



## Leveraging Student Leadership in Market Research: A Study of Expatriate Tax Behavior

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January 3, 2021

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## Introduction

Student researchers, under guidance, and aligned with the undergraduate capstone course in marketing, motivated the early stage construction of an expatriate taxation model. Team members efficiently implemented the proposed collection of data, via deployment of a well-orchestrated marketing stack. Leadership in developing the means of collecting data, led to the successful administration of the Moral Obligation of Paying Just Taxes survey (Crowe, 1944; McGee, 2012). The purpose of using this instrument, was to inform the research team about prevailing attitudes toward payment of taxes, by individuals and SME owners, and not the larger multinational corporations. One of the high performing Marketing learners from the Spring project class, plus another from Accounting, continued the study, over the summer term, after being selected as student undergraduate research fellows. The task was to interpret the work performed in Spring, identify relevant constructs, collect a massive amount of data—targeted based upon these constructs, then collapse these constructs into a manageable number of factors, using machine learning and artificial intelligence, via the text analysis program KH Coder. The team also sought to build a literature review. This report and analytical conclusions, motivated production of tax relevant models, and culmination of both the spring and summer research projects.

## Research Method

The survey, deployed at the pilot level with 52 responses, provided guidance on which constructs could be distilled, for use in implementing a big-data collection strategy. The big data approach netted over 377,000 targeted words on the topic. The purpose of the data collection, was to enable a content and contextual network analysis. The researchers overarching aim, was to enlarge understanding of tax evasion, and tax avoidance, for the targeted expat taxpayer group.

Next, using artificial intelligence technologies, the team aimed to propose a model of tax avoidance and tax evasion. Quantitative technologies used to evaluate the qualitative materials included co-occurrence network, correspondence analysis, multi-dimensional scaling and self-organizing map. The researchers were thus informed via an unsupervised machine learning approach to model taxpayer attributes, attitudes and behaviors. Ultimately the team produced several relevant and scaffolding descriptive tax evasion and/or avoidance frameworks.

The survey instrument deployed, was developed by Crowe (1944), and has been evaluated favorably being both reliable and valid (Collymore, 2020). The instrument consisted of 15 Likert scaled questions, asked across a gamut of ethical issues related to tax evasion, supported by a wide range of categorical demographic factors. As has been the case with modern iterations of the approach by Crowe, as taken by researchers such as Robert McGee (2006, 2012), the researchers took the liberty of expanding the survey, to include not only demographic, and Likert scaled data, but to also deploy an open ended question. For the current study, analysis of the Likert scaled question revealed three constructs for further study, while, the one open ended question brought to light fifteen issues or areas of concern. These elements provided 18 constructs in total, focusing on tax strategies, identified challenges, behaviors, or feelings about ethical and unethical issues in taxation.

The survey for this proposed study, had been reviewed in advance by the researcher's home institution, and the relevant authority mandated that the survey could proceed and a full review not required. The survey distribution targeted the general, and globally-mobile, expatriate taxpayer population. Undergraduate students in the marketing course developed leadership and research skills by motivating the research and assisting as co-authors. Learners work included formulation of research strategy and primary responsibility for successful data acquisition for the research project, via a data collection strategy and implementation, as designed by the learners.

Based on a review of responses, the Likert scaled questions apparently evoked further input, in about 25% of the respondents. These respondents chose to take their communication on tax avoidance and evasion, a step further in the open ended response, by spelling out their grievances, or concerns, and the reasoning behind their views. In past studies, even if only a small minority of respondents used this opportunity to elaborate on their reasoning, the information gathered, proved invaluable toward understanding peoples reasoning toward taxation (Gupta and McGee, 2008).

A major challenge was overcome by contacting the author of the KH Coder program (Dr. Ko-ichi Higuchi, 2020). Higuchi shared insight on how to best overcome repeatedly crashed programs to produce the self-organizing map. The primary was given the large amount of data and limitations of the computer, 64-bit operating system, x-64 based processor with 8 GB of RAM used to parse the data.

## Theoretical Perspective

Trochim's method motivates the interpretation of data patterns such as network diagrams by externalizing implicit mental models (Sinkovics, 2018). The pattern matching method of Trochim (1989) was augmented by the theoretical interventionist, and liberal economic approach, of thinkers such as Joseph Stiglitz. Stiglitz, a Georgist, Neo-Keynesian economist, favors government intervention in imperfect markets and challenges the main tenets of the Invisible Hand Theory of Adam Smith. Stiglitz proposed, the four basic elements in his theory of tax avoidance. 1) Tax deferment, given the time value of money, the taxpayer is wise to defer payment of taxes. 2) Income sharing across different taxpayers based on different tax rates, or across time in the case of an individual is a means of arbitrage. 3) Conversion of taxable gains into lower tax rates such as converting normal income into capital gains, where capital gains are taxed at a lower rate. 4) Taking advantage of going into debt, through the tax advantage gained by tax-deductible interest. Stiglitz views these actors in the tax system, as being primarily motivated by self-interest.

## Discussion of Findings and Conclusion

Leadership and research potential can be a dominant force with new age learners. The study itself, demonstrated, informed, and ultimately modeled tax evasion, and avoidance behavior, on a large scale. This study demonstrated the validity of marketing approaches of the data-driven age, as they are taught in the classroom, and as interpreted by the learners, as being strong motivators for market research success. Learner know-how was evidenced by the successful deployment of a framework of the marketing stack, which utilized modern technology. Significant also, was the means by which the custom tailored data gathering approach, was responsible for enabling identification of the eighteen constructs, further explored via big-data (nearly 400,000 targeted words). Intermediate model results allowed a process of reduction, whereby these 18 constructs could be collapsed into seven or eight main factors. Later models reinforced by unsupervised machine learning technologies, motivated the building a model structured on the data. The multidimensional scaled model achieved a stress factor of only .170, where models of a marginal fit of .350 or much higher, are often encountered. Publication of useful, relevant, and current, early stage algorithmic models for tax evasion, and avoidance, are goals of this study, and are on the verge of being realized. After several computer crashes, What follows in Figure 1 is the largest self-organizing map in terms of data input ever produced by this current stream of research.



Figure 1. Self-organizing map for tax behavior in the expatriate community

The Self-organizing map achieved a best fit with an 8 factor deployment. Factors remain to be identified during the presentation of this work. The model was deployed on the basis of H1 Constructs.

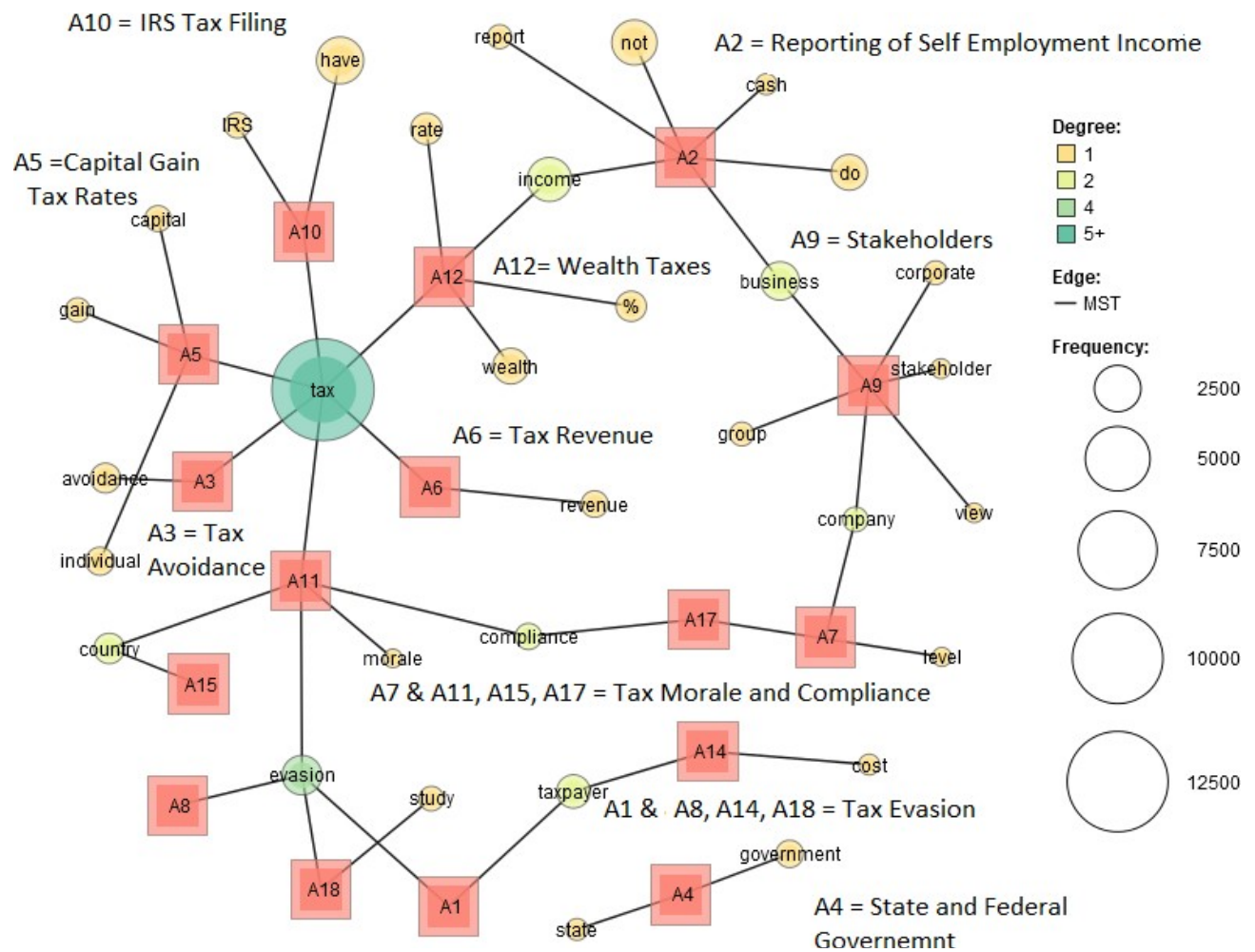


Figure 2. Correspondence analysis for tax behavior in the expatriate community

The correspondence analysis hints at clusters arranged in a 10 factor model, with strong connections noted through the following seven links; evasion, taxpayer, compliance, country, income, business and company.





The in-process later versions of this research stream will motivate greater analysis and interpretation of the network diagrams, and final models. Future directions of this study can include a larger scale expansion of big-data deployment on topic consisting of surveys, mining of Twitter feeds, blog and forum postings, along with mining of published reports as well as personal communications.

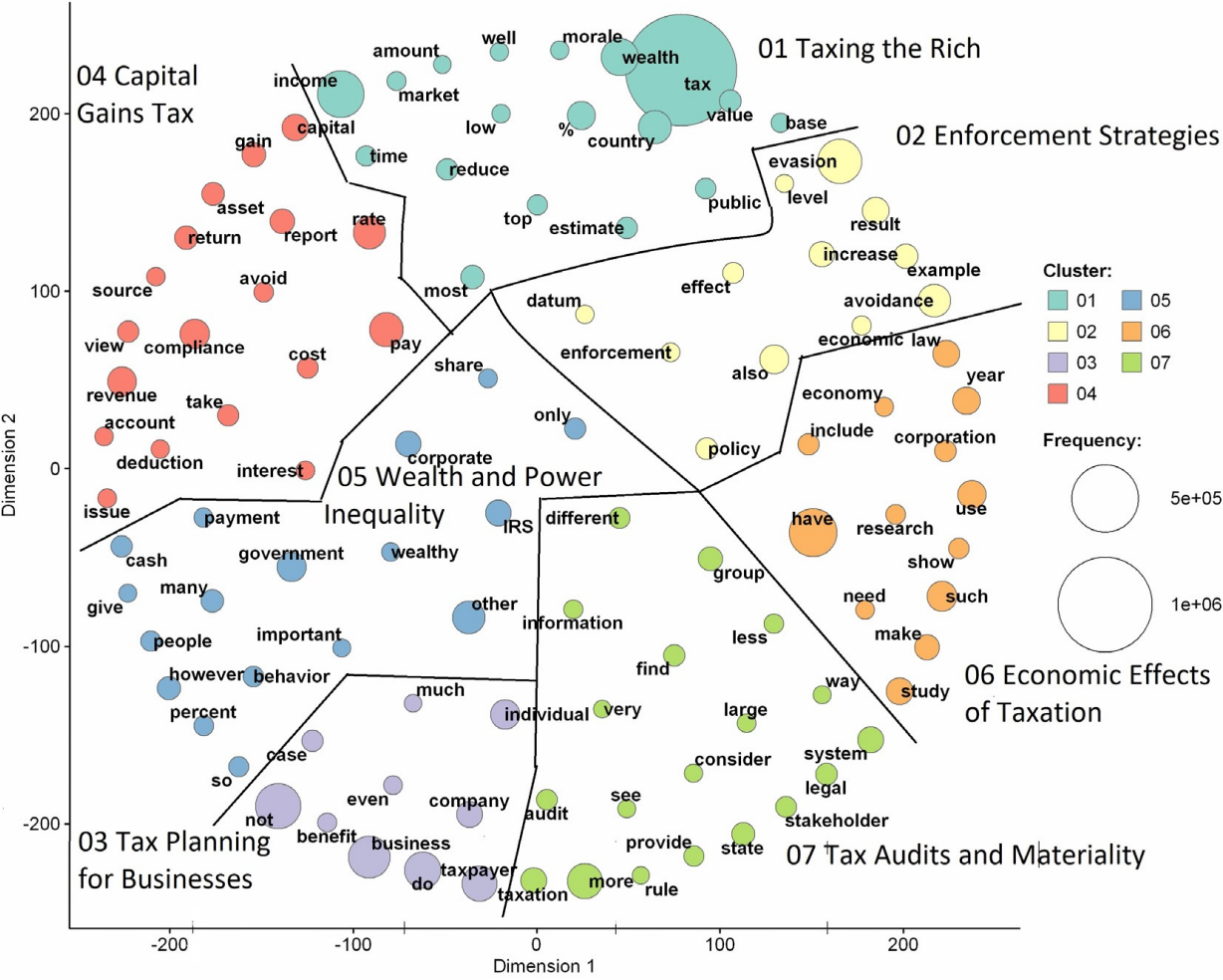


Figure 3. Multidimensional scaling diagram for tax behavior in the expatriate community Stress factor = .170 with Sammon mapping algorithm with the Euclidean distance formula.

The final version of this research stream if realized, will include a full analysis and interpretation of the network diagrams and delivery of a final algorithmic model(s). Future directions of this study can include a larger scale expansion of the big-data deployment, keeping it on topic consisting of surveys, data-mining of Twitter feeds, blogs, and forum postings, along with published reports, as well as personal communications. The development of research leadership competency in aspiring learners, allows the opportunity they leave college with a publication, achieved as an undergraduate. Promising student researchers can be identified for participation in the upcoming cycle of Student Undergraduate Research Grants (SURF).



## References

- Collymore, A. (2020). The Ethics of Tax Evasion: Literature Review, University of Portsmouth. Available from <https://ssrn.com/abstract=3589385> or <http://dx.doi.org/10.2139/ssrn.3589385>
- Crowe, M. (1944). The Moral Obligation of Paying Just Taxes. *The Catholic University of America, Studies in Sacred Theology*, 84.
- International Journal of Economic Science, 7(2) DOI: 10.20472/ES.2018.7. 2.003
- James, S., McGee, R.W., Benk, S. and Buda, T. (20219). How seriously do taxpayers regard tax evasion? A survey of opinion in England, *Journal of Money Laundering Control* 22(3), 563-575 Available from Emerald Publishing Limited [www.emeraldinsight.com/1368-5201.htm](http://www.emeraldinsight.com/1368-5201.htm)
- McGee, R. W. and Smith, S. R. (2008). Opinions on the Ethics of Tax Evasion: A Comparative Study of Utah and New Jersey. *SSRN* Available at <https://ssrn.com/abstract=1118140> or <http://dx.doi.org/10.2139/ssrn.1118140>
- McGee, R., Shopovshi, J. (2018). The Ethics of Tax Evasion: A Survey of Law and Economics Students in the Republic of Macedonia
- Sinkovics, N. (2018). Pattern matching in qualitative analysis, *The SAGE Handbook of Qualitative Business and Management Research Methods*, Chapter: 28, SAGE, Thousand Oaks, US
- Stiglitz, J.E. (1986). The General Theory of Tax Avoidance, *NBER Working Papers 1868*, National Bureau of Economic Research, Inc. Retrieved from <https://ideas.repec.org/p/nbr/nberwo/1868.html>