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Government Algorithms and the Public's Right to Know

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EXECUTIVE SUMMARY

Government Algorithms and the Public's Right to Know

The Connecticut Foundation for Open Government, Inc. (CFOG) is a tax-exempt, not-for-profit educational organization, whose mission is to promote the open and accountable government essential in a democratic society.

An algorithm is the step-by-step procedure by which a task is performed. Proprietary computer algorithms are considered intellectual property and deemed trade secrets by most private enterprises and many government agencies that create and use them.

Governments use computer algorithms in making policy and other important decisions. Of course, if the algorithms themselves are based on flawed reasoning or processes, then government policies and decisions based on them will likewise be flawed. Such errors can lead not only to unsound decisions, but they also can lead to an enormous waste of public resources and even to a significant loss of life.

This paper provides the context in which to consider the interface between proprietary computer algorithms owned or used by government and the public's right to know what its government is doing. It attempts to set forth the pertinent public policy issues between government honoring trade secrets and confidential commercial information on the one hand, and adhering to the fundamental principles of open and accountable government on the other.

Because computer algorithms are now – and increasingly will be – vital components in government policy and other decision making, it is essential to the continuance of our democratic system of governance that algorithmic transparency, to the greatest extent possible, should be enshrined both in public policy and in law.

The Connecticut Foundation for Open Government, Inc.

The Connecticut Foundation for Open Government, Inc.[1] (CFOG) is a tax-exempt, not-for-profit educational organization, whose mission is to promote the open and accountable government essential in a democratic society. It seeks to achieve this by educating policymakers and citizens in general on the need for a free flow of information on all public policy matters.

CFOG's programs are carried out by a volunteer Board of Directors drawn from the media, academe, the law, business and government. Its programs include:

- Sponsoring an annual conference for Connecticut's state and municipal officials on Freedom of Information issues
- Underwriting surveys of government agencies designed to measure compliance with Connecticut's Freedom of Information laws
- Sponsoring an annual essay contest for high school students on Right to Know and First Amendment issues
- Presenting periodically its Walter Cronkite Award to a national figure who embodies Open Government principles. Recipients have included Mr. Cronkite, Louis Boccardi, former president of the Associated Press, Jim Lehrer, former executive editor and anchor of the NewsHour on Public Television, Seymour Hersh and Bob Woodward, noted journalists and authors, and Floyd Abrams, eminent First Amendment lawyer and Scholar
- Holding public policy symposia, such as the first ever "*National Privacy and Public* Policy Symposium;" "*Striking the Balance: Open Government in the Age of Terrorism*;" "*The Need for Connecticut to Enact a News Media Shield Law*;" and most recently "*The Right to Record: Examining the Public and the Media's Right to Record Police Activities*"
- Sponsoring an annual "Stories Behind the Biggest Stories of the Year," during which noted journalists talk about the tips they received, the sources they consulted, the difficulties they faced, the doubts that troubled them, the barriers they overcame and how, ultimately, they produced some of the year's finest reporting
- Presenting a First Amendment project, in which teams of lawyers and journalists visit school classes and other forums to discuss the history and practical applications of First Amendment, Freedom of Information and Open Government policies
- Publishing public policy papers, such as this one, on topics related to its mission

CFOG's funding comes from its membership, contributions from the public, fees from its programs, and grants from the National Freedom of Information Coalition and the John S. and James L. Knight Foundation.

[1] Visit The Connecticut Foundation for Open Government website at www.ctfog.org.

Trade Secrets and Confidential Commercial Information[2]

Information is an important commercial commodity in today's world. Because government collects so much information, it is a valuable source to information seekers. People all over the world seek information – legally and illegally – from virtually every government in existence.

Some of the most valuable information that any government obtains are trade secrets and other commercial information from business enterprises. Because the disclosure of such information to competitors would be harmful to the financial interests of information-providers, they usually insist that the government guarantee the confidentiality of the information as a condition precedent to providing it.

To effectuate such a guarantee, most jurisdictions have exceptions to their Freedom of Information laws for trade secrets as well as for other commercial or financial information. Of course, the mere existence of such exceptions does not guarantee the confidentiality of the information. Protective safeguards also must be put in place. And access to the information must be extremely limited, lest corrupt officials obtain and sell it to the information-providers' competitors.

There are many definitions of what constitutes a "trade secret." Most jurisdictions in the United States – either by statute or common law – employ some version related to the model language set forth in the Uniform Trade Secrets Act.[3] The definition of a trade secret in the Connecticut Freedom of Information Act is typical and reads:

> *"information, including formulas, patterns, compilations, programs, devices, methods, techniques, processes, drawings, cost data, customer lists, film or television scripts or detailed production budgets that (i) derive independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain*

[2] Much of the material in this White Paper comes directly from the book *Piercing the Veil of Secrecy: Lessons in the Fight for Freedom of Information* (New Britain, CT: LawFirst Publishing, 2010) by Mitchell W. Pearlman, Lecturer in Law and Journalism at the University of Connecticut. This material is used with the permission of the author. The opinions and conclusions stated herein, however, reflect the views of CFOG, as approved by its board of directors.

[3] See http://www.uniformlaws.org/shared/docs/trade%20secrets/utsa_final_85.pdf, visited February 1, 2018.

economic value from their disclosure or use, and (ii) are the subject of efforts that are reasonable under the circumstances to maintain secrecy. . . .”[4]

In addition to trade secrets, many businesses claim that virtually all commercial information they submit to government should be considered confidential.[5] But whether commercial information ought to be exempted is more problematical – especially when balanced against some important public interest in disclosure.

Businesses that provide information to government typically do so for one of three reasons: 1) they are mandated by law to do so (e.g., payment of taxes); 2) they are regulated and must provide relevant information to their government regulators (e.g., public utilities); or 3) they want to do business with the government (e.g., to obtain a government contract to provide goods or services).

In each of these situations, businesses often use the word “proprietary” when describing the information provided. This word would include trade secrets, but it also has a substantially broader connotation in this context.

By using the word “proprietary,” businesses are saying that they *own* the information. And as owners, they assert that they – not the government – have the exclusive right to control the use and disclosure of the information beyond the purpose for which it was submitted. They further assert that this right of ownership supersedes any conflicting public rights under Freedom of Information laws.

But what if the disclosure of a computer algorithm deemed a “trade secret” or “proprietary” and used by government to make policy or other important decisions was faulty and perhaps significant errors or harm occurred? Should the information nonetheless be withheld under exceptions to Freedom of Information laws or honored pursuant to a pledge of confidentiality? This is one of the most profound issues facing governments today.

[4] Conn. Gen. State. §1-210(b)(5)(A).
[5] Conn. Gen. State. §1-210(b)(5)(B) provides for the confidentiality of most commercial or financial information given to government in confidence.

Algorithmic Transparency[6]

In many respects, computers have made life easier. But they have also made life quite a bit more complicated. For example, before the computer age most government documents were on paper. Today, people not only need access to government information on computer media and in computer-readable formats, they need access to the computer programs and systems government uses to make policy and other important decisions. Yale Law Professor Jack Balkin calls this "algorithmic transparency."[7]

An algorithm is the step-by-step procedure by which a task is performed.[8] People use simple algorithms in their lives every day, such as for adding numbers or sorting books. On the other hand, algorithms used in computers are often highly complex. They require sophisticated logic and advanced mathematical modelling in the design and functionality of the applications in which they are embedded. Because of this, algorithms are considered intellectual property and deemed trade secrets by most private enterprises and many government agencies that create and use them.[9] Consequently, algorithms are often encrypted so that they cannot be easily deconstructed and analyzed.

Governments now gather almost incomprehensible amounts of information, organize them into vast databases, and make and implement important decisions using the algorithms they create or purchase.[10] Governments use computer algorithms in making tax policy and budget decisions; they use them in forecasting various transportation and infrastructure needs; and they use them in analyzing public health and environmental issues and formulating policy based these analyses.

Of course, if the data used are less than complete or accurate, or if the algorithms themselves are based on flawed reasoning or assumptions, then government policies and decisions based

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[6] Rogers Epstein, Massachusetts Institute of Technology, Class of 2019, generously contributed his expertise of computer algorithms in the preparation of this section of the paper.

[7] https://law.yale.edu/yls-today/news/conference-government-transparency-be-held-october-27, visited February 1, 2018.

[8] https://www.merriam-webster.com/dictionary/algorithm, visited February 1, 2018; http://whatis.techtarget.com/definition/algorithm, visited February 1, 2018.

[9] http://www.opalesque.com/OFI1121/Futures_Lab_How_do_you_protect_your121.html, visited February 1, 2018.

[10] https://www.theguardian.com/science/2013/jul/01/how-algorithms-rule-world-nsa, visited February 1, 2018.

on them will likewise be flawed.[11] Such errors can lead not only to unsound decisions, but they also can lead to an enormous waste of public resources and even to a significant loss of life.

For example, on the national level, both Republicans and Democrats use substantially different algorithms to show how people in various economic and demographic classes may be affected by repealing the Affordable Care Act. The same is true with regard to federal tax legislation. To referee such competing partisan claims, Congress is supposed to be guided by independent "Score Keepers," such as the Congressional Budget Office (CBO). But what if, for example, the algorithms employed by the CBO are flawed or influenced by partisan or other improper assumptions?

In Connecticut, various state agencies forecast income and expenditures to help guide lawmakers in constructing state budgets. Each of these offices has access to the same data sets. But the assumptions programmed into their algorithms can differ significantly, leading to different outcomes in determining whether a budget will or will not be in balance. The 2018 state budget was out-of-balance by several hundred million dollars just weeks after it was enacted. How did this happen? Was it because the data was faulty? Or was it because the algorithms, and the assumptions built into them, were wrong?

To prevent such errors in the future, government algorithms would need to be transparent so they can be publicly vetted before policy decisions are made or legislation becomes law.[12]

The first shots in the battle for algorithmic transparency have already been fired. Recently the New York City Council passed an algorithmic accountability bill,[13] which establishes a task force to study, and within 18 months of passage report, how city agencies use algorithms to make decisions.[14] The bill was enacted in the wake of a racially biased algorithm[15] used to assess risk factors of criminal defendants. The algorithm's source code was confidential until a federal judge ordered it to be disclosed and the bias subsequently identified.[16]

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[11] Id.

[12] See Robert Brauneis and Ellen P. Goodman, "Algorithmic Transparency for the Smart City," https://poseidon01.ssrn.com/delivery.php?ID=212089113126090119020125100011018076042017086048025010071118030087127106117113115102037061118123008002109090070118119027111087044069041033085109072117066118065077031010094021099000099012076118108108072011027086006070004012104086120073023087016089081&EXT=pdf, visited March 8, 2018.

[13] http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3137815&GUID=437A6A6D-62E1-47E2-9C42-461253F9C6D0, visited February 1, 2018.

[14] http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3137815&GUID=437A6A6D-62E1-47E2-9C42-461253F9C6D0, visited March 8, 2018.

[15] https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing, visited February 1, 2018.

[16] Id.

Allegheny County Pennsylvania apparently has learned that government can no longer afford to treat algorithms as both secret and the exclusive domain of those who create and use them.

According to Dan Hurley in a New York Times Magazine article ("Can an Algorithm Tell When Children Are in Danger?"),[17] the Allegheny County child welfare agency stopped using an expensive algorithm developed by private companies. The algorithm was used to help screen cases of possible child abuse and determine which cases should be investigated within the agency's limited resources. The algorithm did not perform well and its owners refused to reveal details to help the agency discover the problem.[18]

The child welfare agency then replaced the faulty algorithm with a new one, which it developed with its own independent consultants and which the agency now owns. The algorithm was made available for all to see. Stakeholders – including government officials, technical experts, lawyers, child advocates, parents and even former foster children – were invited to discuss and comment on the algorithm before its adoption. Although not perfect, the new algorithm has been performing much better than the one it replaced and most stakeholders speak highly of it.[19]

[17] https://www.nytimes.com/2018/01/02/magazine/can-an-algorithm-tell-when-kids-are-in-danger.html, Visited February 1, 2018.
[18] Id.
[19] Id.

Conclusion

Trade secrets and confidential commercial information often represent a significant financial investment by those enterprises and organizations that create or own them. On the other hand, computer algorithms are now – and increasingly will be – vital components in government policy and other decision making. To prevent significant errors or miscalculations in the future, many government algorithms need to be transparent so they can be publicly vetted before policy decisions are made or legislation becomes law.[20]

In this case, proprietary rights face an important competing value when they would prevent the disclosure of information about which there is a legitimate and important public interest. The notion of an informed and knowledgeable electorate is one of the cornerstones of our country's democratic tradition. To paraphrase the Connecticut Supreme Court in another context, trade secrets and confidential commercial information must give way when balanced against the publication of matters of public interest, in order to ensure the "uninhibited, robust and wide-open discussion of legitimate public issues."[21]

So in this case, as in others before it, the balance of competing interests must be resolved in favor of algorithmic transparency to the greatest extent possible. This is not to say that government need not provide some measure of just compensation if government discloses secret or confidential proprietary information. But the bottom line is that algorithmic transparency is essential to the continuance of our democratic system of governance.

[20] As Thomas Claburn, editor-at-large at InformationWeek, put it, "Our algorithms, like our laws, need to be open to public scrutiny, to ensure fairness and accuracy." http://www.pewinternet.org/2017/02/08/theme-7-the-need-grows-for-algorithmic-literacy-transparency-and-oversight, visited March 8, 2018.

[21] *Goodrich v. Waterbury Republican-American, Inc.*, 188 Conn. 107, 116 (Conn. 1982) referring to the right to privacy.