



**LEVERAGING BUSINESS PROCESS INTELLIGENCE: AN ENHANCED SOCIAL
BENEFIT DELIVERY**

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Abstract

Emerging technologies are growing exponentially, and social agencies need to catch up to avoid technology debt. Information demand is increasing to address the client better. Organizations do have access to data; although they often find it challenging to convert that data into meaningful information further to assist them in short-term and long-term planning. This paper covers how business process intelligence tools and techniques can assist US social agencies in enhancing the efficiency of social benefits delivery.

Keywords— Business Process Intelligence (BPI), Process Mining, Task Mining, Process Management, Social Benefit Delivery

I. INTRODUCTION

US Social Agency's bottom-line mission is to keep people first, and with that aim in mind, no wrong door policy is implemented in many agencies. No wrong door means a household can apply for benefits via a single integrated application/contact. It is important to note that processes across programs like SNAP, TANF, and Medicaid differ. For instance, the interview is mandatory for the SNAP program, and providers can accept LTC benefits applications. Rules & regulations for processing the application are also different.

More and more organizations are trying to answer questions like How to get information when you are sure that data must be there but need to know how to get meaningful reports.[3]. The same challenge is faced by social agencies as well, although their motive is to assist the needy population. The return on investment is measured by how well they can support needy citizens. To this date, no literature review has covered the usage of Business Process intelligence in the Human services industry. To fill that gap, this paper will cover how BPI can help Human Services create process efficiencies through tools and techniques like process mining and improvement.

II. WHAT IS BUSINESS PROCESS INTELLIGENCE

Business Process Intelligence provides visibility to end-to-end business processes. It helps monitor efficiency and lack thereof at the social agency and user levels. By knowing the gaps and challenges, whether caused by human error or delay because of unnecessary manual work,



management can focus on addressing those issues/gaps by fine-tuning the process via automation and incorporating various forms of training required by the users.

Process intelligence broadly includes two components: process mining and process management. This paper will also briefly discuss task mining in addition to these two.

1. Process mining

Discovery and analysis are significant components of process mining. Process mining software leverages the system's event reports. It provides the output of how long each activity took and what sequence the users followed.

Process mining tools and techniques at a high level help in identifying:

- Time-consuming activities.
- Bottlenecks in the process
- Opportunities to automate

In-depth analysis of process mining data also helps identify case processing patterns, providing insight into the varying degrees of complexity from one case to another and the contributing parameters.

2. Process Management

Outputs from process mining can be used to automate and optimize the processes. This is the core purpose of Process intelligence. Once social agencies know better, they can do better.

Process management includes:

- Process monitoring
- Process improvement
- Process re-engineering

Social agencies can implement process improvements based on process mining outcomes, such as Robotic Process Automation (RPA), which uses bots to perform repeated manual tasks and other automation techniques like real-time assistance while processing the cases. And let merit caseworker focus on more complex tasks

Process management further provides the opportunity to look beyond process improvement and look for process engineering, i.e., opportunities to streamline the processes across programs.

3. Task mining

Task mining covers user activity tracking, including user activity across systems. It uses user activity logs, for instance, where all users had to navigate to complete a task. Social agencies can leverage both process mining and task mining to create efficiencies in their operations.

Task mining can be leveraged when users navigate from one system to another, such as workload management systems and systems of record. It can also be leveraged if users regard the IT system as complex. For instance, it takes too many clicks to navigate to a particular page to complete the task.

Implementing Process and task mining together will help in in-depth analysis of the root cause and efficient end-to-end monitoring to implement improvements.

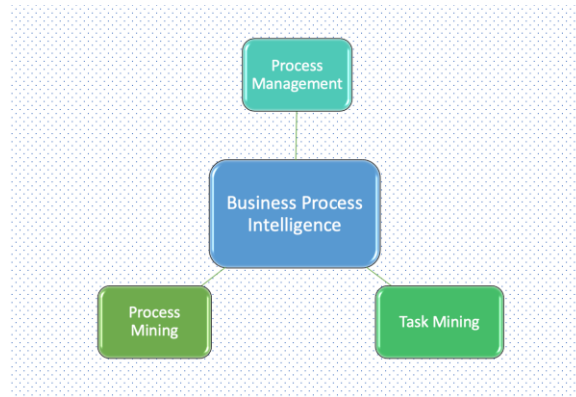


Fig 1: Components of Business Process Intelligence

III. HOW PROCESS INTELLIGENCE CAN HELP SOCIAL BENEFIT DELIVERY

Human services programs play a critical role in assisting the vulnerable population. Programs like SNAP, TANF, and Medicaid are known for providing food, nutrition, financial, and medical assistance. The social agency aims to address these needs as efficiently as possible. However, the complex nature of these programs can create obstacles to meeting that goal as efficiently as agencies would ideally like.

Hence, it is critical to have insights into the end-to-end process across programs and identify opportunities to create operational efficiencies via automation, training, and process reengineering.

Process intelligence tools and techniques can help agencies optimize operations, enhance decision-making, and improve delivery to beneficiaries.

Specific areas where BPI can help Human services are:

1. *Integrated Application processing*

The No Wrong Door policy aims to make it convenient for citizens to apply for social benefits, especially when determining what they might be eligible for. This approach helps them provide their information to the agency, and based on the information and evidence gathered, social agencies determine eligibility across the programs for the household.

However, the processes across the program for the integrated application add complexity to end-to-end processing. Monitoring these processes via process mining can create synergy across programs. For instance:

Opportunity to automatically verify details like income, health, residency, etc., from the same trusted source instead of different sources for the various programs.

Opportunity to synergize the recertification process of different programs if they are due within a set period.



2. Eligibility determination

Social agencies need to operate within guidelines defined by regulatory authorities. For instance, the SNAP application should be processed within 30 days, and TANF should be processed in 45 days. Many times, social agencies need help meeting these timelines.

Process mining can help discover where delays occur, such as when registering the application in the system, verifying the information received, or sending communications to the client.

Process management then helps explore and implement different automation opportunities to eliminate these delays and enhance the operation's efficiency in eligibility determination.

3. Resource Allocation

Process mining will also assist in how tasks should be allocated within the organization to create efficiencies.

This can be achieved by understanding the level of complexity across different types of case processing. For instance, a Medicaid application where eligibility can cascade across MAGI and Non-MAGI programs based on changing client circumstances might need an exceptionally skilled caseworker compared to SNAP application processing. Further, caseworkers processing applications where households receive multiple benefits might require special training compared to single benefits.

Process mining will also give further insight into whether a digital worker can be implemented to do repetitive tasks.

4. Performance monitoring

Process intelligence provides in-depth insight into how much time each event/activity took by the user. Process analysis will help the social agency understand how a user performs compared to the average time taken at the agency level to complete the task.

This further helps identify training opportunities for the user. Social agencies can improve performance by incorporating automation strategies if the average performance is low compared to industry standards.

5. Automation and streamlining the processes

BPI provided insight into challenges across the end-to-end process. That insight can help the social agency lay a product roadmap for automation and streamlining the process.

Process intelligence will assist in providing the automation impact assessment. That will help in setting the priority of the automation roadmap. Any change that impacts 80 percent of the operation but costs 20 percent should be prioritized.

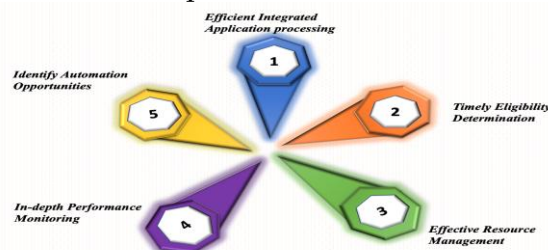


Fig 1: Benefits of Business Process Intelligence in Human services



IV. CONCLUSION

In conclusion, Business process intelligence helps optimize social agency operations and enables the streamlined delivery of social benefits. The key areas in which BPI creates specific value for social agencies are:

- Successfully implementing the no-wrong-door policy,
- Achieving timeliness and accuracy in application processing,
- Better performance monitoring and resource allocation.

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