

Technology and Immigration in the United States

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

While not seen at first glance, immigrants and technological implementation go hand in hand, and there is no clearer example in the world than through the history of the United States. Chander et al. researched that high investment in technology relative to investment in education stimulates demand for skilled immigrants, a statement that remains consistent with the US's economic growth in the 1990s, which had high education investment and fast implementation of new technology, which led to the 1990 Immigration Act. By 1992, "nearly 110,000 visas were allowed for skilled immigrants" (Chander et al., 2003). Advocates of immigration claim that inclusion of cultures innovates one's society, pointing that the US growth comes from ingraining offshore cultures. Doughnuts, hamburgers, the telephone, and Google are just a few examples (Iversen, 2017). Carballo Huerta points out that in 2007 "the rise of 10% of foreign students with a degree reflected a growth of patents applications by 4.8%, an increase of patents to universities by 6% and an increase of patents for commercial firms by 6.4%" inquiring that "the presence of foreign student impulse innovation" (Carballo, 2007). The most noticeable sectors affected by immigrants are: medical inventions, accounting for 1% of all US patents; chemicals, accounting for 13.9%; and electricity, accounting for 12.6%. (Akcigit, 2017).

These are some of the examples that explain why many groups support the integration of other cultures in the United States, and advocate for technological improvements in the currently technologically outdated immigration process. This research paper will focus on the implications resulting from the relationship between technology and the immigration process in the United States. In order to analyze this relationship, the Social Construction of Technology (SCOT)

framework will be used. This framework argues that technology is molded by human actions and is a response to societal forces. SCOT is in direct contrast to technological determinism, which states that technology is the driving force in the way society is structured. The idea that technology shapes society makes sense on a shallow level, but SCOT argues that the topic is more nuanced, and that the technological determinism model is too simplistic.

Background

Technological deficiency in the immigration process

In a 2015 interview, the U.S. Digital Service admitted that the immigration process was predominately paper-based, “requiring documents to change hands and locations among various federal actors at least six times for some petitions” (Hickey, 2015). In the age of computers, a paper-based method was still used for one of the most important legal documents in the United States. Vivian Graubard, a member of the U.S. Digital Service said that just the application alone would cost over \$400 and take up to six months to process. This is mostly due to the application folder being passed to a series of contractors who cross-reference the application until it reaches the desk of an adjudicator, who reviews the file and physically stamps it. This means that an applicant needs to wait half a year to find out whether their application was accepted or not. This remains consistent with my own personal experience and the experiences of other acquaintances that I know of. If the applicant receives a positive response, they will still have to wait 3 months before their prints are taken, 3 months to officially be recognized as a permanent resident, and up to 1 year to officially obtain a green card, which means that it takes 2 years for the process to “end”. Of course, here begins the 5 years wait to become a citizen, but that, and the Naturalization process, is beyond the scope of this paper. All of this is not to say that the United

States has not been trying to improve the overall quality of the system. In 2019 the U.S. Citizenship and Immigration Services (USCIS) implemented “eProcessing”, which digitalizes the process to reduce application time and increase transparency (USCIS, 2019). That being said, looking at Figure 1, which shows the processing times in month for fiscal year (FY), it is hard to say whether “eProcessing” has had any influence. However, the influence of “eProcessing” cannot be analyzed unbiasedly, due to external factors like the Coronavirus Pandemic of 2020 affecting the productivity of all the government operations, the Trump administration policies, and the 2020 presidential elections.

Form	Form Description	Classification or Basis for Filing	FY	FY	FY	FY	FY	FY
			2017	2018	2019	2020	2021	2022 ⁵
I-90	Application to Replace Permanent Resident Card	Initial issuance, replacement or renewal	6.8	8	7.8	8.3	5.2	1.2
I-102	Application for Replacement/Initial Nonimmigrant Arrival/Departure Record	Initial issuance or replacement of a Form I-94	4.9	3.9	3.3	3.9	4	1.6
I-129	Petition for a Nonimmigrant Worker	Nonimmigrant Petition (Premium filed)	0.4	0.4	0.4	0.4	0.3	0.3
I-129	Petition for a Nonimmigrant Worker	Nonimmigrant Petition (non Premium filed)	3.4	3.8	4.7	2.3	1.8	2.8
I-129F	Petition for Alien Fiancé(e)	All Classifications	3.6	6.5	5.2	4.6	8	9.6
I-130	Petition for Alien Relative	Immediate Relative	6.5	7.6	8.6	8.3	10.2	9.7
I-131	Application for Travel Document	Advance Parole Document	3	3.6	4.5	4.6	7.7	7.1
I-131	Application for Travel Document	Parole in Place	2.5	3.3	3.3	4.8	4.9	4.6
I-131	Application for Travel Document	Travel Document	4.2	2.9	2.8	4	7.2	9.2
I-140	Immigrant Petition for Alien Workers	Immigrant Petition (Premium filed)	0.4	0.3	0.3	0.3	0.4	0.4
I-140	Immigrant Petition for Alien Workers	Immigrant Petition (non Premium filed)	7.3	8.9	5.8	4.9	8.2	11.4
I-360	Petition for Amerasian, Widow(er), or Special Immigrant	Immigrant Petition (All Classifications)	6.3	13.3	16.8	11.4	5.5	7.3

Figure 1: Part of the National Median Processing Time (in Months) of different USCIS Offices for Select Forms By Fiscal Year Fiscal Year (up to January 31, 2022) (Processing Times, 2022)

Technological deficiency in the aid of immigrant families

While it would be easy to believe that immigration is a one-and-done process, the reality is much more complex. It is normal that once someone becomes a citizen or even a resident, they will want to bring their family members into the country, especially if their country of origin is in a dire situation. Of course, the United States (and any other country to that extent) needs measures to make sure that people do not abuse any system. One famous example is DNA testing, which the United States relies on to verify the relationship between the family members. That being said, to heavily rely on a system would imply that said system has been properly implemented. However, that does not seem to be the case.

Barata et al. proved the effects of inadequate technology by exposing the US underwhelming reliance DNA test as ineffective for the special cases of non-blood related families whose legal documents are inaccessible (Barata et al., 2015). Not only that, but forced DNA testing can cause psychological and social harm between family members, as in the case where family “testing uncovered unknown misattributed paternities and caused one participant to reveal two adoptions that had been kept secret to protect those involved within the socio-cultural context. This caused significant problems for petitioners and beneficiaries, whose relationships suffered and had to be abruptly redefined” (Barata et al., 2015). To this date, DNA tests remain the same.

Frame/work Analysis

Social Construction of Technology was originated by Trevor Pinch and Wiebe Bijke, from their article “The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other.” The essence of the theory

is that technology is shaped by society, making it the perfect framework to study the relation between immigration and the United States. SCOT has four key categories, which are as follows: relevant social groups, interpretative flexibility, closure & stabilization, and wider context.

The first component of SCOT observed is the relevant social group. This component states that “all members of a certain social group share the same set of meanings, attached to a specific artifact” (Pinch & Bijker, 1984). There are a variety of relevant groups in this case: One is the immigrant group, which can be subdivided into different categories: Those who immigrate for a different lifestyle, those who immigrate because of a job offer or better lifestyle, and those who leave or are forced to leave their country of origin looking for protection (refugees and asylum seekers). Other relevant social groups are the United States industries which are looking for profit through an innovative workforce, or take advantage of a source of cheap labor; the US populace which weigh the benefits and the loss of quickly accepting new citizens, normally expressing their views on “small” compounded groups; the government itself, which tries to find a permanent solution, but often derail due to the existence of different political views, broadly divided into “the right” and “the left” and then subdivided into extremist and non-extremist on both sides. One last sub-group within the government itself are the “government agencies” like “The U.S. Citizenship and Immigration Services” (USCIS), “The U.S. Immigration and Customs Enforcement” (ICE), and “U.S. Customs and Border Protection” (CBP).

Interpretive flexibility is the idea “that technology design is an open process that can produce different outcomes depending on the social circumstances of development.” (Klein & Kleinman, 2002) Or in simpler words, interpretive flexibility denotes the different meanings that can be attached to the same technology, including the usefulness and relevance depending on the social group. We are currently witnessing the various social groups argue and debating about the

best source of action. Those who are leaving their country cannot always afford the inefficiency of the current process. Places like Venezuela (my country of origin) and the Central America's so-called Northern Triangle - Guatemala, El Salvador, and Honduras – are zones with some of the highest homicide rates recorded worldwide. As for 2015, their respective homicides rates were: El Salvador (41.2 per 100,00 inhabitants), Honduras (90.4 per 100,00), Guatemala (39.9 per 100,00), and Venezuela (53.7 per 100,000). To put it into perspective, the World Health Organization considers 10 murders per 100,000 to be an epidemic (Abramovay, P., 2015). Given that the current process takes between 1-2 years to complete, many applicants could be found themselves dead before even knowing if they were accepted or denied into the country.

As mentioned in the introduction, immigrants have a big influence over the country's economy, and that is something that industries have not failed to see. Besides the innovative opportunities previously mentioned, “immigrants help to fill jobs U.S. citizens do not want... and jobs deemed essential by the federal government, including an estimated 2.7 million who worked in the health care sector” (Krogstad, J. M., 2020). Of course this has led a certain sector of the populace to worry that improving the technology used on the immigration process will not only lead to a significant increase in taxes, a topic deemed controversial in the US, and that increased immigration will lead to less available jobs and will drain resources from the country, an issue that has been argued to be unfounded since reports have found that there is “little evidence that immigration significantly affects the overall employment levels of native-born workers” (Open Society Foundations, 2019).

While other groups can influence the decision process, the US government is ultimately responsible for making the last decision. It is important to note that the governmental influence is hard to analyze, since different governments have different takes on the matter. Look no further

than the 2016-2020 Trump administration compared to the 2020 to present day Biden administration. During Trump's administration, the main focus was to focus on using technology to be more "selective" of future immigrants as seen in the fiscal year 2017 where the U.S. approved 559,536 foreigners for legal permanent residence (known as a green card), a 9% drop from the previous year (Gomez, A. U. T., 2018). Another focus was on shifting immigration resources into other sectors like the US-Mexico border to stop illegal immigration. Changing the government, the Biden administration, so far, is using its presidential powers to retool the immigration system, firstly to undo Trump's previous policies to restrict immigration (A.P., 2022), but also to attract STEM talents for economic competitiveness purposes by promoting efficient and effective benefit processing on USCIS, to review requests for national interest waivers (House, T. W., 2022). It is important to keep in mind that in this topic, regardless of the government, their respective leaders executed their power for what "they believed" to be the good of its people. One last thing to point out is that a constant factor on these governments is that they pass multiple bills throughout the country's history that highly focus on the social part of immigration, but rarely focus on the technological part of the process which may have led to the current issue we see today.

Closure and Stabilization is the process in which "a multigroup design process can experience controversies when different interpretations lead to conflicting images of an artifact." (Klein & Kleinman, 2002). In discussing the issue with the technology implemented in the immigration process, it is obvious that the main reason that different groups clash is due to a single central question that each group has: "How can we implement an immigration process that will result in the most beneficial outcome for my country." However, the more time that passes, with no clear solution, each group, especially the immigrants, will suffer the consequences of

inaction. To help mitigate this problem, it is important that the government provide to USCIS the funds necessary to a complete transition to digitalize the selection process, as well as increase the efficiency of cases that can be considered more nuances (like the previously mentioned DNA testing cases).

A big fear by those who proposed in favor of lowering the immigration process (either from the populace or the government side) is the view that many immigrants may be looking to trick or take advantage of the current system to access the country when in “normal conditions they shouldn't.” While it is an understandable fear, it can be argued that many immigrants who decide to take this approach do those due to the current inefficiency on the system. If the current system efficiency were to be increased, each application would be studied both more quickly and more thoroughly, dismissing this fear.

Finally, the fourth tenant of SCOT is wider context. Through this we can examine the various factors that are driving this debate. With the United States being known as a big cultural melting pot, it is perplexing for some, how the process has not been optimized. This people need to consider historical events as to why the US government, its populace, and the rest of the world see immigration through different perspectives. With 9/11, the United States started to stop viewing immigration through a lens of economics and foreign policy, the United States came to view immigration mostly through a lens of security and risk. (Immigration, B., 2021). These has led to a multitude of new problems like the failure to pass any comprehensive reform on the immigration system. “These comprehensive immigration reform proposals have included new employment-based visas, a process to legalize unauthorized immigrants in the United States, and increased immigration enforcement. Bills in 2006, 2007, and 2013 all failed to pass both chambers of Congress, stalling much needed reforms to an immigration system that has long

been widely viewed as seriously broken” (Chishti, M. J. B. M. C. A. J. B., 2021). But countries around the globe are taking big initiatives to improve their immigration processes, like Canada which is seen as the most immigrant friendly country in the world thanks to their “Express Entry” that completes the whole process in only months (Immigration, R. A. C. C., 2020). Under its 2021-2023 Immigration Levels Plan, Canada is seeking to welcome over 400,000 new immigrants per year, with nearly 60% of these new arrivals coming to Canada as skilled workers (Levy, D., 2021). If Canada proves to be successful, the US has no choice but to question the fallacies that their current system has.

Conclusions

At this current time, the United States seems to be at a crossroad. With the COVID-19 pandemic still being a relevant issue to solve, and the current Russian invasion of Ukraine, it would not be a surprise to see the government putting their resources into those problems first. That being said, the current situation regarding immigration policies is not an issue that can be ignored too much longer. If the country really wants to produce the greatest benefits long term, then resources should be reallocated to improve the current technology and policies associated with the immigration process, which will allow them to bring a new fresh air of workers that can boost the economy, but also increase their pool of fresh ideas and approaches to the country’s social problems.

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