

Service Delivery Innovation in Judicial Domain Context

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Abstract: This research paper aims to evaluate to what extent the service delivery processes can be improved in the Judicial Service Domain, in particular for developing countries. This report evaluates existing service delivery processes to identify drawbacks with them. It then proposes an improved Judicial Service Domain by incorporating the *i** modelling framework into existing organisational model of the justice systems. Furthermore, it aims to implement the suggested model and evaluate the results of the implementation in developing countries. The results of the implementation indicate that the newly enhanced model has some strength in terms of certain parameters such as vulnerability, criticality, frequency, time and cost in the Judicial Service Domain. Some potential issues with the Service Delivery Framework of Judicial Service Domain (SDFJSD) will be further discussed. This study recommends conducting further research to assess the implementation of optimal business processes within Judicial Service Domain. It proposes ways to organize the judiciary ecosystem appropriately with effective and efficient business processes to serve the community.

Key words: Judicial service domain, service delivery framework, business processes, organizational modeling.

1. Introduction

The judiciary is a system, where the relevant organisations have the authority to apply the law in a sovereign state. This system is formed by application of the Service Delivery Framework of Judicial Service Domain (SDFJSD). However, rural communities located in some developing nations, are still governed by SDFJSD of conventional authorities. As a result, traditional justice systems implement customary laws to serve their citizens in most of the third world countries. Most of the time, people in this kind of system involved in the court procedure have to share the relevant data and information through hard or tangible copies as in the existing system. This is due to the existence of the digital divide in the traditional justice administration [1]. Particularly, a traditional justice system in a developing country faces a lack of effective and efficient arrangement of people, processes and technology. The absence of a suitable and safe environment to store, protect and distribute judicial information among the public is another main disadvantage of the traditional justice system [1]. Not to mention the fact that the parties involved in the judicial processes have to manually handle the documents, therefore causing delays to the court proceedings. In addition to this, unfairness and misconducts in court cases are other disadvantages of the present system. Such unfair judgements are often made public by the media [2]. Obviously, the service delivery framework is not properly established since the processes, actors and relationships are not precisely defined in these systems.

This study identifies the issues in the current service delivery framework, and introduces the new SDFJSD together with analysis of results and proposed enhancements. Ultimately, it allows people who are involved in the judicial system to expedite their tasks with the improvements in business and operational processes. This paper is arranged as follows- the literature review is explained in section II. Section III outlines the methodology followed by a detailed evaluation. The last section contains the final conclusion.

2. Literature Review

2.1. Types of Organisational Modelling Languages

The service delivery of an organisation is mainly formed of its people, business processes and technological resources. In order to achieve different business goals, every resource depends on other resources within the system in numerous ways. Therefore, it is helpful to use organisational modelling, which is the act of defining an organisation through its framework to improve communication, duties and resource allocation.

There are different types of organisational modelling languages such as the Object Role Modelling (ORM), the Entity Relationship Model (ERM), the Activity Based Management (ABM) and the Unified Modelling Language (UML) which illustrate business processes in a variety of contexts. On the other hand, the UML is a security approached technique which makes use of natural logics with the help of diagram explanations [3]. Also, there are other organisational modelling notations such as the Business Process Modelling Notation (BPMN) and the *i** modelling framework which are used to model the service delivery framework of organisations. Based on a process definition, the work between participants of the process, regardless of whether they are human actors or computer devices, can be routed by a BPM tool [4]. The *i** modelling framework is based on the Goal-oriented Requirement Language (GRL). It is a common modelling language as part of the User Requirements Notation (URN) [5].

2.2. Assessment of Organisational Modelling Languages

Identifying the term 'business process' is essential to assess the importance of an IT project [6]. Furthermore, they state that business processes are activities which aim to achieve a business purpose or an objective. Therefore, it is important to assess and improve the business processes in an organization in order to increase the efficiency of its service delivery framework. The ABM approach is useful to identify activities from the perspective of the processes of an IT project [6]. As a general purpose modelling language, UML is a simple technique as it reduces the complexity as well as its cost and time. However, UML diagrams do not provide a combined metamodel from the perspective of business processes or the associated security [3]. On the other hand, BPMN provides a detailed level of business processes in the service delivery framework. It is a formalization language that can be used to model contract-business processes more successfully when compared to other modelling languages such as UML or activity diagrams [4]. In addition, as a business modelling approach, BPMN is useful for change management as it understands complex software systems and integrates different application processes [7]. However, as this modelling language tries to achieve too many things at the same time, it does not provide structural views, requirements or clear definitions. In comparison, the *i** modelling is useful for a better interaction between stakeholders because it allows for trade-off analysis, propagation of algorithms as well as for decision rationale [5].

2.3. Introduction of *i** Modelling Framework

As a goal-oriented language, the *i** modelling framework helps to represent the 'why' question in requirement engineering. It is constructed with the notion of actors in the business to illustrate the structure of an organization. It has three concepts, namely, objects, dependencies and relationships. When it comes to the concept of objects, the *i** modelling framework offers a graphical representation to organise actors, who are the stakeholders, goals, which are their aims, soft goals, which are their qualitative aims, as well as tasks, which are the activities required to achieve goals [5]. Furthermore, they highlight that goals, soft goals and tasks are desired elements in this framework. Additionally, resources are another essential element which holds

information directly used by an actor to achieve a goal or to perform a task.

As for the concept of dependencies, the dependencies of actors, goals, tasks and resources are used in this framework to define the responsibilities of a depender in relation to a dependee [8]. The actor who depends on another actor to achieve some-thing is the depender, while the actor who is depended on by a depender is the dependee. The dependency relationship which is centred on an element is termed dependum. Finally, the concept of relationships exists between objects in the i^* modelling framework using means-ends links, task decomposition links and contribution links. Means-ends links are used to exhibit contributions for a goal, while task decomposition links and contribution links are used to demonstrate subtasks of a task and impacts (positive or negative) on a soft goal, respectively. The basic notation of the i^* modelling framework is shown in Fig. 1.

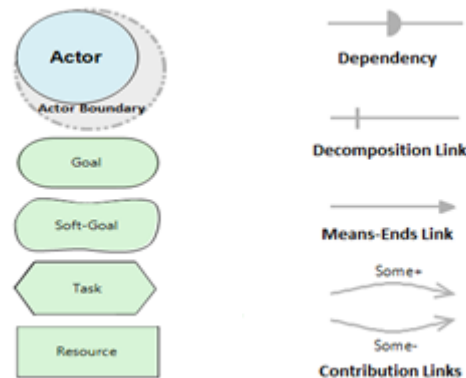


Fig. 1. Basic i^* notation.

2.4. Assessment of i^* Modelling Framework

There are two approaches in modelling in the i^* modelling framework, the Strategic Dependency (SD) and the Strategic Rationale (SR) Models. The SD model depicts the relationships between actors in the business structure of an organisation. There are a number of actors identified in the judiciary. Therefore, it is necessary to establish the relevant dependencies which help actors to achieve goals in the SD model of the proposed system. The dependency assumption of an actor towards an object can be used to detect the relevant goal based on that object and its characteristics [8]. The SD model which explains the dependencies between a Plaintiff, a Solicitor, a Barrister and a Judge is shown in Fig. 2.

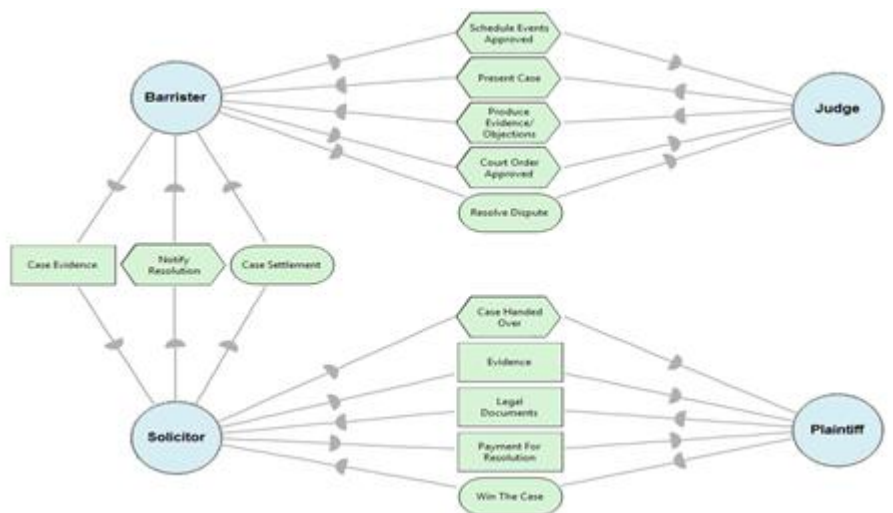


Fig. 2. Strategic dependency (SD) model between a plaintiff, a solicitor, a barrister and a judge.

On the other hand, the SR model describes the concerns and interests of actors in terms of tasks, goals, soft goals and resources in the business structure of an organisation. The different goals and associated tasks, resources and soft goals are acknowledged between the aforementioned actors in the Judiciary SR Model. Also, the rationale of reasoning 'why' on the actor's action and on the regulation helps to achieve more successful outcomes [8]. Furthermore, the SR Model shows interactions in the internal structure of the different relationships between different actors. It is comprised of means-ends links to demonstrate their contributions for the relevant goals, decomposition links to exhibit the subtasks of appropriate tasks and contribution links to show the positive and negative impacts on soft goals among different actors. The SR Model between a Plaintiff, a Solicitor, a Barrister and a Judge is shown in figure-3.

A new information system allows people to get engaged in an easier way to work, as it is automated with both users and service activities [9], [16], [17]. Therefore, technology has improved the access to justice by increasing physical accessibility, communication between the community and court, information distribution and by decreasing labour, transportation and other costs [5].

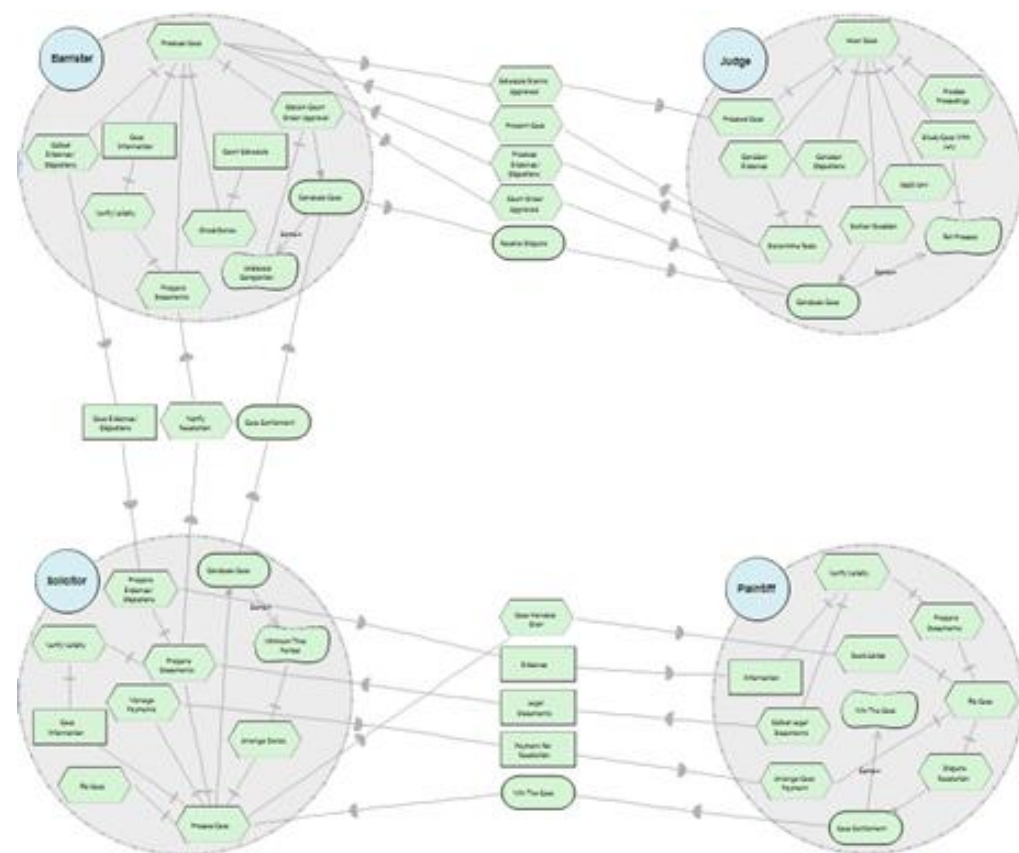


Fig. 3. Strategic rationale (SR) model between a plaintiff, a solicitor, a barrister and a judge.

3. Methodology

The methodology of this research is comprised of three phases which assess the service delivery framework within Judicial Service Domain using the *i** modelling framework. First, it implements SD modelling to conduct an assessment of the organisational model of the justice system. Then the research analyses different parameters such as vulnerability, criticality, frequency, time and cost from the actors' perspective in this service domain based on the SD model. Finally, the results are analysed and proposed enhancements are presented for the judiciary.

3.1. Assessment of the Organisational Model in the Judicial Service Domain

The Judicial Service Domain is comprised of different people who are involved in the judicial process. Each character is called an actor, and they are the main elements in the i^* modelling framework. There are a number of key actors, identified in the judiciary system such as the Plaintiff, the Defendant, the Solicitor, the Barrister, the Judge, the Registrar, the Court Clerk, the Bench Clerk and the Police. They are active entities that carry out actions to achieve their goals. A goal indicates an intentional desire of an actor. A goal does not specify the way this desire is to be satisfied but it can be implemented through a set of tasks with the support of resources and soft goals. A task is an activity which is performed by an actor in a particular way. It is described with relevant details by being broken down into further sub-elements. A resource holds a piece of information and it is used to support a goal regardless of the way this is achieved. A soft goal is an element which represents the positive or the negative outcome from the perspective of the actor. The i^* modelling framework employs the concepts of actors, goals, tasks, resources, and social dependencies to explain the duties of actors known as dependers to other actors known as dependees [8].

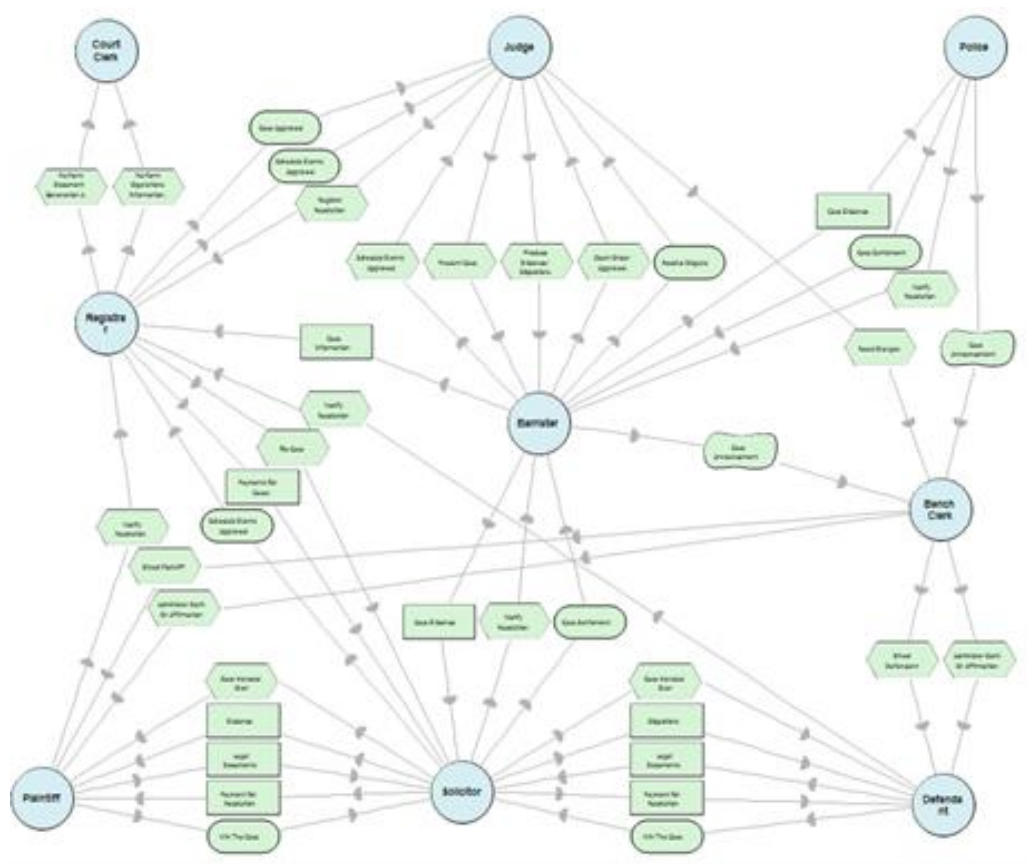


Fig. 4. Strategic dependency (SD) model of the judicial service domain.

As stated above, there are nine main actors in the Judicial Service Domain. The Plaintiff is the person who initiates the case in order to resolve a dispute, while the Defendant is the person against whom this case is brought to court. The Solicitor is the first point of contact for both the Plaintiff and the Defendant and assists them in the legal procedures. The Solicitor is also known as the lawyer, the professional who holds the legally required qualifications to practice law in court. The Barrister is a special type of lawyer who works as a legal advocate at higher levels of court. The Barrister is also required by the Solicitor to present the prosecution or the defence before a Judge during court proceedings. The Judge is a public officer who is authorized by the government to decide cases in a law court. Therefore, the Judge hears the case and makes a decision according to the existing law to resolve the dispute. The Registrar is an official in court working as the manager or the administrator. The Registrar is also the person in charge of the registry of the court. The Court clerk is the person

who handles court documents while the Bench Clerk is the person who helps in the administration of court hearings. The Police are considered an actor in the Judicial Service Domain since they are involved in some court cases as the authority to maintain law and order in a country. All the actors in the judiciary interact with each other in dependency relationships. The SD model of the Judicial Service Domain is shown in figure-4. It explains the dependencies between actors who assist in offering different services in the judiciary.

3.2. Assessment of Parameters in the Judicial Service Domain

The notation of the i^* modelling framework can implement a definition of problem boundaries which is more focused on actors' roles, than the other types [10]. Therefore, in order to define the boundaries of the actors' roles, identifying the service areas and evaluating the different factors in the problem domain are a vital phase in the organisational modelling. In the case of the Judicial Service Domain, the main service delivery processes are illustrated through an explanation of the dependency relationships among the actors, which is achieved with the use of the developed SD model. In this study, the five parameters which are identified from the perspective of the actors are: vulnerability, criticality, frequency, time and cost; and they are assessed based on the dependencies of the actors in the SD model. Only the actors in the business unit of the judiciary are considered in the measurements of these parameters. Therefore, the Solicitor, the Barrister, the Judge, the Registrar, the Court Clerk and the Bench Clerk are the only actors involved in this series of parameter assessments. However, other actors such as the Plaintiff, the Defendant and the Police are represented in the SD model to demonstrate their dependencies as they contribute to implement the business processes.

3.2.1. Measuring the vulnerability of actors

Vulnerability is one of the key parameters identified in the Judicial Service Domain and it is defined as the state of being exposed to a threat which affects the business processes negatively in the judiciary. The SD model of the i^* modelling framework assists in analysing vulnerability as a risk implication in the Judicial Service Domain. The depender enables the dependee to contribute in the dependum to achieve goals, perform tasks and make resources available. There is the risk of vulnerability is increased, if the depender fails to obtain the dependum which affects the process [11], [15], [18].

It is also important to emphasise that the vulnerability parameter of actors is affected by a number of outgoing dependencies. A metric is proposed to measure the vulnerability of actors in an organisation based on the SD model. This formula consists of the division of number of outgoing dependencies by the number of dependees. Therefore, a higher number of outgoing dependencies or a lower number of dependees can cause a higher degree of vulnerability of a depender. This is because out-going dependencies lead to the assignment of goals, tasks and responsibility of re-sources, and any failure to satisfy a dependency increases the risk. On the other hand, fewer outgoing dependencies or more dependees imply low chances of vulnerability of a depender, ultimately reducing the risk. The metric to measure the actor vulnerability is illustrated below.

Vulnerability Measurement (VM) = number of outgoing dependencies / number of dependees

For example, the actor Solicitor has:

Outgoing dependencies = 9;

Dependees = 4;

Thus, vulnerability measurement = $9/4 = 2.25$

Therefore, this concept contributes to identify, assess and mitigate the vulnerability of actors in the business processes of the Judicial Service Domain. The vulnerability of all the actors in the business unit of the judiciary based on the SD model is shown in Table 1.

Table 1. Actor Vulnerability Measurement

ACTOR	NO OF OUTGOING DEPENDENCIES	NO OF DEPENDEE ACTORS	VM
SOLICITOR	9	4	2.25

BARRISTER	7	5	1.4
JUDGE	4	3	1.33
REGISTRAR	6	3	2
COURT CLERK	0	0	MINIMUL VULNERABILITY
BENCH CLERK	4	2	2

3.2.2. Measuring the criticality of actors

Criticality is another key parameter which needs to be measured in the Judicial Service Domain. It defines the state of an actor's performance based on the incoming dependencies which affect the business processes in the judiciary. Criticality is also analysed using the SD model of the *i** modelling framework as another risk implication in the Judicial Service Domain. The depender helps the dependee to achieve goals, perform tasks and make resources available in the dependum. The depender or the whole framework is affected, if the dependee fails to satisfy the incoming dependencies [11, 15, 18].

Accordingly, more incoming dependencies will lead to more criticality. Therefore, the criticality parameter of actors is affected by the number of incoming dependencies. A metric is proposed to measure criticality of actors in an organisation based on the SD model. This formula consists of the multiplication of the number of incoming dependencies by the number of dependers. Hence, the higher the number of incoming dependencies or the higher the number of dependers is, the higher the degree of criticality of a dependee will be. This is because incoming dependencies lead actors to be accountable for goals, tasks and resources, and any failure to satisfy a dependency increases the risk. On the other hand, fewer incoming dependencies or a lower number of dependers imply a lower possibility of criticality of a dependee, ultimately reducing the risk. The metric to measure the actor's criticality can be found below.

Criticality Measurement (CM) = number of incoming dependencies * number of dependers

For example, the actor Solicitor has,

Incoming dependencies = 7;

Dependers = 4;

Thus, criticality measurement = $7 * 4 = 28$

Therefore, this concept helps to identify, assess and mitigate the criticality of actors in the business processes of the Judicial Service Domain. The criticality of all actors in the business unit of the judiciary based on the SD Model is shown in Table 2.

Table 2. Actor Criticality Measurement

ACTOR	NO OF INCOMING DEPENDENCIES	NO OF DEPENDER ACTORS	CM
SOLICITOR	7	4	28
BARRISTER	6	3	18
JUDGE	5	2	10
REGISTRAR	5	4	20
COURT CLERK	2	1	2
BENCH CLERK	3	2	6

3.2.3. Measuring the frequency of actors

In the change opportunity process, the frequency of connection can be altered by the actors [12]. The frequency of an actor, also known as the change rate, depends upon the position of that actor in the domain as well as upon other factors such as the actor's age and sex. An actor-based model is considered an agent-based simulation model [12]. It uses the same principles of the agent-based model except statistical reasoning in terms of the required flexibility and acquisitiveness of details from the data. Furthermore, the word 'actor' is used in this type of model, because the actors do not act as subordinates, the way the agents who behave to others' interests do [12]. Hence, the characteristics of an actor affect the frequency of that particular actor. This principle applies to all actors in the Judicial Service Domain.

It is important to mention that the number of outgoing and incoming dependencies is a main factor in the frequency of actors. Changes in the positions of actors also modify the business processes in the judicial service. Therefore, organisational modelling using the *i** modelling framework considerably affects the frequency of actors. The new model needs to be developed taking into account the actors' positions after a statistical analysis.

3.2.4. Measuring the time of actors

A better communication and a reduction in turn-around-time in tendering processes have paved the way to a better support provided by the system [13]. The arrangement of communication in a problem domain is a tedious task, because there are multiple parties, such as actors, who are involved in various types of communication in the Judicial Service Domain. The appropriate information exchange between actors is the key for successful projects [13]. Measurement of the time of actors is also implemented with a statistical analysis. This is of importance since developments in the communication between actors reduce the time in relevant business processes. Furthermore, both time and cost issues cause poor communication which then leads to insufficient, unsuitable, incorrect, unreliable and late information [13]. Also, the distance between actors is another communication barrier which ultimately delays information transfer [13]. Moreover, delays in resource provisions, unavailability of accurate information, and usage of paper-based documents and involvement of third parties, such as courier services, in the dependencies are other major factors which negatively impact on the time of actors in the Judicial Service Domain.

3.2.5. Measuring the cost of actors

A reduction in costs as well as an improvement in collaboration and convenience in decision-making can be reached by using integrated and standardized data and processes [14]. Integral to this, the establishment of a cost measurement is required for improvements in process performance. As the SR Model of the *i** modelling framework illustrates, the contribution of value added elements, such as tasks and resources, is important to achieve a particular goal. Business processes define the coverage of a variety of activities within an organisation [14]. They also reiterate that these activities vary from iterative, simple or knowledge-intensive up to complex, innovative and distinctive ones. Consequently, the implementation of actions, methods and operations in a business environment expends money. Noticeably, the services and business operations which heavily rely on professional knowledge are expensive in terms of the cost associated with actors, particularly if compared to other simple tasks. Also, poorly defined business processes lead to low quality outputs. Considering all of these aspects, it is important to rearrange the business structure of an organisation with certain rules, characteristics and guidelines to reduce relevant expenses. An appropriate standardization in business processes enables enterprises to gain higher performance and quality [14].

4. Analysis of the Results and Proposed Enhancements

The SD Model illustrated different dependencies between actors in the Judicial Service Domain. It represented the interactions between dependers and dependees when carrying out specific activities. They are goal oriented dependencies which help to deliver different services. On initial consideration, the SD Model depicts more dependencies between actors such as the Solicitor, the Barrister and the Judge in the main business unit of the Judicial Service Domain. On the other hand, it is apparent that the Registrar and the Bench Clerk have fewer dependencies. However, identifying the number of dependencies between the actors in the SD Model is not the most appropriate way to analyse the effectiveness and efficiency of actors. As a result, vulnerability and criticality parameters were used and measured by relevant metrics.

According to Table I, the Solicitor is the most vulnerable actor in the main business unit of the Judicial Service Domain. This Actor has 9 outgoing dependencies with 4 dependees. The Registrar and the Bench Clerk also have the same vulnerability measurement which is more than the Barrister's or the Judge's. The number of out-going dependencies and the number of dependees for the Registrar and the Bench Clerk are 6, 3 and 4, 2 respectively.

They have more outgoing dependencies associated with fewer dependees. In contrast, the Barrister and the Judge are less vulnerable actors in the main business unit. They have more dependees per outgoing dependency compared to the other actors. From the above observations, it is obvious that an increase in the dependees for a particular number of outgoing dependencies can make less vulnerable actors in the Judicial Service Domain.

Based on the results of Table II, it is apparent that the Solicitor is the most critical actor in the main business unit of the Judicial Service Domain. This Actor has 7 incoming dependencies with 4 depender actors. The Registrar and the Barrister also have higher criticality measurements than the rest of the actors. The number of incoming dependencies and the number of dependers for the Registrar and the Barrister are 5, 4 and 6, 3 respectively. They both have high numbers of incoming dependencies and of dependers. On the other hand, the Court Clerk and the Bench Clerk are less critical actors in the main business unit. They have fewer incoming dependencies per depender compared to other actors. This makes it clear that having the numbers of incoming dependencies and of depender actors both low can make less critical actors in the Judicial Service Domain.

The richer modelling concepts of the *i** modelling framework allow an analyst to search for comprehensive implications which can lead to changes in the organizational structure [11], [15]. As a result, the SD Model helped to identify the relevant suggestions for appropriate adjustments in the Judicial Service Domain. Initially, it assisted in measuring the vulnerability and criticality of actors using relevant metrics. Therefore, the appropriate tasks need to be monitored with standard constraints. After these measurements have been identified, they can be used to alter the business processes with a more appropriate allocation of responsibility among actors. Consequently, it accelerates the services ultimately resulting in a better performance by the judiciary system. Needless to say, it is important to reduce the vulnerability and criticality of actors in the Judicial Service Domain.

An actor's vulnerability depends on the number of outgoing dependencies and the number of dependees. These factors influence the actor's intentional goals in satisfying the relevant service to the dependees. It is essential to monitor the appropriate tasks which are carried out to achieve that specific goal. More monitoring of the tasks and sub-tasks is essential for high vulnerable actors [11], [15]. Also, some action can be taken to reduce the vulnerability of the actor by using a standard control to measure the performance of that particular actor. The delegation of dependencies in particular can be used to address the issue of vulnerability. In the Judicial Service Domain, the Solicitor is the actor who has the highest level of vulnerability (2.25) with 9 outgoing dependencies and 4 dependees. According to figure-4, this actor has 2 out of the 9 outgoing dependencies on the Barrister, and that is the highest number within the business unit (3 are on the Plaintiff, 3 are on the Defendant). Since there is only one dependee actor for these two dependencies, a failure of that dependee increases the vulnerability of the Solicitor. Therefore, the delegation of dependencies over more actors decreases the risk of a failure. If a dependency of the Solicitor is assigned over to the Judge that eventually increases the number of dependee actors to 5. As a result, it reduces the vulnerability of the Solicitor actor to 1.8.

On the other hand, an actor's criticality depends on the number of incoming dependencies and on the number of dependers. These factors influence the intentional goals of that actor's dependers in satisfying the relevant service to the particular actor. Therefore, it is essential to monitor the appropriate tasks which are carried out to achieve that specific goal. It is necessary to plan the tasks and other activities of critical actors to create a strong and healthy process [11], [15]. A required action can also be identified by using a standard control to reduce the criticality of the actor. Similarly, the delegation of dependencies can be used to address the issue of criticality. In the Judicial Service Domain, the Solicitor has the highest level of criticality (28) with 7 incoming dependencies and 4 dependers. According to figure-4, this actor has 2 out of the 7 incoming dependencies from the Registrar, once again the highest number within the business unit. Since both dependencies rely on the Solicitor, a failure disrupts the performance of the depender, therefore increasing the criticality of that actor. Therefore, the delegation of dependencies over more actors decreases the risk of failure. A dependency from the Registrar on the Solicitor is also assigned upon the Plaintiff and the Defendant, eventually reducing the number of incoming dependencies to 6. As a result, it decreases the criticality of the Solicitor to 24. The proposed SD model for the Judicial Service Domain is shown in figure-5.

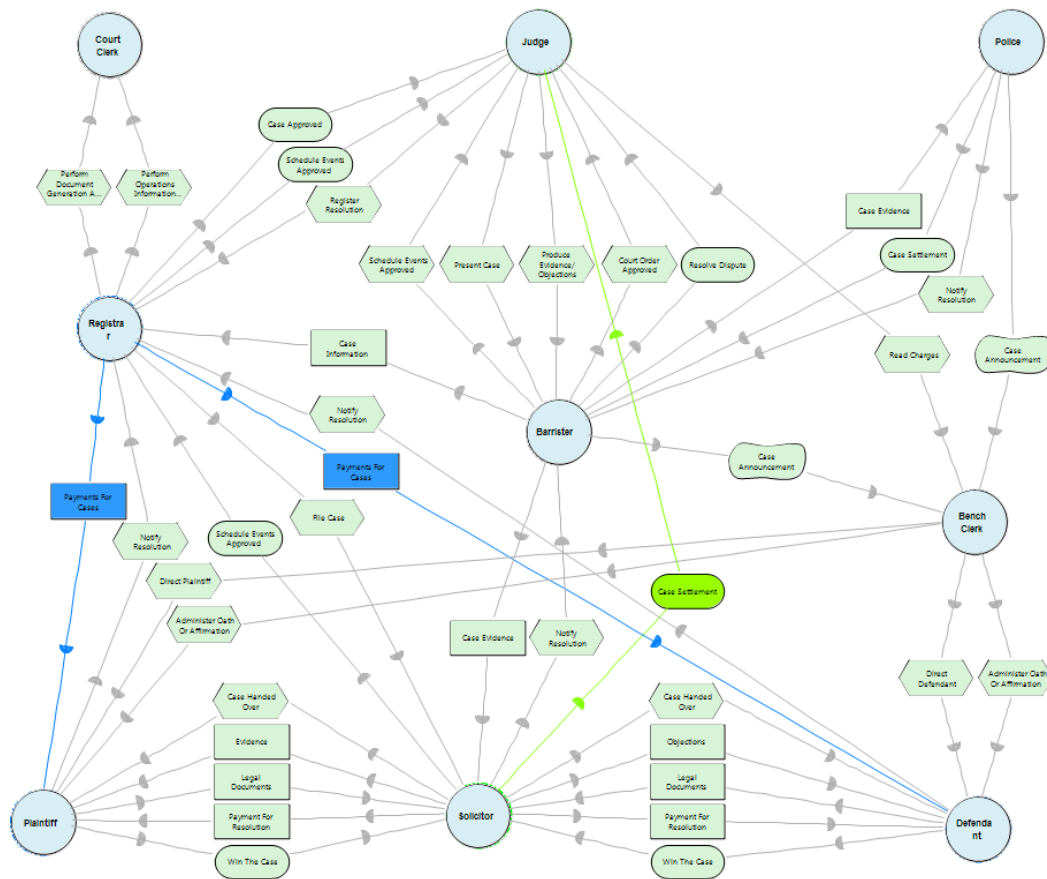


Fig. 5. The Proposed SD model of the judicial service domain.

The organisational modelling also leads to improvements in efficiency and effectiveness of the related functional processes. Changes in the business processes not only improve the frequency, but also increase the productivity of actors such as the Solicitor, the Barrister, the Judge, the Registrar, the Court Clerk and the Bench Clerk. They increase the job satisfaction of the actors in the main business unit of the judiciary, at the same time that they lift the satisfaction of the Plaintiff, the Defendant as well as the Police with the services they receive in the justice system. Hence, the change in processes in the Judicial Service Domain adjusts the frequency of actors positively affecting not only goals, tasks and other activities, but also the context of resources in business processes. Obviously, developments of new business processes with new technology lead to improvements in people's behavior.

Furthermore, improvements in communication can develop successful business processes. Another important advantage of the establishment of real-time communication is that it leads to improvements in the time of actors in business processes. The Internet and interconnected networks are also factors which help to increase the in-formation flow between actors in the judicial service. Besides this, a model of efficient and effective business processes also contributes to the financial aspect in the judiciary. Particularly cost-effective workflows help to reduce the processing costs. This is due to the improvements in the collaboration of actors and a reduction in the time and errors of core processes. The general objective of these concepts is to enhance enterprise performance to a major higher level while understanding the advantages in relation to cost and time reductions, quality improvements and fast and adaptable response times to client requirements [14].

In the Judicial Service Domain, there tends to be a certain resistance to change in business processes due to the specific professional job profiles of the main actors, such as the Solicitor, the Barrister and the Judge. Conversely, however, the automation of business processes using digital technologies can still have a significant contribution, as it helps in reducing the impact of both vulnerability and criticality of actors. It allows not only the actors in the business unit, but also the external actors such as the Plaintiff, the Defendant and the Police to be involved in

the judiciary system in a streamlined manner. Noticeably, this approach lets the Solicitor work directly with the Judge instead of the Barrister actor. It also allows the Plaintiff and the Defendant to make payments for the cases directly to the Registrar instead of the Solicitor. Therefore, it is necessary to define a clear strategy for the Judicial Service Domain to save a considerable amount of time and money. That would help to reshape the experience of the actors in the judiciary system by eliminating the current weaknesses and better achieving their goals. For this purpose, Information and Communication Technology (ICT) with Data-driven services and software products can be used to reimagine a new offerings and business model. Consequently, simplified and efficient business processes can be built by reengineering the existing business processes. This would also allow the implementation of a new business model in the Judiciary with the participation of both internal and external stakeholders. Finally, the rapidness of the transformation will be helpful in the change management process in the Judicial Service Domain.

5. Conclusion

The Judiciary is one of the key mechanisms in the governance of a country. Therefore, it is important to eliminate the issues in the conventional systems of developing countries by improving the service delivery processes within the Judiciary. Among different organisational modelling languages, the *i** modelling framework was selected for the development and application of a service delivery framework within the Judicial Service Domain. The dependency relationships between different actors were taken into consideration to measure factors such as actors' vulnerability and criticality. Frequency, time and cost parameters in the business framework of the judicial system were also assessed and discussed in this study. As a result, an approach to a digital transformation was identified as a suitable strategy to improve the service delivery framework within the Judicial Service Domain.

It is truly important to assess and design business processes in the justice system as justice administration largely affects most citizens at some point in their lives. The essential functions and job responsibilities of the actors in the main business unit are also very specific and the job profiles vary from one country to another. Therefore, it is necessary to study their goals, activities and tasks in greater detail for a further reduction in vulnerability and criticality of other actors such as the Barrister, the Judge and the Registrar. Since data and information used in the judiciary are sensitive and strictly confidential, improvements in the service delivery framework need to be executed carefully. It is also important to integrate future work with the proposed solution to enhance the service delivery framework within the Judicial Service Domain. Therefore, this framework will be able to help to improve many aspects of citizens' lives in developing countries.

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