35% in decision analysis, and the remaining volume in judgment and decision making.

Effective January 1, 2021, the department will be renamed "behavioral economics and decision analysis" to reflect the nature of papers submitted to the department. Given this change, we have updated the

department vision statement to reflect the new name, highlight areas of interest, and emphasize relevance to the management science community.

4. Diversity, Equity, and Inclusion

The events of the last few months have highlighted long-standing and systemic societal inequalities that range from economic and health to racial disparities. These challenges bring into sharp focus the urgent need to take meaningful steps to address the inequities.

This is the case at *Management Science*! The journal's editorial board has already taken a few steps to ensure that we are practicing the principles of diversity, equity, and inclusion (DEI). Our objective is to provide concrete steps that help the *Management Science* journal and community be part of the process that addresses the challenges of minorities, in particular, Black Americans. For this purpose, we have done the following.

4.1. Virtual Special Issue on DEI

Management Science has compiled a list of papers published in the journal in the last few years related to DEI. The journal highlights these papers so that we focus on these issues and on the research done by the management science community. Our hope is that papers in the special issue will inform policy, impact education, and motivate new research. The special issue is live, whereby new accepted papers on DEI will be added as they are published online.[2]

As you can see, the special issue covers a variety of topics from gender inequality, hiring discrimination, and affordable housing to biases in algorithms and online platforms. Many of the papers offer deep analysis of social problems as well as insightful new policies that can have a long-lasting impact. The article "The Isolated Choice Effect and Its Implications for Gender Diversity in Organizations," by Edward H. Chang, Erika L. Kirgios, Aneesh Rai, and Katherine L. Milkman (see Chang et al. 2020) exemplifies the type of paper on DEI published by the journal. In this paper, the authors focus on an important feature in hiring and selection decisions that make an impact on group gender diversity. They demonstrate, through experimentation, that people are more likely to increase gender diversity when hiring or selecting multiple group members than when hiring or selecting one person at a time. The implications are clear: "Groups constructed via an aggregation of isolated selection decisions are less diverse than groups whose members are selected in collections" (Chang et al. 2020).

4.2. *Management Science* Task Force on DEI

The special issue is just one step in the direction highlighting the role that the management science community can play in addressing societal problems. The second step taken by the editorial board is equally important. We have established a new task force whose objective is to recommend actions that *Management Science* can take to expand its diversity, including diversity of authors, editors, and published papers, while maintaining scholarly excellence. For this purpose, the task force will

• Consider the broader issues of diversity, inclusion, and equity that relate to the *Management Science* ecosystem.

• Collect and analyze data about current diversity in INFORMS and other journals.

• Gather information on what other journals are doing in the area of DEI.

5. Special Thanks

The initiatives described earlier and implemented in the last three years all suggest a change in direction so that the journal better serves and promotes research done by the entire *Management Science* community. I am grateful to an ad hoc committee established by INFORMS in 2020 to review the journal. This committee suggested a few actions on which the editorial board has been focusing. Overall, looking at the last three years, one concludes that the journal is in excellent shape, and as pointed out by the review committee, "The status of the journal in academia is improving on all dimensions. Keep the course."

Endnotes

[1] Some paragraphs in this document, discussing recent initiatives and changes to *Management Science*, are taken from various blogs I published recently.

[2] See https://pubsonline.informs.org/page/mnsc/papers-on-diversity-equity-inclusion.

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