Competition and Consumer Protection in the 21st Century Hearings,
Project Number P181201

BSA | The Software Alliance Comments on Topic 9: The Consumer Welfare Implications Associated With the Use of Algorithmic Decision Tools, Artificial Intelligence, and Predictive Analytics

BSA | The Software Alliance (BSA) welcomes the opportunity to provide these comments in connection with the Federal Trade Commission's ("FTC" or "Commission") upcoming public hearings on competition and consumer protection in the 21st Century. The hearings promise to provide a valuable look at developments in the digital economy, and BSA applauds the Commission's commitment to examining its policy and enforcement priorities in light of changes in technology, business models, and the international policy and legal environment.

BSA is the leading advocate for the global software industry before governments and in the international marketplace. Our members are at the forefront of software-enabled innovation that is fueling global economic growth, including cloud computing and AI products and services.[1] In the United States, software contributes $1.14 trillion to GDP and supports 10.5 million jobs, with an impact in each of the 50 states and across a range of industries.[2] Software, combined with the more than $63 billion that the industry invests annually in research and development, serves as a powerful catalyst for U.S. economic growth, making companies more competitive and the economy more robust.

BSA's comments address the consumer welfare implications associated with the use of algorithmic decision tools, artificial intelligence ("AI"), and predictive analytics.[3] As leaders in AI development, BSA members have unique insights into both the tremendous potential that AI holds to address a variety of social challenges, and the types of governmental policies that can best support AI innovation and its responsible use. Below, we highlight some of the significant benefits that AI provides across a wide swath of industries. These advances are fueled in part by access to data and have been aided by flexible policies that

[1] BSA's members include: Adobe, ANSYS, Apple, Autodesk, Bentley Systems, Box, CA Technologies, Cadence, CNC/Mastercam, DataStax, DocuSign, IBM, Informatica, MathWorks, Microsoft, Okta, Oracle, PTC, Salesforce, SAS Institute, Siemens PLM Software, Splunk, Symantec, Trend Micro, Trimble Solutions Corporation, and Workday.

[2] *See* Software.org: The BSA Foundation, *The Growing $1 Trillion Economic Impact of Software*, at 5 (Sept. 2017), *available at* https://software.org/wp-content/uploads/2017_Software_Economic_Impact_Report.pdf. Consistent with the Commission's instruction to disclose the source of "funding for research, analysis, or commentary that is included in a public comment," Request for Comments at 7, we note that BSA contributes funding to Software.org: the BSA Foundation, which published the study cited here and the study cited in note 5, *Artificial Intelligence Maximizing the Benefits* (March 2018).

[3] *See* Request for Comments at 5. BSA is filing separate comments in response to Topic 2 (competition and consumer protection issues in communication, information and media technology networks); those comments discuss BSA members' commitments to addressing consumer privacy and data security.

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allow data-driven innovation. Broad restrictions on the use of machine learning and data analytics could impede this innovation. We also discuss the impact of this innovation on consumers and describe mechanisms for addressing transparency and fairness concerns that may arise through the use of AI. We encourage the Commission to promote flexible policy approaches that both protect consumers and avoid the imposition of burdensome restrictions that could forestall the development of new technologies and business models driving growth across the global economy.

I. AI-Based Systems Are Bringing Significant Benefits to Consumers and Society.

A. AI Advances Are Data-Driven.

Although definitions vary, AI is commonly used to refer to systems that act intelligently in pursuit of specified objectives. Those objectives span a number of contexts, as AI is rapidly becoming a foundational technology that drives many products and services that people use every day.

AI systems both rely on data for their development and improve our ability to interpret and use large volumes of data from many different sources. AI systems use sophisticated algorithms that are typically "trained" with large amounts of data. Such data comes from other advances in computing, including the proliferation of industrial IoT and other technologies that generate vast amounts of data, the affordability of data storage, and ever-growing data processing capabilities. These developments have fueled tremendous advances in AI capabilities over the past five to ten years, providing solutions to a range of different industry sectors.

Once trained, the algorithms in AI systems can analyze new sources of raw data and predict outcomes based on that data. These predictions, in turn, can serve as the basis for advice or recommendations to human decision-makers, empowering them to make choices that have the benefit of genuinely data-driven analyses.

B. AI's Benefits Are Widespread Among Industries and Consumers.

AI technologies are delivering myriad benefits to consumers and businesses in a wide and diverse variety of contexts. AI solutions are already leading to improvements in healthcare, stronger cybersecurity, advances in education, and increased business competitiveness. To list just a few examples:[4]

- **Fraud Detection.** AI is improving fraud detection by recognizing suspicious behavior and providing companies with real-time information that helps them identify and investigate different types of fraud, reducing the losses attributed to malicious actors by billions of dollars. These tools are also protecting consumers from the risk of fraudulent charges and from the frustration associated with "false declines."

- **Cybersecurity.** AI tools are revolutionizing how companies monitor network security, by improving cyber threat detection, analyzing malicious behavior patterns, and detecting malware in real time. AI is also helping analysts parse through hundreds of thousands of security incidents per day to weed out false positives and identify threats that warrant further attention by network administrators. By automating responses to routine incidents and enabling security

[4] *See* BSA, *Building Confidence and Trust in Artificial Intelligence Systems*, https://ai.bsa.org/building-confidence-trust-in-artificial-intelligence-systems/.

professionals to focus on truly significant threats, AI-enabled cyber tools are helping enterprises stay ahead of their malicious adversaries.

- **Education.** Educators are using AI products to access the math resources they need in seconds, including lesson plans, activities, standards, information, and teaching strategies that allow them to customize material based on the student's abilities.[5] These tools can help teachers be more efficient and enhance students' education.

- **Inclusion**. AI is being used to promote inclusion. For example, AI systems, powered by data analytics, are at the heart of new devices and applications that can improve the lives of people with disabilities. For instance, AI is helping people with vision-related impairments interpret and understand visual content, such as photos and their physical surroundings. This technology opens new possibilities for people with vision impairments to navigate the world, giving them increased independence and greater ability to engage with their communities.

In addition to these more routine applications, AI makes possible other important tasks that would otherwise be economically or physically infeasible. For example, AI is used in submarines that map the ocean bed and measure ocean currents. And the future possibilities are endless. Flexible policy frameworks that spur data-driven innovation and do not impose unnecessary restrictions are vital to the continued development of these technologies.[6]

II. The Software Industry Is Identifying and Addressing AI's Challenges.

In some instances, stakeholders have inquired about the impact of predictive analytics and AI to support decision-making about consumers in certain areas, in part because of the challenges in understanding how the systems operate, and how they could potentially impact particular groups.

The ability of AI systems to account for an enormous number of variables that may interact in complex and unexpected ways can make it challenging to determine how AI systems obtained a particular result or made a specific recommendation. As the use of AI becomes more widespread, BSA recognizes the importance of increasing awareness of AI systems and providing meaningful information to enhance consumer understanding of these systems, particularly when such systems are deployed in contexts that affect consumers' eligibility in important areas, such as access to credit or housing. Indeed, as BSA's members proceed with their development of AI techniques, efforts to build consumer awareness, understanding, and trust are critical. Already, BSA's members are proactively addressing these issues. Responsible technology innovation is a priority for BSA members, including efforts to develop AI technology with checkpoints for bias and explainability. At the same time, research has shown that disclosing the algorithms, source

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[5] *See, e.g.,* Software.og: the BSA Foundation, *Artificial Intelligence Maximizing the Benefits* (March 2018), at 11, *available at* https://software.org/wp-content/uploads/AI_Report.pdf. *See* BSA *funding disclosure, supra* note 2.

[6] *See* BSA, *AI Policy Overview*, http://www.bsa.org/~/media/Files/Policy/BSA_2018_AI_PolicyOverview.pdf (identifying five pillars for facilitating responsible AI innovation: building confidence and trust in AI systems; sound data innovation policy; strengthened cybersecurity and privacy protections; investment in research and development; and workforce development). As part of its advocacy for sound data innovation policies, BSA has highlighted the need to (1) ensure data can move freely across borders; (2) facilitate open access to government data; (3) avoid the creation of new rights in business data; and (4) maintain predictable, technology-neutral competition policies. *See* BSA, *Spurring AI Innovation With Sound Data Policy*, https://ai.bsa.org/wp-content/uploads/2018/05/BSA_2018_AI_DataPolicy.pdf.

code, or associated data sets is ineffective in helping to provide explanations, in part because they cannot be meaningfully understood in isolation.[7]

BSA therefore supports industry efforts to provide users of AI systems with the information necessary to instill confidence that such systems are operating as intended. Facilitating increased understanding and promoting trust in the use of AI technologies is an important priority, and BSA has highlighted five key principles that could aid industry in pursuing it: fairness; accuracy; data provenance; explainability; and responsibility.[8] These principles, among other things, address the need to consider context-specific measures that help evaluate improper bias, acknowledge the importance of data quality, and enhance understanding of AI systems.

As governments and industry continue to invest in research and explore innovative ways to address these challenges, the opportunities that AI provides to consumers will only continue to increase.

III. Conclusion

AI solutions are fueling rapid advances in many industries, yielding meaningful and widespread consumer benefits. We encourage the Commission to develop and promote flexible policy approaches that continue to enable this innovation. In so doing, as AI evolves, the Commission can still use its existing tools, where appropriate, to address circumstances that cause substantial harm to consumers. BSA looks forward to serving as a resource for the Commission as its examination of AI issues progresses.

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[7] *See* Kartik Hosanagar & Vivian Jair, *We Need Transparency in Algorithms, But Too Much Can Backfire,* Harvard. Bus. Review, July 23, 2018, *available at* https://hbr.org/2018/07/we-need-transparency-in-algorithms-but-too-much-can-backfire.

[8] *See* BSA, *Building Confidence and Trust in Artificial Intelligence Systems*, https://ai.bsa.org/building-confidence-trust-in-artificial-intelligence-systems/.