Lay summaries of Professor Clovia Hamilton's research

This report provides brief summaries of research findings in publications written by Professor Clovia Hamilton on these 6 topic areas:

- Data Privacy
- Diversity, equity, and inclusion in STEM academic entrepreneurship
- Economic Development
- High-tech leadership
- Use of artificial intelligence and smart policing to reduce police misconduct
- Technology transfer operations and management

Please cite these in your research when you can. Also encourage graduate students and junior faculty to cite these when possible. Please send Clovia your lay summaries and she will do the same for you.

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Data Privacy

1. **Developing a Measure of Social, Ethical, and Legal Content for Intelligent Cognitive Assistants**

   We reviewed the growth and associated legal issues of the of Voice Activated Personal Assistants (VAPAs) in private homes, banks, healthcare, and education. We then summarized the policy guidelines for the development of VAPAs. Then, we classified these into five major categories with associated traits. We developed a relative importance weight for each of the traits and categories; and suggest the establishment of a rating system related to the legal, ethical, functional, and social content policy guidelines established by these organizations. We suggest the establishment of an agency that will use the proposed consumer protection rating system to inform customers of the implications of adopting a particular VAPA in their sphere.

   Hamilton, C., Swart, W., & Stokes, G. M. (2021). Developing a Measure of Social, Ethical, and Legal Content for Intelligent Cognitive Assistants. *Journal of Strategic Innovation and Sustainability,* 14 (3), 1-37.

2. **A Comparative Analysis of the EU GDPR to the USA's data breach notifications**

   We compared the European Union's General Data Protection Regulation (GDPR) with the statutes of the 50 US states, highlight the challenges companies face and reveal the types of decisions companies must make to comply with these statutes. This brief comparative analysis highlights the challenges companies face in trying to comply with multiple regulations. The greatest challenge exists for the small business. Just knowing the regulations would be a challenge for the small business. The GDPR may remain consistent, but the statutes of the 50 US states continue to be amended. In addition, there are the statutes of other countries. More than 100 countries have enacted data protection legislation, and several other countries are in the process of passing such laws with data protection laws.

   Garrison, C., & Hamilton, C. (2019). A comparative analysis of the EU GDPR to the US's breach notifications. *Information & Communications Technology Law*, *28*(1), 99-114.

Diversity, equity and inclusion in STEM academic entrepreneurship and technology transfer

3. **Increasing Diversity among Women Entrepreneurs in High Growth High Tech Using HBCU Female Academic Entrepreneurs**

   There is a concentrated number of potential women entrepreneurs of diverse races among faculty in the United States' Historically Black Colleges and Universities (known as HBCUs and are called 'Black Colleges' herein). This study describes the potential for developing university technology transfer in these Black Colleges as a strategy for increasing diversity among women entrepreneurs in high growth, high tech fields using female academic entrepreneurs. Using a novel theoretical framework, 24 Black Colleges with doctoral programs were compared to five (5) non-Black Colleges' technology transfer programs. The results of a correlation analysis support hypotheses regarding the relationships between tech transfer resource inputs and outputs. The results were used to develop a model intellectual property (IP) policy for Black Colleges. The Model IP policies can help these institutions improve their technology transfer and academic entrepreneurship endeavors. Ultimately, this will likely increase the diversity of women researchers, inventors and academic entrepreneurs in high growth, high tech fields.

   Hamilton, C. (2020). Increasing Diversity among Women Entrepreneurs in High Growth High Tech Using HBCU Female Academic Entrepreneurs. *Applied Management Journal*, *21*, 40-81.

4. **Using Ortho Arrays to Design Stated-Choice Surveys in emerging Research Institution's Technology Commercialization and Academic Entrepreneurship (Summary)**

   In order to investigate the lack of tech transfer including start-up business formation at emerging research institutions (ERIs) such as Historically Black Colleges and Universities (HBCUs), it is proposed that the social comparison theory be used as the theoretical framework in a novel experimental design. This study describes how orthogonal arrays can be used in the creation of a stated-choice survey of ERI administrators to assess the level and extent that these administrators compare their ERI employer to non-ERI majority schools with respect to technology commercialization and academic entrepreneurship.

   Using Ortho Arrays to Design Stated-Choice Surveys in emerging Research Institution's Technology Commercialization and Academic Entrepreneurship (Summary)In *Program and Proceedings of the 26th Annual Conference of the International Association for Applied Management – London, England* (Vol. 26, p. 24). Bowling Green, KY: International Association for Applied Management (IAAM), 2019.

5. **Black Americans Past and Present Created Frugal Innovations and Embraced Circular Economy Principles: The Marketing Dilemma**

The concept of frugal innovation did not originate in Asia or India. The practice of the rich taking the poor's innovations is not new. In particular, Black American slaves and freed slaves developed several inventions in poverty conditions. It is imperative that frugal innovation research be more historically accurate to reduce the marginalization of contributions developed by poor innovators and to increase the more widespread embrace of circular economy principles. If a poor innovator resides in a rich country, then that innovator should not be excluded from the frugal innovator category if frugality was indeed used to innovate.

Hamilton, C. (2018). Black Americans Past and Present Created Frugal Innovations and Embraced Circular Economy Principles: The Marketing Dilemma. In *11th Annual Conference of the EuroMed Academy of Business Research Advancements in National and Global Business Theory and Practice - Malta*.

6. **Chinese Innovation and Global Integration - Theoretical Framework of Perceived Insecurities in University Technology Transfer**

Given increased investments in university research and Chinese universities, it is important to be aware of conflicts between university technology transfer office staff and faculty within academic exchanges. University technology transfer is growing in China and is vital to China's innovation and intellectual property program. This cultural difference has presented conflicts between American university researchers and Chinese national researchers in the United States. It has also resulted in race- based hate and discrimination directed toward Chinese students and faculty on university campuses. Conflicts between university technology transfer participants can thwart efforts to create thriving, successful university technology innovation and commercialization programs. This paper provides a literature review which defines insecurity as perceived threats felt by both the faculty researchers and TIO staff. From this literature review, a theoretical conceptual framework and hypotheses were developed to explain this phenomenon.

Hamilton, C. (2018). Chinese Innovation and Global Integration Theoretical Framework of Perceived Insecurities in University Technology Transfer. In *11th Annual Conference of the EuroMed Academy of Business Research Advancements in National and Global Business Theory and Practice – Malta.*

7. **HBCU Technology Transfer Supply Chain Networks' Sustainability: Budget Resource Planning Tool Development**

This study describes the development of a university technology transfer supply chain network sustainability budgeting tool that Historically Black Colleges and Universities (HBCUs) can use to become more self-reliant financially. HBCUs lag behind their peer non-HBCUs because historically they have been under-served and were originally established largely as teaching and blue-collar trade schools. Increased involvement in research-oriented activities such as technology transfer will likely enable HBCUs to grow into new or stronger research institutions. The literature review revealed several problem areas with non-HBCUs university technology transfer including resource planning issues. These problem areas for non-HBCUs would be challenging for HBCUs as well.

Hamilton, C. (2018). HBCU Technology Transfer Supply Chain Networks Sustainability Budget Resource Planning Tool Development. In *Proceedings of the American Society for Engineering Management 2017 International Annual Conference EH. Ng, B. Nepal, and E. Schott eds*.

8. **A Tool Kit for Building HBCU Technology Transfer Supply Chain Networks Using an Advanced Planning System**

This toolkit is an advanced planning system to help Historically Black Colleges and Universities (HBCUs) and other emerging research institutions (ERIs) engage in technology transfer and compete for licensing revenues. This study includes a historical account of why HBCUs are woefully behind predominantly White institutions in America with regard to R&D and technology transfer. It includes budget resource planning using linear programming, job scheduling using simulated annealing and R programming, benchmarking, and recognition of the need for a paradigm shift.

Hamilton, C. A (2016) TOOL KIT FOR BUILDING HBCU TECHNOLOGY TRANSFER SUPPLY CHAIN NETWORKS USING AN ADVANCED PLANNING SYSTEM. University of Tennessee.

Technology transfer operations and management

9. **Knowledge Based View of University Tech Transfer—A Systematic Literature Review and Meta-Analysis**

What enables productive university technology transfer office (TTO) performance has not been comprehensively researched. Therefore, this research study adopted the knowledge-based view as the theoretical construct to support a comprehensive investigation into this area. This was achieved through employing a systematic literature review (SLR) combined with a robust meta-analysis. The SLR identified an initial total of 10,126 articles in the first step of the review process, with 44 studies included in the quantitative synthesis, and 29 quantitative empirical studies selected for the meta-analysis. The research study identified that the relationship between TTO knowledge management and knowledge deployment as well as startup business performance is where TTOs secure the strongest returns.

Hamilton, C., & Philbin, S. P. (2020). Knowledge Based View of University Tech Transfer—A Systematic Literature Review and Meta-Analysis. *Administrative Sciences*, *10*(3), 62.

10. **A Cochrane method systematic review of university tech commercialization research**

The technology transfer offices (TTOs) which were established at many research universities to manage this process have been studied quite extensively. However, the foundational elements that fuel successful TTO performance has not been studied comprehensively. Instead, there are numerous fragmented studies that date back to the early 1980s. In addition, there is no agreed upon common theory for studying university technology and how these elemental inputs related to performance outputs. Thus, herein it is advocated that the resource-based view (Barney, 1991) and theory on environmental munificence (Castrogiovanni, 1991, 2002) be used as a theoretical framework for researching university technology commercialization. Competitive resources in a more munificent environment can make it easier for an organization to survive and prosper. With a Cochrane method meta-analysis, it was discovered that human and organizational resources are significant relative to startup business formations, patents, and licensing activities. The strongest effects were among the organizational and human inputs relative to licensing activities.

Hamilton, C. (2018). A Cochrane method systematic review of university tech commercialization research. In *Proceedings of the International Annual Conference of the American Society for Engineering Management.* (pp. 1-11). American Society for Engineering Management (ASEM).

11. A Meta-Analysis of University Technology Transfer Empirical Research (Summary)

This research helps university technology transfer offices (TTOs) better understand the key resources attributes that impact their performance. We leverage resource-based theory (Barney, 1991) to describe why key TTO attributes might be related to performance. The theory asserts that when organizations possess resources that are valuable, rare, and hard to imitate, higher performance can result. We conducted a comprehensive literature review of TTO empirical studies. To be included, each study had to contain (1) a measure of a university TTO resource attribute (e.g., university research budget, industry funding, equity licensing, cash licensing, invention disclosures, patents, staff, staff experience, patenting legal expenditures, age of the TTOs, incubators), (2) a measure of performance (e.g., number of startups), and (3) an effect size estimate (e.g., correlation) of the relationship between an attribute and performance. We then used meta-analysis to aggregate the evidence to reveal whether and to what extent a relationship exists. We found that both human and organizational resources are significant relative to patents, licensing, and startups. The effects for human and organizational resources relative to licensing are strongest. Applying the resource-based view, this is likely because with respect to licensing, the TTO organizational and human resources are valuable, rare, and hard to imitate.

Hamilton, C., & Crook, R. (2015). A meta-analysis of university technology transfer empirical research (summary). *Frontiers of Entrepreneurship Research*, *35*(9), 4.

12. University Technology Transfer from the Attention Based View

There is a persistent underperformance by university technology transfer offices. This paper makes the contribution of advocating the novel use of cognitive thinking's attention-based view to university technology transfer in order to resolve this problem. The attention-based view teaches that human attention is limited and organizations are limited in what they pay attention to (Cyert, 1963; Ocasio, 1997). It is argued herein that universities may struggle with increasing their licensing revenues because they are not paying sufficient attention to licensing. Awareness of the problem is the first step in resolving it. It is propositioned that university technology transfer office staff pay more attention to intellectual property protection than patent marketing or licensing and this result in lower licensing revenues and lower overall performance. It is also propositioned that technology transfer offices with less experienced staff pay more attention to intellectual property protection than patent marketing and licensing.

Hamilton, C. (2015). University Technology Transfer Information Processing from the Attention Based View. In *Proceedings of the International Annual Conference (IAC) of the American Society of Engineering Management (ASEM), Indianapolis IN* (pp. 1-11).

13. Love and Hate in University Technology Transfer

Problems with university technology transfer have led to unethical behavior among faculty inventors and university technology transfer specialists. This study examines the literature focused on the relationship between university research faculty and technology transfer office staff. We attempt to provide greater understanding of how research faculty's personal values and research universities' organization values may differ and why. Faculty researchers and tech transfer office (TTO) staff are perceived to be virtuous agents. When both are meeting each other's needs, a "love" relationship exists. However, when these needs are not met, a "hate" relationship exists that is replete with doubt and uncertainty. This doubt and uncertainty create tension and subsequent conflicts. There are many accounts where faculty researchers have not followed university policies and expectations, often violating policy and ethical standards. Likewise, faculty report numerous examples of how TTO staff members' negligence in servicing their attempts to be good institutional citizens have failed them. This paper explores this love/hate relationship and reveals numerous conflicts that call into question ethical concerns. It also provides a set of recommendations for reducing and potentially alleviating these concerns. Results from a thorough review of the literature on the relationship between faculty and university TTOs reveals that perceived job insecurity is the primary reason that some research faculty members as well as some TTO staff, unethically violate their university policy to disclose invention disclosures and select to not provide full services, respectively. One way to alleviate the conflict between faculty's personal values regarding their inventions and university's organizational values is to enact measures that build trust and reduce insecurity among faculty members and TTO staff. In this book chapter, we not only examine this faculty/TTO staff ethical conflicts, but we offer a set of recommendations that we believe will reduce the likelihood of unethical behavior while encouraging greater institutional commitment and trust.

Hamilton, C., & Schumann, D. (2016). Love and hate in university technology transfer: examining faculty and staff conflicts and ethical issues. In M. H. Schwartz, Howard (Ed.), *The Contribution of Love and Hate to Organizational Ethics*, Research in Ethical Issues in Organizations (REIO) (Vol. 16, 95-122): Emerald Group Publishing.

14. Emerging Research Institutions' Technology Transfer Supply Chain Networks' Sustainability: Budget Resource Planning Tool Development

This study describes the development of a university technology transfer supply chain network sustainability tool that private and public emerging research institutions (ERIs) can use to become more self-reliant financially. Historically black colleges and universities (HBCUs) are ERIs and are used as a case study. HBCUs lag behind their peer non-HBCUs because historically they have been under-served and were originally established largely as teaching and blue-collar trade schools. Some doctoral HBCUs desire to strengthen their research activities. This study illustrates that classic industrial use of linear programming optimization techniques can uniquely be used to optimize budget resource planning for sustainable HBCU supply chain networks and other ERIs. Applying the systems dynamics approach, a budget resource planning tool was developed using a linear programming optimization technique. This study contributes to the improved execution of technology transfer projects through better budget resource planning.

Hamilton, C. (2017). Emerging research institutions' technology transfer supply chain networks' sustainability: Budget resource planning tool development. *IEEE Engineering Management Review*, *45*(4), 39-52.

15. Novel Job Scheduling Tool for University Technology Transfer

Technology commercialization managers are often faced with (1) training inventors on intellectual property (IP) laws and IP policies, (2) evaluating invention disclosures for patentability and marketability, (3) drafting and implementing invention marketing plans, and (4) working closely with patent counsel on patent prosecution. This study begins with the fact that expediency is important because the amount of time taken to evaluate invention disclosures and file patent applications often conflicts with inventors' desire to publish their findings. However, very few technology transfer managers use project management job scheduling tools to minimize processing time. This study describes the development of a novel job scheduling tool for university technology transfer using simulated annealing in R programming.

Hamilton, C. (2020). Novel Job Scheduling Tool for University Technology Transfer. *Applied Management Journal*, *20*, 19-37.

16. Adequacy of the 1995 Antitrust Guidelines for IP Licensing: Commentaries from the 2002 FTC and DOJ Hearings about the Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy

The 1995 Antitrust Guidelines for the Licensing of Intellectual Property (IP Guidelines) state the antitrust enforcement policy of the DOJ and the FTC. The IP Guidelines drafted by the DOJ and FTC (the agencies) does not provide practitioners with a sufficient level of comfort as they attempt to predict the enforcement initiatives relative to intellectual property licensing. The IP Guidelines are inadequate because they misunderstand the nature of intellectual property markets and provide insufficient guidance in the most difficult areas. The IP Guidelines include a special treatment of a newly defined "innovation market" that is flawed and lack a focus on license-misuse activity that creates entry barriers. This article discusses whether the FTC has addressed the three common types of license misuse, that is: (1) the refusal to grant intellectual property licenses; (2) misconduct during industry standards setting; and (3) the improper acquisition of broad intellectual property rights through patent settlement agreements involving patent pools, cross-licenses, and generic drug market entry. In particular, generic drug entry attracted a great deal of interest in light of the diversion of distribution from wholesalers to the multibillion-dollar shadow market over the Internet, and the controversial Medicare Bill.

Hamilton, C. (2004). Adequacy of the 1995 Antitrust Guidelines for IP Licensing: Commentaries from the 2002 FTC and DOJ Hearings. *Journal of Internet Law, 7, 18-27.*

17. Adequacy of the 1995 Antitrust Guidelines for the Licensing of Intellectual Property in Complex High-Tech Markets

In 1995, the Department of Justice and the Federal Trade Commission adopted new guidelines for those wishing to license intellectual property rights without violating antitrust laws. Designed to provide clarity, these guidelines instead bred confusion because they misunderstand the nature of intellectual property markets and provide insufficient guidance in the most difficult areas. Agency guidance should focus on conduct in the high-tech arena that constitutes a potential entry barrier. Key high-tech entry barriers include refusals to license, misconduct during standards-setting activities, and patent accumulation methods such as cross licensing, package licensing, and patent pools. The article concludes that the government should further amend the Guidelines to provide clearer rules for use of IP licenses.

Hamilton, C. (2002). Adequacy of the 1995 Antitrust Guidelines for the Licensing of Intellectual Property in Complex High-Tech Markets. *Computer L. Rev. & Tech. J.*, *7*, 23.

Note: The FTC and DOJ did amend the Antitrust Guidelines for IP Licensing in 2017.

High-tech ethical leadership

18. Preparing Millennials as Digital Citizens and Socially and Environmentally Responsible Business Professionals in a Socially Irresponsible Climate

The gaps in the literature related to the use of current events in education relevant to preparing millennials for professional business communications include focusing on the students' individual voice and critical exploration of issues within the context of business communication. None of the literature reviewed specific to business education emphasized the importance of preparing millennials to ***exercise diplomacy*** as they forge their business careers. Further, while some research studies advocate that students should be encouraged to find their own news stories, there is little scholarship about the 'then what'? What should instructors do to pull out of students their ability to exercise their individual voice about ethics, policies, legislation, and business practices. Typically, students merely summarize what the current event news article, blog, or social media microblog post states. There needs to be much more research and practice focused on providing outlets for students to: (1) express themselves in online discussions; (2) craft ***evidence-based judgments***; and (3) debate on the difficult dialogues related to unethical business practices (Weybrecht, 2016).

Based on our literature review, we recommend a pedagogical framework for developing business management curricula which has the following ten (10) themes that need to be promoted and implemented by higher education administrative leaders and faculty:
1. Socially responsive ethics – digital citizenship and environmental sustainability; social justice awareness using current events in teaching
2. **Self- Identity:** In this age of selfies, faculty should *encourage students to establish* their own authentic self-identities.
3. **Diplomat Business Communication –** encourage *the development of experiential learning activities focused on civic participation for interventionist engagement*
4. **Transparency** - the business schools need to begin at home with discussing digital citizen related decisions made by the university and their college related to cyber bullying, harassment, unethical behavior; and with related current events.
5. **Evidenced –based assignments:** *Evidence-based assignments will thwart any inclination for students to indulge in fake news and alt facts. Require* Oral and Written Communication based on sound researched evidence.
6. **Assert their Rights and Opinions –** in concert with discovering their self-identities, encourage students to learn what their rights and opinions are and exercise their voice

Burgess Wilkerson, B., Hamilton, C., Garrison, C., & Robbins, K. (2018). Preparing millennials as digital citizens and socially and environmentally responsible business professionals in a socially irresponsible climate. In Proceedings of the 83rd Annual Conference of the Association for Business Communication October 24-27, 2018 – Miami, Florida, USA.

19. Q&A. Does Machiavelli's The Prince have relevant lessons for Modern High-Tech Managers and Leaders?

High-tech business leaders' characters shape their workplace behavior and business decisions. Can the 16th-century political treatise, Niccolo Machiavelli's book The Prince, provide any guidance on today's competitive environment? Machiavelli teaches leaders and managers to manage the expectations of others and to always manage the organizational system as a whole community rather than piecemeal and only during crises. He teaches leaders and managers to strive for balance and to weigh the consequences of their actions in a strategic, tactical manner as if they are always in a military warfare stance whether in peacetime or otherwise. His teachings are timeless, and every student of leadership and management can benefit from knowing these lessons, because the reality is that there are individuals and circumstances in the business world that are harsh and ruthless. Leaders and managers need to be prepared to deal with this in an effective and efficient manner. This article provides real-world modern-day examples of tech leadership such as Steve Jobs, Meg Whitman, Larry Ellison, Steve Ballmer, Michael Pearson, Martin Shkreli, Marissa Mayer, and Martin Winterkorn.

Hamilton, C. (2017).Q&A. Does Machiavelli's The Prince have relevant lessons for Modern High-Tech Managers and Leaders, *Technology and Innovation Management Review*, 7(8), 40-47.

Economic development

20. Appropriation of Artisans' Intellectual Property in fashion Design Accessories: Piracy Disguised as Giving Back?

Some companies in developed countries have taken intellectual property from artisans in under-developed countries. They then claim to be do-gooders if they give back with micro lending. Current best practices through which fashion accessory companies can apply corporate social responsibility (CSR), provide for revenue sharing and potentially avoid the intellectual property piracy of artisan fashion design accessories are: (1) hiring the artisans that make the goods; (2) matching customer purchases of goods with one-on-one donations to the needy; (3) forming non-profit organizations that donate all proceeds from sales of the fashion accessories to needy artisans; and (4) using ethical manufacturing brokerage houses to make the products. At the core, there needs to be implementation of country-level policies requiring royalty sharing or other agreed upon forms of giving back to these artisans and to their communities. This can be facilitated through an international organization, such as WIPO. While the current best practices are a significant step in the right direction, co-ownership will greatly assist in the success of these ventures and the intellectual property rights (IPR) of the knowledge creators.

Hamilton, C. (2020). Appropriation of Artisans' Intellectual Property in Fashion Design Accessories: Piracy Disguised as Giving Back?. *Intell. Prop. & Tech. LJ*, *25*, 127.

21. Reimagining China's transportation funding investments in Africa in the context of COVID-19

Africa has not invested enough in its healthcare system, and China has been investing in and financing much of Africa's transportation system. Many African countries' fragile health and transportation systems have been further weakened by the COVID-19 pandemic. This literature review confirms the interdependence of the key functional areas of comprehensive development planning (healthcare, environmental protection, safety, education, housing, economic development, and transportation) and the importance of building and maintaining a sound transportation infrastructure. With respect to partnerships with China, African nations need to strengthen government functional areas more comprehensively, considering all areas of development planning including trade as well as transportation and aid issues. These trade deals need to include simultaneous heavy investments in healthcare, education, housing, public utilities (water and electricity), and economic development through improved supply chain management and the use of advanced digital technology. In addition to the deal structures for China's investments in Africa's transportation infrastructure, there are also opportunities to reimagine the African nations' internal transportation spending. For example, there are models in the United States for using transportation funds to invest in health clinics in transit stations.

Hamilton, C., & Maliphol, S. (2021). Reimagining China's Transportation Funding Investments in Africa in the Context of COVID-19. *Transportation Research Record*.

Hamilton, C. (2021). Reimagining China's transportation funding investments in Africa in lieu of COVID-19. *Transportation Research Board 100th Annual Meeting Transportation Research Board*, (TRBAM-21-01042).

22. High-Tech Transportation Corridors are in Vogue: Proposed Federal Transportation Policy Amendments

The expansion of the suburban space economy in the 1980s that produced new commercial landscapes in Maryland, Virginia, and Washington D.C. in the form of high-tech corridors along limited-access highways. By the early 2000s, creating high-tech transportation corridors (HTTCs) was becoming a very popular strategy for economic development proponents as a revitalization technique. HTTCs are typically defined as segments along U.S. interstate or state transportation routes; however, they can be located on city streets. Since transportation is the backbone of a city, town, or region, the idea is to create a cluster of high-tech companies along the transportation route. These business clusters are promoted and publicized using the name of the route and the term "corridor" (e.g., the 1-79 High-Tech Corridor). Therefore, although HTTCs may naturally form, they are often aggressively created and promoted by business and economic development leaders. Federal transportation legislation should be amended to require that transportation planning officials become stronger and more active partners in making development decisions. These decisions should integrate resource programs and infrastructure needs that provide for the development of equitable and sustainable HTTCs. Planning for high-tech transportation corridors needs to be more transactional than infrastructural. In a cohesive policy-relevant structure, there must be a stronger nexus between socio-economic and transportation policy considerations. Before transportation improvements are programmed for funding along HTTCs, transportation officials should begin to take an active role in ensuring that these high-tech developments are sustainable and equitable in socioeconomic terms.

Hamilton, C. (2003). High-Tech Transportation Corridors Are in Vogue: Proposed Federal Transportation Policy Amendments. *Alb. LJ Sci. & Tech.*, *14*, 359.

23. University Technology Transfer and Economic Development: Proposed Cooperative Economic Development Agreements under the Bayh-Dole Act

Although universities increasingly pressure their technology transfer specialists to become stewards of their regions' economic development, most specialists have no experience in strategic economic development planning, or in forming collaborations that foster local government economic development. Furthermore, current regulations do not provide specialists with much guidance on how to facilitate economic development collaborations between their offices and other nonprofit organizations. This Article proposes that Congress amend the Bayh-Dole Act to provide guidance on how universities can enter into newly proposed Cooperative Economic Development Agreements (CEDAs) patterned after the Stevenson-Wydler Act's Cooperative Research and Development Agreements (CRADAs).

Hamilton, C. (2003). University Technology Transfer and Economic Development: Proposed Cooperative Economic Development Agreements Under the Bayh-Dole Act, 36 J. Marshall L. Rev. 397 (2003).

24. Identifying Sources of COVID19 Pandemic Supply Chain Fragility

This paper is a bibliometric study of the COVID19 supply chain fragility problem. In February 2021, the United States' President called for a review of the pandemic related supply chain for vaccines, personal protective equipment (PPE), medical equipment such as ventilators, and food. This study involves a search for references published between January 1, 2020 and April 30, 2021. It reveals that food was a primary topic among 82 publications rather than vaccines. Also, reasons cited for America's supply chain fragility include America's dependence on products produced in other countries such as China; these countries' own pandemic induced supply chain challenges; and US trade restrictions on such products enacted prior to the COVID19 outbreak. Engineering management strategies were mentioned in 60% of the publications and are summarized in the Conclusions and Implications for Managers are provided.

Hamilton, C. (2021). Identifying sources of COVID19 pandemic supply chain fragility. In *Proceedings of the International Annual Conference of the American Society for Engineering Management.* (pp. 1-11). American Society for Engineering Management (ASEM).

Smart policing

25. Robocops and Smart Policing in the wake of the George Floyd murder

The killing of George Floyd in the United States has drawn attention to police brutality worldwide because it was caught on video. The frequency of incidents of police brutality has resulted in mutual distrust and fear between police and citizens. Repeated stories of police violence suggest policing needs a reimagined overhaul that addresses human rights. Smart technologies have the potential to improve policing and ethical outcomes through technological objectivity. Smart policing can potentially alleviate racial bias through technology management.

Maliphol, S. and Hamilton, C. (2022). Robocops and smart policing in the wake of the George Floyd murder. In *Proceedings of* Portland International Center for Management of Engineering and Technology (PICMET) Technology Management and Leadership in Digital Transformation, p. xx, August 2022, Portland, OR.