International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

BPR-By Enhancing Customer Engagement: Case Study of Vehicle Insurance Request Process

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Abstract: ***The growth of motor vehicle ownership has greatly increased over the past few years. This increase in ownership has been precipitated by factors like increased income and better standards of living. Moreover, there have been technological advancements that have led to the emergence of low-cost vehicles. Changing customer preferences have further made made more people uncomfortable with public transporting, thus, opting for personal vehicles. With the increase in vehicle density, there has been a corresponding increase in accidents and risks related to road usage. One way in which most users have decided to transfer the risks associated with motor vehicle use has been through the use of insurance companies. However, insurers on the other hand have faced difficulties in Insurance Request Processes since there have been cases of fraudulent claims as well as clients complaining about long and tedious business processes when dealing with insurance companies. This factor has led to the adoption of more effective methods in which business processes can be sped up while accuracy and integrity is maintained. This article verges to examine how Business Process Requests can enhance customer engagement and examines the case of Vehicle Insurance Request Process Re-engineering using Bizagi, while giving recommendations on how the system can be improved to enhance more efficiency while cutting down the cost and time of the overall Insurance Process.***

Abbreviations

- **BPR**- Business Process Reengineering; Recreating main processes in a business with the aim of improving the overall performance, output and cutting costs
- **Implementation**- Putting an adopted Process into action in the business activities
- Internet A network of interconnected computers that enables information sharing among different parties
- **Technology**- Sum of skills and knowledge, methods or scientific process that are used in solving problems and accomplishing objectives
- **Policy Protection**- the amount of cover as well as the required deductibles depending on the information gathered
- **Deductible**- alludes to the amount or the percentage that will be paid by the insured and is not refundable by the insurer. The insured is obliged to pay out of the total indemnified loss
- **Policy**- refers to the instrument that proves the existence of a contract between the insured and the insurer. It lays out the general and specific terms of the contract between the two.
- **Premium**- The contribution that the insured makes in return for the risk coverage provided by the insurance company
- **Beneficiary**- refers to the individuals that receive the benefits stated in a life insurance policy

1. Introduction

As businesses grow, there are several internal complexities that often develop. There are complexities between departments and their respective employees, technological complexities and many other issues. In such cases, it is at time tempting to take a rip and replace method; which is basically adopting a new system with the aim of erasing the existent organizational problems. However, installing a while new system is an expensive and expensive venture. In such a situation, an organization should adopt a wraparound solution that articulates their patchwork IT systems and the business processes. Once this is done, an organization can then document their business processes and adopt the necessary automation such as RPA or even intelligent systems.

Process automation is a critical method in which insurance companies can be able to take control of their daily business processes by efficiently aligning processes by automating tasks, providing sufficient checks and balances and aligning projects easily. By adopting business automation, not only can insurance companies unite their IT and Business units but can also deliver solutions and process client request faster. Agile business process development methodologies aim at driving continuous improvement in organizations. The Bizagi Business model being examined in this article derives its name from Business Agility; meaning it basically takes an agile approach to organizational digital transformation

In the insurance Industry, claims management has been a major concern since it has a direct impact on the business performance. For this reason, almost all insurance companies are adopting strategies to streamline their procedures and processes to make their operation more efficient and less costly. Furthermore, there has been a need to increase customer engagement to help in handling the

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wide range of individual issues as regards insurance. Most customers to insurance companies are also not aware of the right procedures to be followed in the case of filling for claims from the insurer in case of an accident. The presence of an interactive system helps in guiding clients on the necessary steps to getting the deserved insurance services

Over the past years, there has been increasing .competition in the Insurance industry with many new entrants in the market, a factor that led to a pressure on insurance premiums. Motor vehicle insurance has been the leading class with the largest volumes of clients. Given the high competition and the high need to stay afloat in the market, efficient improvements in managing claims and handling clients efficiently is important in determining the key performance indicators of any insurance firm. In the last ten years, there has been a significant decrease in the amount of premiums paid by insurance takers while insurance firms have not been able to decrease their costs by the same index. According to Kaeslin and El Hage (2008), insurance companies have been unable to achieve cost saving due to high operation costs as well as limited integration with other services like repair shops who are important business partners. Moreover, insurance companies commonly face lack of proper information on insurance cases

When insurance companies are under the pressure to cut down their cost of doing business, it is imminent that customers will lack he required assistance during insurance claims. When a customer is seeking insurance cover, they are most probably in emotionally stressful situations and they require immediate support and guidance in the submission of their reports and filling for claims. With the invent of the use of mobile phone applications, it has been a reprieve for customers since they have helped in addressing the inadequacies of insurance carriers in handling customer needs. Currently, mobile phones are ubitiquosly available to customers and the average mobile phone penetration rate is currently at over 120% in the European Union. Additionally, mobile phones have been the most dominant mediation devices in critical situations. Accordingly, mobile phones have been instrumental in accident aftermaths in quick reporting to insurance agencies. While this approach of using tailor-made mobile phone services has enabled customers get adequate assistance, it has also enabled insurance firms to in ensuring more efficient claims management processes

2. Literature Review

Several scholarly works have documented the need for automation in claims management by insurance firms as well as the benefits to the insurance firms as well as the clients. Furthermore, other studies have tried to detail how well managed and properly detailed information on insurance cases have helped in shortening the average claim life-cycle as well as significant decrease in costs incurred by insurance companies in each case. Bieber and Hoberg 2007 in their publication talked about early notifications and well laid out insurance procedure help in integrating business partners efficiently, fast claim settlement and enables the insurance company to benefit from discounts that could be as a result of maybe actions like routing customers to certain repair shops. A study by Kaeslin and El Hage (2008) revealed that up to 7.5% of all vehicle insurance claims are dealt with proactively. By analyzing 12,000 unsettled insurance claims, they depicted an untapped potential of up to 15% cost savings.

Kaeslin and El Hage in 2008 studied the cost reductions for motor vehicle insurance claims that could be observed when automation is adopted in the process. Additionally, they tried to establish the importance of proactive contact between the client and the insurance company in settlement of insurance claims. In their study, they argued that the lack of adequate technological solutions is a major problem that has to be addressed by insurance companies in order to gain sufficient control of their insurance claim processes and ensure efficient services

Lee et al. (2007) further presented an empirical study where they examined the strategies as well as applications that can be adopted for mobile commerce in executing most of the processes in the insurance industry. They surveyed several insurance agents and explored the possible mobile solutions that could be adopted as well as their benefits in executing the tasks of the insurance companies. In the study, they concluded that the PDA technology (Personal Digital Assistant) was the most appropriate in enhancing efficiency in the insurance industry and that it improved customer-care and streamlined the claims management and post contract customer services

There are two common emerging domains in mobile technology that are being adopted by insurance firms. These are Car-2-X and telematics. Both of these domains of technology enhance interconnectivity among various players in the insurance chain. Motor vehicles are currently connected to insurance enterprise systems and this has enabled urge-based pricing and has a provision for emergency calls and the recording of crash data. This has reduced the claims management process as it has eliminated the lengthy processes of investigation that had to be carried out by insurance companies before any claims are settled (Vaia& Carmel, 2013). The European Commission has further driven efforts for the adoption of eSafety. This initiative incorporates the use of the eCall technology which is automatic accident detection and emergency notification call that also involves data transfer and voice communication

Although most of the applications are deployed in motor vehicles, there have been tailor made applications for mobile phones with increase in computational power and additional sensor technologies. Mobile phones have therefore been integrated with enterprise systems, a factor that has greatly increased customer engagement. This is because most of the customers are able to track the status of their insurance claims online and are able to make online inquiries regarding new insurance policies. Customers are also able to get guidance and necessary material from the insurance companies more easily through the established platforms (Want, 2009). For example, US-based companies Farmers and Nationwide recently established applications on iTunes that support users with reports of loss from their iPhones. This depicts a shift to integration of mobile devices with

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enterprise management systems that can even provide localized services. Leading enterprise application providers have therefore considered the integration of mobile devices in insurance claims management in order to ease service delivery. Solutions Specialists have crafted ways in which customer engagement can be enhanced in Business Processes. Microsoft developed the PDA technology and provided for it to be integrated with casualty and property insurance (Price, 2007). Insurance companies, as a result, have claimed a 20% reduction in the workload, reduction of fraudulent claims, and efficiency in service delivery. IBM has also at providing business solutions for insurance companies. Technology has further aimed at reducing claims processing time. This has been enhanced by enabling customers to file claims remotely through an established portal and tracking of progress without physically visiting he premises of the insurance company

BPR in general

Business process reengineering refers to the act of recreating main processes in a business with the aim of improving the overall performance, output and cutting costs. It typically involves analyzing the workflows of the company and finding the organizational processes that are inefficient or are sub-par and crafting ways in which they can be changed to enhance more efficiency. BPR began to be adopted more in the business world in the 1990s and its adoption by most businesses was inspired by Michael Hammer's article on the Harvard Review entitled *Reengineering Work: Don't Automate, Obliterate.* The concept of Reengineering business processes came up after Hammer noticed that too many businesses were only adopting technologies to automate their business processes instead of crafting new solutions. Over time, BPR has been continuously adopted by businesses and largely superseded the popularity of business process management.

A business process alludes to a set of related tasks that are performed systematically in order to achieve a business outcome. It is a set of structured, measurable activities that have a particular result to a particular market or customer; it defines how tasks are executed within an organization. Reengineering therefore is a business process that takes a new paradigm and dismantles the exists business processes and puts them together in a new business flow that aims at increasing efficiency in service provision and increasing the overall productivity. BPR generally adopts a systematic methodology in its implementations. First, a company has to prepare by setting goals and visions,, then define the process and evaluate all the issues around the adoption of new system, The best processes are then selected, and finally, the new business process is implemented and a period of continuous reevaluation follows, to ensure that processes are continuously improved to offset competition and to keep up with customer needs

Case Study: VEHICLE INSURANCE REQUEST PROCESS USING BIZAGI

In this Part of the document, we are going to discuss the Model of Vehicle Insurance Request Process, how it will be improved, which part will be reengineered and how it will be executed.

Analysis of the Vehicle Insurance Request Process Model using Bizagi(system As-is)

The current Vehicle Insurance Request Process (Figure 1) covers all the steps required to enable the issue of a new policy depending on the terms of the insurance cover taken. The process includes assessing the vehicle to be insured, giving the insurance quotation depending on various aspects of the vehicle like the value, examination of the viability of the risks that the vehicle could be exposed to, inspection of the vehicle, and finally the issuance of the insurance policy.

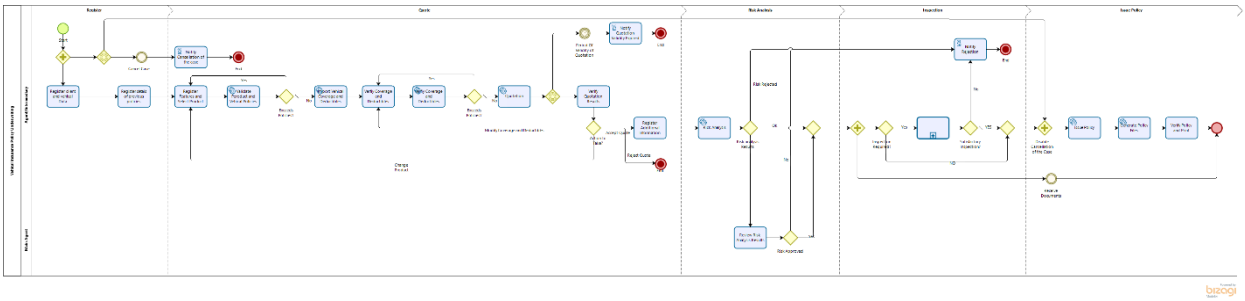

Figure 2: The Main Business Process of Car Insurance

The application begins with the input of information of the policyholder as well as the vehicle insured. The next step is the collection of complementary information which includes aspects like the driver's history, previous accidents and health concerns among many more. The application then continues to the selection of the appropriate policy depending on the protection selected by the owner. The deductible is then determined, and the policy quotation given to the client and after the final analysis, the insurance policy is then issued. The application manages many other processes which include analysis of premium quotations, risk analysis on the policyholder, vehicle, assured or even the beneficiaries. It further has a provision to control the maximum validity time of the quotation and interaction with company legacy systems to import coverage and deductibles on selected products. It therefore guarantees the validity of the information being handled

As discussed earlier, the adoption of mobile technology has enabled the automation of vehicle insurance request processes. It is therefore imperative to understand the expected technology-based improvements on the business process. This can be done by analyzing the Vehicle Insurance Request Process using Bizagi model. The most widespread method of process modeling is the Business Process Modeling Notation which gives a graphical representation of the process in a model. By analyzing the graphical model of the Vehicle Insurance Request Process

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developed using Bizagi, one is able to fully understand the details of the system BPMN diagram of the Bizagi model clearly explains the customer process as well as the procedures of the insurance company by tracking information flow and how commands are issued within the system. The customer process basically begins from the occurrence of the accident. Traditionally, the company always learns of the accident through phone calls or letters. In the next step, the circumstances of the case are submitted with the loss report and the insurance company then generates the first notice of loss. Once the claims have been evaluated, an investigation is first carried out to assess the damage or loss incurred and the presumption of guilt determined to ensure that the client is not liable. The claim is then settled and if it is applicable, the required payment or compensation is issued.

Improvements/Enhancements that can be made on the system

The process consists of four major areas of improvement that can make the process faster and cost efficient. First is enhancing mobile loss report. The model should be integrated with a provision to place an emergency call in case of an accident. In the case of a minor accident, the insurance agents at the call center should be able to offer guidance on the process of collecting circumstance of the case and submitting them through the claims management system. The creation of an immediate automated system improves the claim process as well as enhances the integration of business partners. Moreover, it eliminates cases of media breaks, which has been common with traditional methods like letters and phone calls.

The second aspect of improvement is partner management. Depending on the type of the claim and the nature of the risk that has occurred, Insurance companies should further optimize their claims managements system to include in which they can directly support customers by linking them up with repair shops and tow-truck services depending on the client's location. Involving selected business partners and other appraisers reduces the claim processing time and provides quick solutions for the insured clients. This enhances time efficiency and reduces the costs incurred while improving customer satisfactions.

The third aspect that can be improved in the model is the inclusion of a mechanism of status notification in every step of the process. Customers are often eager to know the status of their requests and would like to get a notification update detailing the stage of the process. The system should therefore adopt a method in which events within the system like the change of the status of a claim request, automatically sends a notification to the client. Moreover, there could be stage in the process in which more information is required from the client so that the processing of the insurance claims can proceed. With the presence of a method of notification, clients can easily be contacted in case of anything. Immediate feedback further reassures the customers and improves their satisfaction.

An important aspect in all systems is the ability to get customer feedback. The system should therefore include a provision for feedback from the client once insurance claims have been settled. This not only helps in gauging customers' satisfaction but also helps in getting their opinions of services they have received from business partners. Additionally, data on customer feedback can be used in the customer relationship management system in order to establish the trend in customer relationship.

In order to increase the efficiency of the system and to ensure that the proposed improvements are successfully implemented, there is need to integrate the claims management system and mobile phones. This is because mobile phones are at the center of business processes and are easily accessible to everyone. This model should therefore find a way to bridge the gap between business application layer, which is the claims management enterprise system and the device platform, like mobile phones. I would therefore recommend the need to adopt integration architecture to act as a connecting bridge between the system and mobile phone platforms. In this case, I would propose the use of a Service Oriented Architecture (SOA) design(Erl, 2016). To be specific, web services often ensure that there is a common communication protocol. The Service Oriented Architecture therefore is based on webs services technology which helps eliminate the complexity that often arises from interfacing different technologies at the same time (Varshney and Vetter, 2001). Concepts like the mobile middleware can also be adopted because although complex, enables seamless integration between all the layers in the system.

Adopting a service-oriented architecture in the model enables the direct involvement of mobile devices in the claims management process and therefore enhances more customer engagement. This is because the web-services concept is being adopted in the device layer for example, Devices Profile for Web Services (DPWS). A Fundamental Modeling Concept can be used to describe the infrastructure of the claim management system and the integration architecture and how it enables improvements in the business processes (Jammes, Mensch & Smit, 2007). The integration architecture is made of several components; which serve to enable the integration of smart devices. At the core of the architecture is the Event Handler which enables communication across the two layers through a well-defined interface. To ensure compatibility, the OASIS Web Service Notification (WSN) can be used as it incorporates the notification of the users on various system events by the use of a web service operation or through a pull mechanism. The Innovation Handler is another component that manages the web services offered by the mobile devices. The final component in the Integration architecture is the Business Connector which encapsulates the operational logic required in transforming events in the device layer to business application actions.

BP Re-engineering of Vehicle Insurance Request Process using Bizagi(system to be)

In addition to eliminate the unneeded Cancellation Cases. The diagram below (Figure 3) demonstrates how the Integration architecture can be infused into the already existent system as well as how its components can be placed to make the whole systemfunction better and make business processes more efficient.

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In order to show the viability of the recommended solutions for improvement of the system, an analysis of the business value metrics can be applied. The improvements on the system occur at the process level and for this reason, process-oriented metrics should be considered rather than the overall firm-level output. In order to adequately understand the value metrics to be used in measuring improvements, Davenport's classification of operational management proposed by Mooney et al. (1996) can be adopted. This classification differentiates between transformational, automational and informational improvements. Operational benefits that accrue to the system include factors like reduction in processing time, less expenses, lower operating costs, elimination of media breaks, higher data quality, increased customer satisfaction and stronger partnerships due to the ease of doing business. In terms of management, business value metrics that ought to improve include effective communication, better quality of management decisions, and better control of business and standardization of managerial aspects.

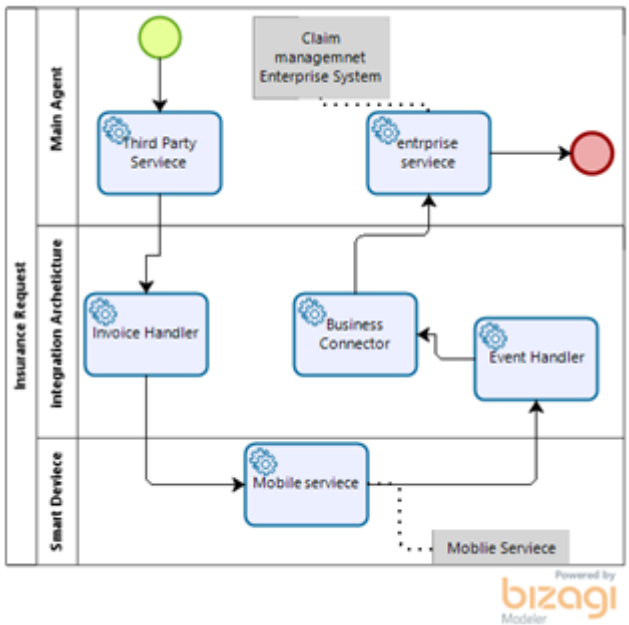

Figure 4: The Integration Architecture of the Reengineered Business Process

3. Conclusion and Future Prospects

This paper provides an analysis of the current claims management process and identifies the various technological based improvements that can be adopted on these processes. Apart from the add-ons that have been recommended to the Bizagi business process model, the article recommends for the adoption of a service-oriented architecture. An analysis of the process improvements shows that there are several benefits that accrued to the adoption of these improvement processes. This can be observed by an overview of the value metrics used in measuring the impacts of the process improvements. Additionally, the integration of businesses processes with mobile phone systems is beneficial in easing the process of getting claims by the customer as well as eases the work of the insurance company in compensating the clients by making the process shorter and more transparent as well as it's increasing the Level of integration among application.

Going forward,the business process has been simulated using Bizagi modeler which shows more efficiency and less cost as well as shorter period of time . However, there is a need to investigate the convenience of this mobile application infused services and ways in which the functional range can be complemented. There is also need for more focus on enhancing data security and privacy due to the data exchange occurring between the clients and the insurance companies and other enterprise systems. The currents focus has been solely on technical solutions and determining the business values of these solutions but there is a need to step beyond these exploits.

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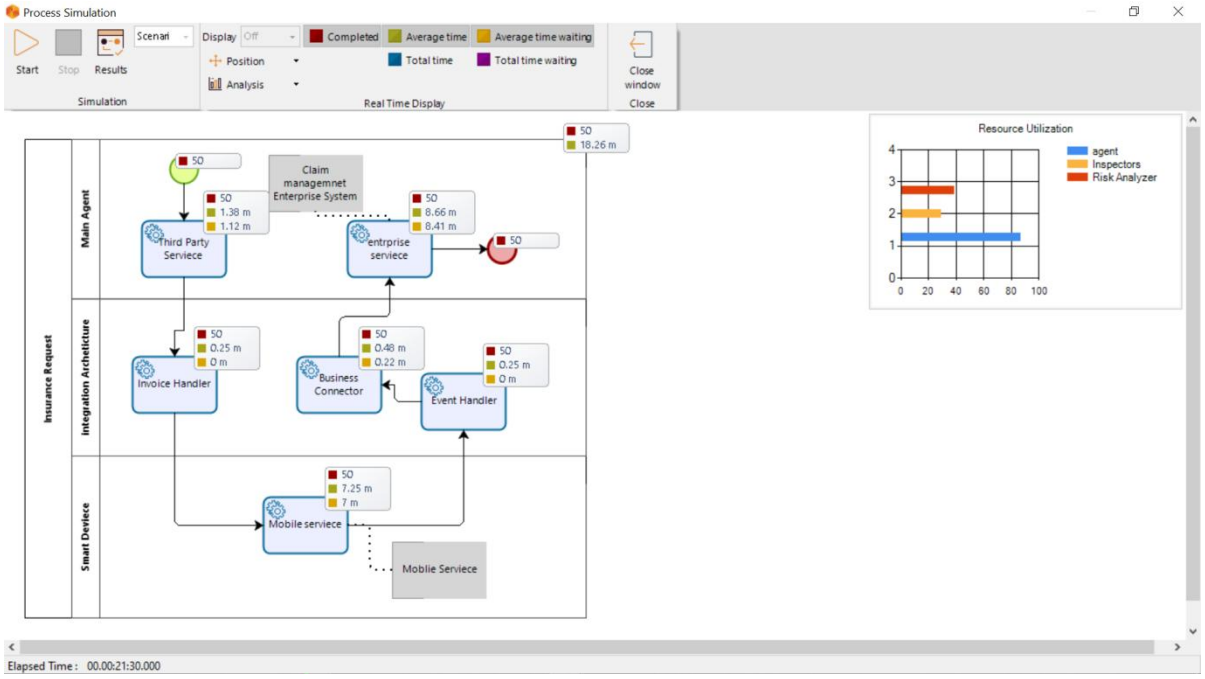
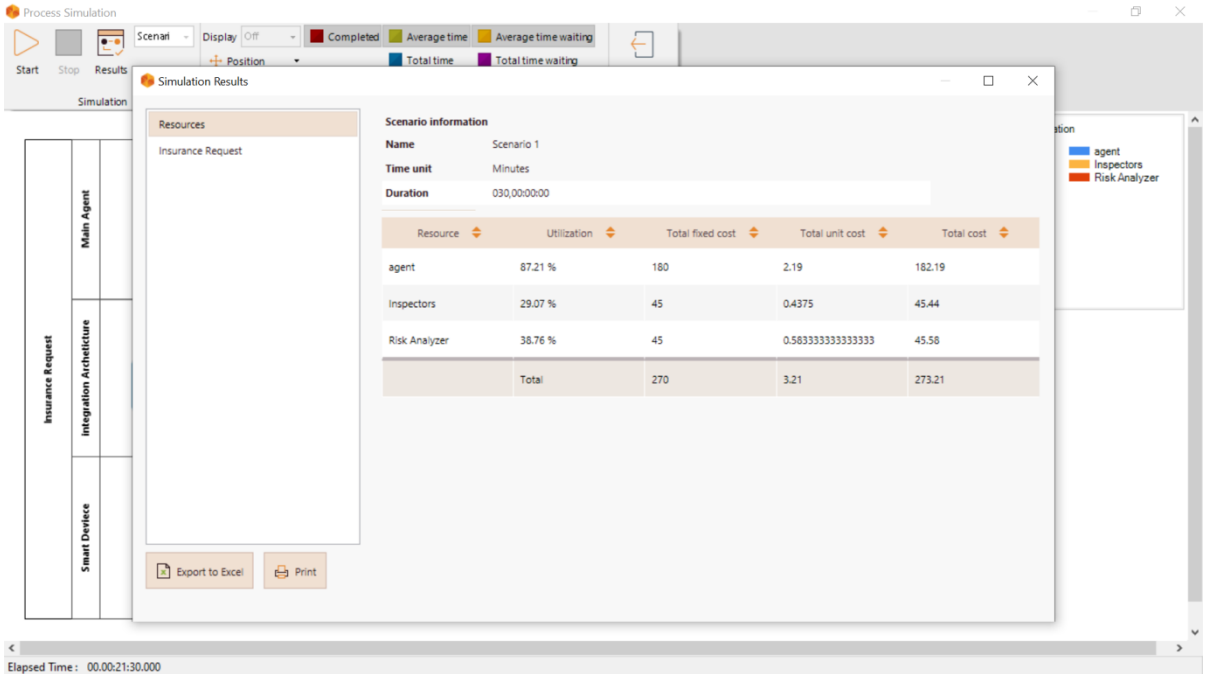
Appendixes

Appendix-A



Appendix-B



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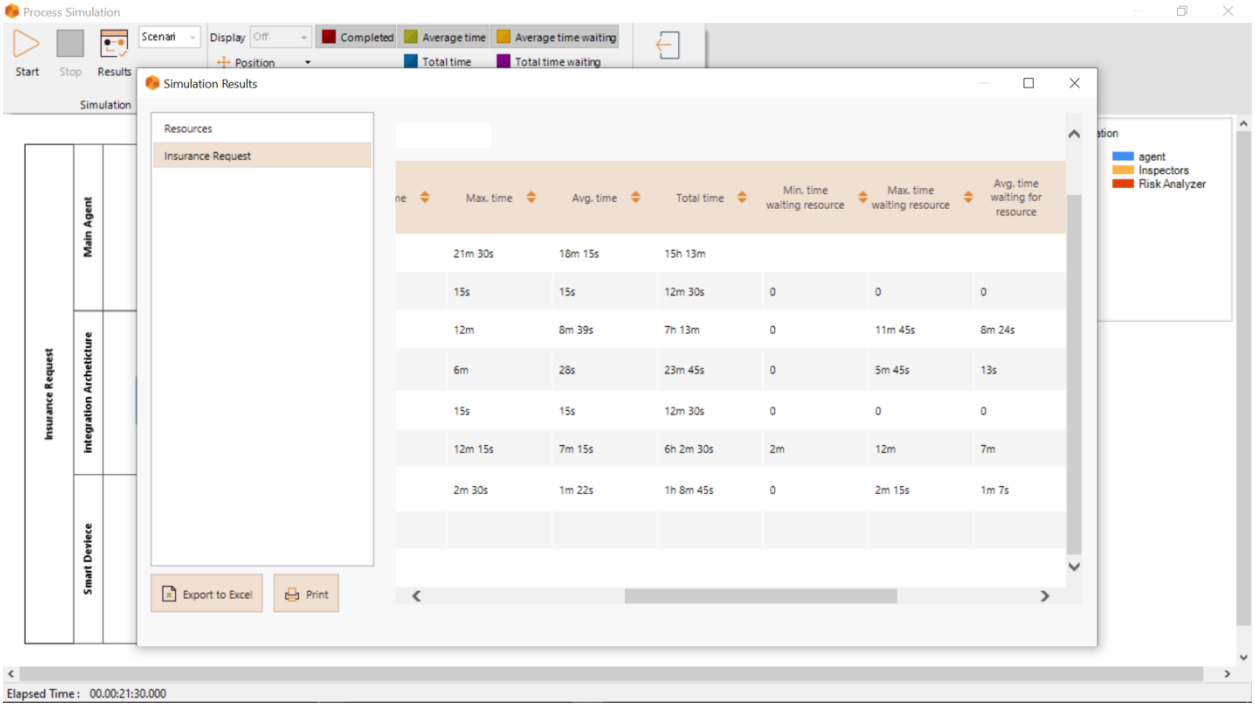
Appendix-C



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