

Mapping the Prison Industrial Complex: A Case Study Using the Agent Based Approach (ABA)

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ABSTRACT: In this paper, the Agent Based Approach (ABA) is used to map and analyze the Prison Industrial Complex (PIC) in America. Using this approach, it is determined that the PIC is exceptionally well designed and good at its purpose of imprisoning an excessive number of people, exploiting their labor, and falling far short of anything resembling rehabilitation or the prevention of future crime. There are five salient agents in this system: those who are incarcerated, the DOJ, politicians, private prisons, and companies that profit off of prison labor. These agents each follow their own set of simple rules, which leads to the emergent behavior seen in the system. Based on these factors, the recommendations are made for those incarcerated to realize their collective power, for politicians to mandate the dignity of prisoners be respected through paying them a living wage for their work, and for the DOJ to create a new metric of success while also ending its relationship with private prisons. These recommendations are all consistent with a recommendations rubric, which has been explicated below.

Keywords: private prisons | exploitation
| community care | cognitive structures |
universality | systems thinking

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Introduction

THE PRISON INDUSTRIAL COMPLEX (PIC) is something that most Americans would likely prefer to keep out of sight and mind. However, as a system that currently incarcerates more than 2 million people, oftentimes ruining their lives and destabilizing the communities they had formerly been a part of, it is not something that can continue to be ignored in perpetuity¹.

A disproportionately high percentage of the 2 million people who are incarcerated are people of color. Black people comprise around 40% of all those who are incarcerated in America², although they represent only about 13% of America's population³. 39% of prisoners are white⁴, which is a drastic underrepresentation of their proportion of America's population, which is about 64%⁵. Hispanic people are around 19% of those who are incarcerated in America⁶, and comprise about 16% of the total population⁷. Combined, people of color make up about 60% of the prison system—double their proportion of the American population, which is around 30%⁸. These statistics are crucial because they show that the issues delineated in

¹ Heather Ann Thompson, *The Prison Industrial Complex: A Growth Industry in a Shrinking Economy*, *New Labor Forum*, 21(3), 2012, pp. 39-47

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this paper which concern the PIC disproportionately impact people of color, and especially Black Americans, who make up the largest proportion of the prison system⁹. ⁹ 2

That we have, as a society, allowed punishment to be commodified—wasting innumerable human lives in the process—for the reasons of increasing profits, maintaining power, and perpetuating oppressive methods of social control¹⁰ is an issue that has been neglected for too long. ¹⁰ 3

Methods

Why an Agent Based Approach (ABA)?

HUMANS ARE VERY AWARE of Complex Adaptive Systems (CASs), although most people do not take the time to think about why they function the way that they do. A CAS is a system that features agents whose behavior stems from following simple rules¹¹. The agents are important; they are not merely individuals, but are any group within the system where autonomous actors are adhering to a set of simple rules rather than being ruled by a centralized source of power¹². ¹¹ 4 ¹² 4

Those wishing to use CAS to analyze a system are able to decide between two main strategies with which to do so. The first, called Agent Based Modeling (ABM), is typically done on a computer¹³. ¹³ 4
 ABM can be beneficial because it can quickly allow the person who is doing the modeling to see what will happen months or even years into the future of their CAS¹⁴. The second technique is called an Agent Based Approach (ABA). An ABA is usually done by hand, sometimes with the use of a mapping software, but not with a computer-run simulation¹⁵. Using the ABA method can be beneficial for a number of reasons. The first reason is that it is more accessible, with no coding knowledge required¹⁶. The second reason is that, unlike ABM, ABA works in situations where there isn't much data available¹⁷. ABM not only typically requires that an extensive amount of data be available on the CAS that is being modeled, it also then condenses that data in order to be able to run a model, because a real-life situation is more complex than any computer program can currently handle¹⁸. Lastly, while ABM is able to give a prediction of what will happen in a CAS over time given certain factors, the goal of ABA is to recommend something better for a system¹⁹. ¹⁴ 4 ¹⁵ 4 ¹⁶ 4 ¹⁷ 4 ¹⁸ 4 ¹⁹ 4

For all of these reasons, using ABA was the best approach to mapping the Prison Industrial Complex (PIC). Even just the time that would be needed to input every factor influencing the PIC into a computer program in order to use ABM renders it infeasible, even without acknowledging the additional time that would have needed

to be spent to acquire the depth of knowledge of coding that would have been required²⁰. Another significant facet of why ABA was the ideal method for mapping the PIC was that, "...although ABA could be used in many disciplines and domains, its expressed focus is in the area of policy analysis or systems analyses with the intention of making recommendations for change or attempting to alter or 'better' the system in some way²¹", because the PIC is a system with a great deal of room for improvement and millions of lives that would be impacted by any such change.

Steps to an Agent Based Approach (ABA)

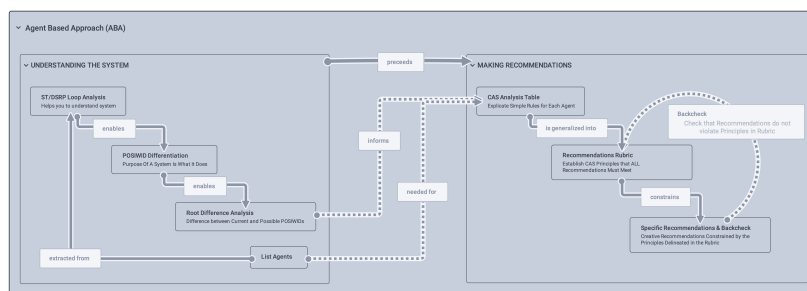


Figure 1: Steps to an ABA

Step 1: DSRP Analysis of the System

HUMANS MAKE DISTINCTIONS, observe systems, notice connections, and consider a variety of perspectives every day²². DSRP—Distinctions, Systems, Relationships, and Perspectives—gives a person the language to actively make note of and communicate these instinctive observations²³. In making thinking an active process—essentially, dedicating time and effort to thinking about thinking—someone is more likely to become aware of the flaws in their mental models, which prevent each person from directly experiencing reality as it is²⁴. Humans will always have mental models, or perceptions shaped by past experiences that are then used to interact with reality, but getting those mental models as close to reality as possible will allow a person to come closer to solving problems through a genuine understanding of the real world²⁵.

The previous paragraph described what DSRP does. The actual act of mapping a system using DSRP involves a few specific steps, which have not yet been described in this paper. The first of these is to write, draw, or otherwise record the relevant pieces of information—ideas

or things—that are known about the topic at hand²⁶. The next step is to consider whether any of those ideas or things can be put together to form a whole or further broken down into their constituent parts²⁷. After that, notice the potential connections between each part or whole and draw lines representing those relationships²⁸. The final step in the initial DSRP process is to consider the perspective (or perspectives) that the system is being mapped from and record both the point of the perspective and what, specifically, it is viewing²⁹.

After the system has been mapped using this process, more time should be devoted to visualizing and subsequently recording the aspects of DSRP that were not seen at first glance³⁰. This can be done by making structural predictions, which stem from the awareness that each distinction that can be mapped is simultaneously an identity, other, part, whole, action, reaction, point, and view³¹. While it might not be beneficial to note each of these throughout the map, considering alternative ways that each has the potential to be seen can lead to making predictions and discovering a new, deeper understanding of the system that is being mapped³².

Step 2: POSIWID and CAS Analysis

AN UNDERSTANDING OF POSIWID, or ‘Purpose Of a System Is What It Does,’ can be determined after adequately mapping a system using DSRP³³. The key to this is looking for the reality of the system without letting the stated or ideal purpose of the system get in the way³⁴. Whatever the outputs or outcomes of the system are, those are what need to be seen as its purpose—those are what it is putting out into the world, so those are what it is currently designed to put out into the world³⁵.

A CAS Analysis is, as seen in Figure 1 above, an important step toward making recommendations for the CAS that is being mapped³⁶. The purpose of a CAS Analysis is to explicate the system as it currently exists³⁷. This is done by determining the agents that are in the system, considering the perspective of that agent in the system, noting the simple rules that each respective agent is following, and then determining what aspect of the system has emerged due to the combination of each agent and their simple rules³⁸.

Step 3: Rubric and Recommendations

THE RECOMMENDATIONS RUBRIC is as important as the recommendations themselves. Recall from “Why an Agent Based Approach (ABA)?”

above that ABA is designed to best fit an analysis of a mapped system with the end goal of making policy recommendations in order to better a system³⁹. Too often, those who have sufficient power to make the recommendations that will change a system do not consider all of the implications of those recommendations⁴⁰. Taking the time to design, and then subsequently paying attention to, a Recommendations Rubric will prevent the creation of recommendations which contradict each other or change the system in a way that was not adequately anticipated⁴¹.

The recommendations themselves should follow the Recommendations Rubric and should be rooted in the patterns that were noticed through DSRP while mapping the CAS⁴². Figure 2, located below, points out that recommendations should primarily consider the aspects of the simple rules which were delineated through the CAS Analysis, as that is where change will be the most effective⁴³.

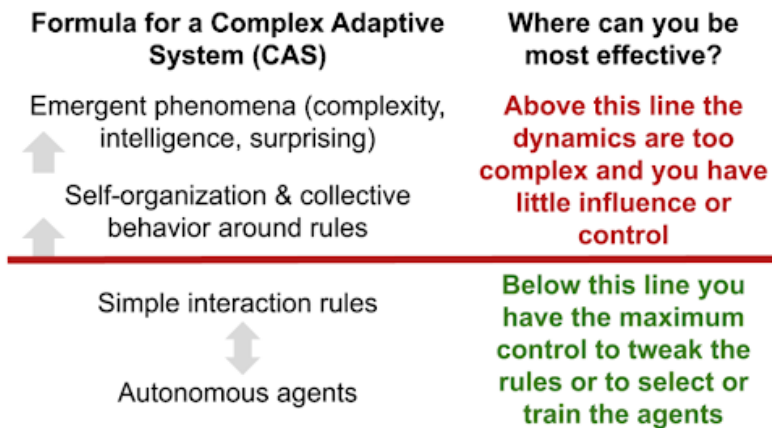


Figure 2: Creating Focused Recommendations (1)

Results

DSRP Analysis of the System

MY MAP OF THE PIC is focused on prison overcrowding and the societal factors that contribute to it. A systems thinking approach is one that combines information and structure very intentionally through a process that encourages one to actively consider that which often goes unnoticed⁴⁴. For this map of the PIC, the information came from a variety of sources, which are cited in the references of this paper, but especially from "The Societal Impact of the Prison Industrial Complex, or Incarceration for Fun and Profit... Mostly

Profit,” by Alex Friedmann, “The Prison Industrial Complex: A Growth Industry in a Shrinking Economy,” by Heather Thompson, and Are Prisons Obsolete? by Angela Y. Davis.

The mistake that I made as I began creating my map was in attempting to include a great deal of historical information to give context for why the system is the way that it is today. This information is important, but those historical perspectives are not as salient as the actual range of factors that are most proximal to the system right now. It was through performing ST Loop checks that I revealed my mental model that the functioning of the system today could not be grasped without acknowledging every historical decision that led to it, which does not match reality. The PIC is a complex system, but that complexity is still based on agents following simple rules which can be determined by mapping what is happening today. When I realized that the historical information was not going to help get me closer to the immediate understanding I was seeking from the map, I eventually amended my mapping rules—which delineate the scope of the project—in order to indicate that I was to include only the present-day aspects currently impacting the topic.

In mapping the PIC, I have identified the most important identities, which are the agents in the system. These are the people who are incarcerated, the government or, more specifically, the Department of Justice (DOJ), politicians, those operating private prisons, and those companies which are profiting from the exploitation of prison labor.

I have also identified the most important relationships. The first of these is that between for-profit companies which benefit from cheap prison labor and use their increased profit margin to lobby for harsher legislation related to incarceration. Another, shown in Figure 3 below, is the System of Relationships (SoR) between the American people, disenfranchised citizens, and politicians. For the purpose of describing this SoR, the relevant action/reaction relationships have been changed from blue (used throughout the rest of the map) to pink. Identity/other relationships have been denoted using purple dotted lines throughout the map.

In Figure 3, there is a feedback loop between politicians who were elected with tough-on-crime stances are accountable to the constituents who want a tough-on-crime stance in order to vote, who are the ones responsible for that politician holding power. At first, I had seen only these more obvious relationships. However, when I went back to the map using structural predictions, I noted that there must also still be a relationship between people who have been disenfranchised by criminal convictions and politicians. This is a feedback loop that serves to point out the lack of accountability between politicians who were elected with tough-on-crime stances

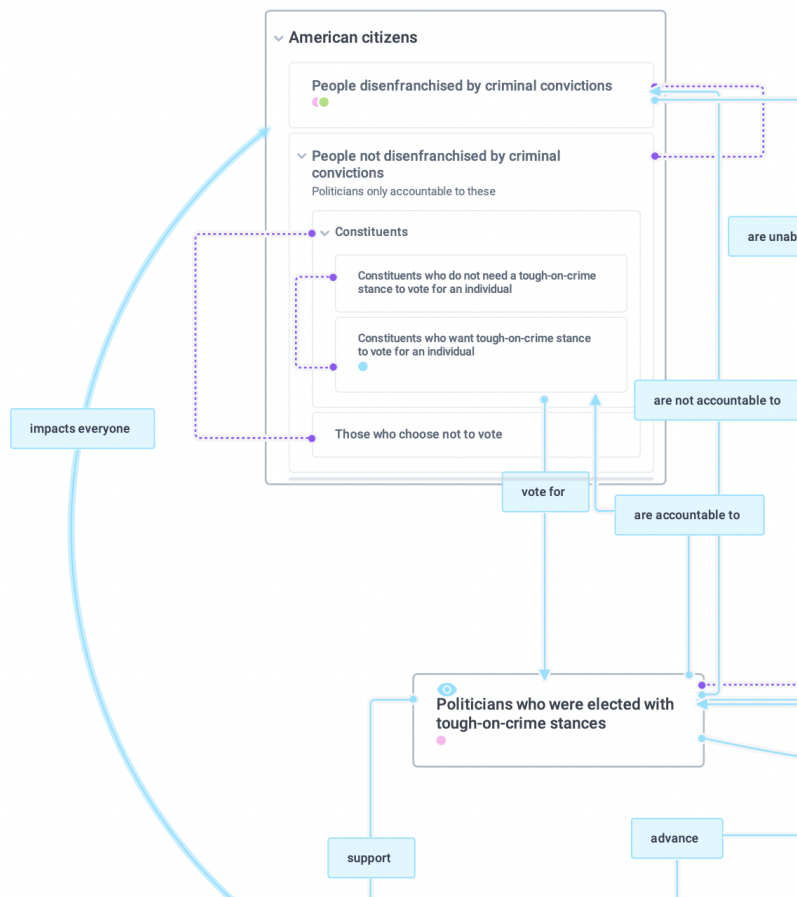


Figure 3: SoR related to disenfranchisement

and the citizens who were not able to vote for or against them. These politicians then support tough-on-crime legislation in order to placate the citizens who voted for them, and Americans with criminal convictions continue to be disenfranchised by legislation that they have no say in. Explaining this through the language of perspectives, one can see that instead of having all of the American citizens who they should be accountable to as views, politicians who were elected with tough-on-crime stances have only those specific constituents whose support helped them get elected in their view. Instead of considering all legislation related to incarceration, they view only that which those specific constituents are interested in, which is what will help them remain in power.

Aside from that perspective, another of the most important perspectives in the system is that of systemic racism. Specifically highlighting this perspective is critical because otherwise it can become too easy to view those who are incarcerated as a monolithic group, with

everything impacting them equally. However, using racism as a point allows for more nuance to be incorporated as its views are distinguished. This was used in many instances throughout my map. One example is in denoting the racial demographics of incarcerated Americans versus their proportion of the overall population.

Overall, throughout the map there are

- 62 nodes
- 56 relationships
- 21 part-whole systems
- 3 points, 20 views
- 15 structural predictions that led to new information
- 10 times that I navigated the ST Loop

Performing another ST Loop check once I believed myself to be satisfied with my map helped me see that I was still stuck in one of my mental models. Because I had taken prison overcrowding as something for granted that was a crucial part of the system, I was seeing it as only another identity within the system instead of recognizing it as an emergent behavior. Changing this frame of mind allowed me to make the distinction that there was another important component, which was the large number of people in prison who exist separately from the overcrowding of the physical structures of the prison. With this in mind, I was able to compress my map into what is shown in Figure 4 below.

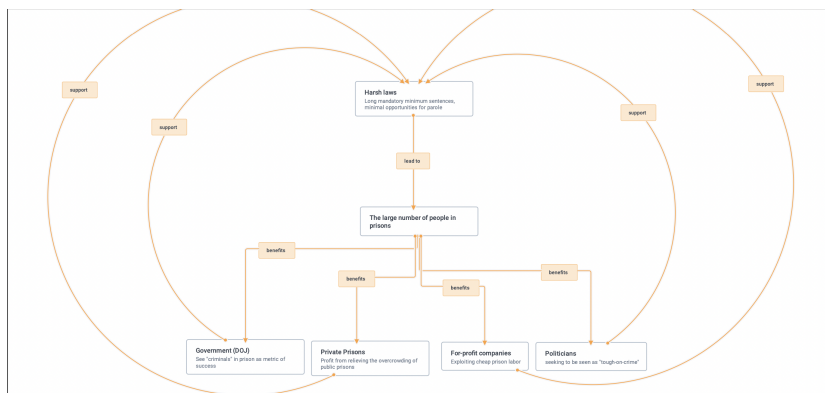


Figure 4: Compressed Map of PIC

The above compressed map is not a full map of the system, so it does not carry the level of detail that is shown in the full map. It is a map in which the most salient identities and relationships are communicated after having been extracted from the full map. As

such, it is a representation of the understanding that can be gained from the full map, and is much more easily interpretable by a casual observer.

POSIWID Analysis

Problem Statement	Current POSIWID	Future POSIWID	Root Difference
The Prison Industrial Complex is failing because it creates overcrowded prisons and generates profits for some through the exploitation of those in prison instead of rehabilitating them.	The Prison Industrial Complex is exceptionally well designed and good at its purpose of overcrowding the prison system and exploiting the labor of prisoners and failing to rehabilitate those who are incarcerated or prevent future crime.	The Restorative Justice System is exceptionally well designed and good at its purpose of not overcrowding the system's physical structures, creating a healthy environment for those who need to be confined for a period of time, and rehabilitating those who can be kept out of a system of confinement.	1. Prison overcrowding as metric of success vs. prison overcrowding as metric of failure. 2. Incarcerated people as cheap labor vs incarcerated people as worthy of fair compensation. 3. Person as criminal to be punished vs. person as citizen to be rehabilitated.

Table 1: POSIWID Analysis

THE TABLE ABOVE contrasts the current POSIWID of the PIC with its potential future POSIWID and also displays the results of the Root-Difference Analysis⁴⁵. The current POSIWID was based upon an analysis of the map that was created using DSRP, paying particular attention to what the PIC currently produces, which is overcrowded prisons full of people who are vulnerable to exploitation by for-profit businesses. The future POSIWID is based upon an analysis of the aspects that would instead be produced by a system that was designed to promote public safety, as the current justice system purports to do⁴⁶.

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CAS Analysis

Rubric and Recommendations

Recommendation Rubric

No specific recommendation should violate these rules:

1. Recommendations should center the inherent human dignity of those who are incarcerated and not make their situation worse in any way.

List of Salient Agents	Current Simple Rules	Current System Level Behavior
Incarcerated people	1. Stay within confines of rules. 2. Do not realize collective power. 3. Do not advocate for selves.	Prisoners whose labor is able to be exploited by a system they don't fully understand.
Politicians	1. Focus on maintaining power through getting votes. 2. Ignore those who have no voting potential.	No attention given to structural issues such as legislative factors leading to prison overcrowding and mistreatment of those who are incarcerated.
Government (DOJ)	1. Measure success based on number of people in prison. 2. Support laws to keep as many people in prison for as long of time as possible. 3. Do not enforce standards of human rights for those who are incarcerated.	Excessive amount of people in prison who are vulnerable to exploitation.
Private Prisons	1. Build prisons to increase profits. 2. Fill prisons with incarcerated people to increase profits.	Punishment normalized as profitable business venture.
Companies profiting from prison labor	1. Seek out cheapest possible labor force to produce products. 2. Maintain access to cheap labor.	Incarcerated people used as cheap labor, businesses lobbying against their fair treatment in the interest of protecting profit margin.

Table 2: CAS Analysis

2. Recommendations should not cause the number of people who are in prison or the time they are made to spend there to increase.
3. No recommendation should be taken as final; each implies that stakeholders will give feedback and improve upon it⁴⁷.
4. No recommendation should violate or infringe upon another recommendation⁴⁸.

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Specific Recommendations

1. **Intervention/Recommendation 1:** Those who are currently or were formerly incarcerated should realize their collective power and use it to advocate for the abolishment of laws that disenfranchise American citizens based on criminal convictions⁴⁹.
2. **Intervention/Recommendation 2:** Politicians should pass legislation that will render it illegal to not pay prisoners who choose to work a living wage, which will be based on expenses in the place where their legal next of kin resides⁵⁰.
3. **Intervention/Recommendation 3:** The DOJ should change its implicit metric of success from the highest possible number

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of people in prison to the lowest possible number of people in prison⁵¹.

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4. **Intervention/Recommendation 4:** The DOJ should abolish private prisons⁵².

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Discussion

DSRP Analysis of the System

THE DSRP ANALYSIS facilitated a visual representation of the system, which included both information and the structure that is needed for meaning to be created from that information⁵³. Putting time and effort into this step was crucial, as it is the foundation of the ABA.

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Using DSRP to map a system is a tool to enable understanding. It is simple, but far from easy. In my map, it was frustrating to feel as though mapping everything that I wanted to map was impossible. As I thought about it more, I realized that what was, in fact, possible, was to create a new mental model of what I hoped my map would look like. I then released myself from the constraints of perfection in order to create a map that could exist in reality and be sufficient to meet my immediate need, which was an understanding of the PIC that could continue to be analyzed through ABA.

After becoming conscious of the mental model I had been stuck in, I was able to utilize DSRP much more confidently with the knowledge that this is a process of learning and that my best would have to be good enough. This allowed me to see the system more clearly, map it using DSRP, and then synthesize my understanding to eventually create the compressed map that is shown in Figure 4 above. The other analyses described in this paper all flowed from the experience of using DSRP to understand the PIC.

POSIWID Analysis

THROUGH THE POSIWID ANALYSIS it became clear that the system is not broken. That the system is broken is a common refrain in America today, but it is actually working the way that it was designed to work. The PIC exists because politicians, legislative policies, and the DOJ enable it to keep existing, either by direct action or deliberate inaction.

The Root-Difference Analysis is especially useful in its simple, direct comparison of the aspects that differ between the current and

future POSIWIDs. In the PIC as it is now, each person is seen as a criminal to be punished. This might seem obvious, but is one of those pervasive notions that is hard to notice because it is so implicit to how the system functions. There is potential for each person to instead be seen as a citizen to be rehabilitated; fulfilling this would in itself mean that a very different system would need to exist.

CAS Analysis

THE CAS ANALYSIS revealed the relevant agents, as well as the simple rules that they follow which combine to create the emergent behavior in the system. The CAS Analysis for the PIC showed that there are five agents. That the system is working the way it was intended had already been discovered in the POSIWID Analysis, but the CAS Analysis allows for greater specification of why that is.

Keeping the reality of the system in mind as much as possible allowed for the simple rules to be delineated. Of these, some of the most significant are those of politicians, who focus on maintaining power through receiving votes and ignore those who have no voting potential. This highlights a feature of the PIC, which is to disenfranchise a significant number of people, especially people of color⁵⁴, and remove their ability to hold any sway over politicians. This allows the oppression that is inherent in the system to go unchecked.

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Rubric and Recommendations

THE RUBRIC FOR RECOMMENDATIONS was insightful because it allowed for a consideration of the interrelated factors which comprise the system. It also allowed for future concerns to be addressed, such as creating the implication that feedback from concerned stakeholders will be sought regarding each recommendation.

The first recommendation is focused on incarcerated people, who are agents in the PIC. The recommendation concerns incarcerated people using their collective power to regain their voting rights. Ideally, this would force politicians to recognize them as a powerful group of voters, and would allow the incarcerated or formerly incarcerated to regain some measure of control over the legislation that impacts them. For example, once their voting rights are no longer restricted, they can advocate for politicians to pass legislation regarding nonviolent crimes in order to enable those who commit them to have universal access to medically-certified rehabilitation programs instead of forced confinement in prison.

The second recommendation concerns the exploitation of the labor of those who are incarcerated, and recommends that the agents who have power over that—the politicians—change it. The change would not be made by expressly prohibiting prison labor; rather, it would be made by ensuring, through legislation, that the labor of prisoners is compensated the way all labor deserves to be, which is by receiving a living wage in exchange for the work. Those who are incarcerated are currently paid around \$0.32 per hour of labor⁵⁵, and for-profit companies follow the simple rule of seeking out the cheapest possible labor with which to make their products. The combination of these factors leads to an emergent behavior of the current system, which is that those who are incarcerated are exploited so that for-profit companies can increase their profit margin. Thus, paying those who are incarcerated a living wage would disincentivize those companies which do not care for prisoners as people and would attract only those with a genuine interest in training those who are incarcerated for employment after they finish their sentences.

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The third recommendation concerns the simple rule that the DOJ—another agent—is following, which is to use an implicit metric of success that relies upon the greatest possible number of people, who it regards as criminals, being brought to justice, or spending months or years of their lives confined in prisons⁵⁶. If that is instead seen as a metric of failure, the DOJ will be forced to act against the variety of factors, from the overpolicing of communities of color to the criminalization of drugs, which have contributed to PIC as it is today⁵⁷.

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⁵⁷ 3

Through the fourth recommendation, which is to abolish private prisons, the DOJ would ensure that any overcrowding of public prisons would need to be dealt with through measures that decrease the number of people required to be in prison, such as legislation that allows for shorter sentences and greater access to parole. The alternative to this, which is what is currently an emergent behavior of the system, is managing to avoid the issue of overcrowded prisons by enabling companies to profit off of prison overcrowding⁵⁸. Abolishing private prisons is a bold move, and is something that is sure to capture the public's attention. Once there is no easy solution to prison overcrowding, there will be no alternative to dealing with this issue through formalized legislation under the public's gaze. One emergent behavior of the change this recommendation would make to the system is an increase in legislation that is not designed solely to allow politicians to show that they are 'tough-on-crime' by supporting it. Another emergent behavior would be fewer people who are confined in the prison system and a decrease in the amount of time they are required to spend there.

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Overall, ABA was very effective in enabling me to understand the PIC. I hope to continue to explore this topic and will use my map in that process. I would be especially interested in research regarding the historical aspects of the PIC, which I mentioned having attempted to include but decided against in the “DSRP Analysis of the System” above. Another topic that I came across during the research I conducted for this project is the relationship between housing that is not affordable and the PIC; that is another area where further research could be beneficial.

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