

Identification of Critical Business Processes: A Proposed Novel Approach

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Abstract. Critical Business Processes (CBPs) are processes that are crucial to the financial stability and operations of an organisation. This paper focuses on surveying the literature, while presenting a critical synthesis of the findings of previous studies on CBPs. The paper seeks to extensively and critically review the current literature to understand state-of-the-art methods and key research gap for CBP identification. While this paper targets the process of identifying the gap in literature, it helps in finding out what is needed for mitigating it, motivating the future researches in this area, and pushing the boundary between human and machine interaction in key strategic decisions for organisations along with security implications.

Keywords: Critical Business Processes (CBPs), Strategic decisions making, Security

Introduction and Background

Business processes are critical to the operation of any business as they involve determining the overall functionality and pertinent issues, such as the risks that the organisation may be exposed to when undertaking a certain activity [2][20]. Every company is involved in the identification of critical business processes. Chang [8], affirmed that how well these processes were identified and organised determining whether an organisation succeeded or failed. For instance, appropriate advertising process gave a company adequate potential clients and appropriate manufacturing process ensured that the product was of high quality and priced reasonably, which improved customer experience. Through the literature, business processes were considered a set of interconnected organisational tasks that were designed to take inputs and change them into desired outputs [19].

Critical Business processes (CBPs) were considered vital to the stability of the organisations in terms of finance and operations [33]. Therefore, identifying CBPs was key for business continuity of the organisation, while at the same time being an essential step to comply with national and international regulations and standards (e.g., ISO/IEC 27001, NCEMA). Consequently, the aim of identifying CBPs was to achieve the objectives of organisations by aligning businesses processes with organisational objectives, which required continuous enhancement of the CBPs [19]. Nevertheless, more often, identification of CBPs has been proven to be challenging, given that the

majority of business founders/owners did not have a comprehensive understanding of the CBPs.

Current standards only provided high-level guidelines to companies and directly relied on input from independent business units. Anand et al. [3] asserted that, the input is usually subjective. Thus, business units might show various sets of priorities and objectives that had incompatible and incomplete comprehension of their activities and goals of their peers. In addition, Chang [8] affirmed that different business units might show conflicting specifications as a result of unpredicted inter-relation between their activities due to lack of a systematic framework that can be used to tackling these discrepancies within the existing mechanisms, which rendered the final CBP self-contradictory. Therefore, this created an urgent need to devise a framework that can help organisations to identify CBPs and conduct process improvement. The study explored the literature concerning this fact, while finding out that, many previous researchers attempted creating a novel framework for CBP identification appropriate for all business organisations regardless of their size. Surveying the literature review will provide a value for this research, while assisting in specifying the gaps existed.

1- The “Business Process” – Background

A glance on the business process historical evolvement provides rich information on this valuable technique. “Adam Smith” referred to the term “processes” in his famous example of the pin factory, while stating the way by which a pin was made [36]. In the early 1980s, “August-Wilhelm Scheer” founded his company, IDS Scheer, in Germany, with the entry of Phase 3. Later on, he introduced the concept of “Architecture of Integrated Information Systems” (ARIS) in 1991, as a system concept that would allow company data to be connected to information flows, work and control [36]. While simultaneously supervising diverse management viewpoints for the sake of business clarification and also for the better control of circumstances and execution of processes within the organisation. Following the argument of Von Rosing, et al.[36], “John Zachman”, American business and IT consultant, and an Enterprise Architecture pioneer, published his initial structure entitled “*A Structure for the Architecture of Information Systems*”, in a report in the Journal IBM Systems. Such published report has resulted in a continued growth, which is known recently as the Zachman Enterprise Architecture System-Conceptual Development of a System. While has proposed for defining the related standards and finding out the way by which an organisation is built and structured using accountabilities, roles, interrogations, tasks, Power, information and process of gathering information. Von Rosing, et al. [36], referred too to “Taiichi Ohno and Shingeo Shingo” who has developed the “*Just in Time*” since World War II, Toyota's, and “*Pull Process*” principles. Nevertheless, the TPS has experienced industrial growth and has grown substantially since its establishment in the early 1970s while being continuously developed both by business practitioners and academic researchers [36]. In 1990, at the time when Japanese experience was spreading to the West, “James Womack” summarised the TPS concepts to establish Lean Manufacturing, whereas one cannot ignore the success achieved by those companies that adopted such techniques [36]. In 2005, “James P. Womack and Daniel T. Jones” published an article in the Harvard Business Review outlining the latest philosophy known as “Lean Consumption” [36][37]. By the experimental design of the production process, the correct level of task division was specified.

Contrary to the view of “Smith” which was restricted to the same functional domain and included operations in the manufacturing phase in direct sequence, the new phase model incorporated cross-functionality as an essential aspect. The division of labour was generally adopted according to his views, although the incorporation of tasks into a formal or cross-functional framework was not recognised as an alternative solution until very further. The appropriate intensity of the division of tasks was calculated by the supply chain experimental setup. As “Smith” has said that the division of labour was generally introduced according to his ideas but, until much later, the integration of tasks into an organised or cross-functional system was not seen as an option. Figure 1 illustrates the previous mentioned historical evolvement of the processes.

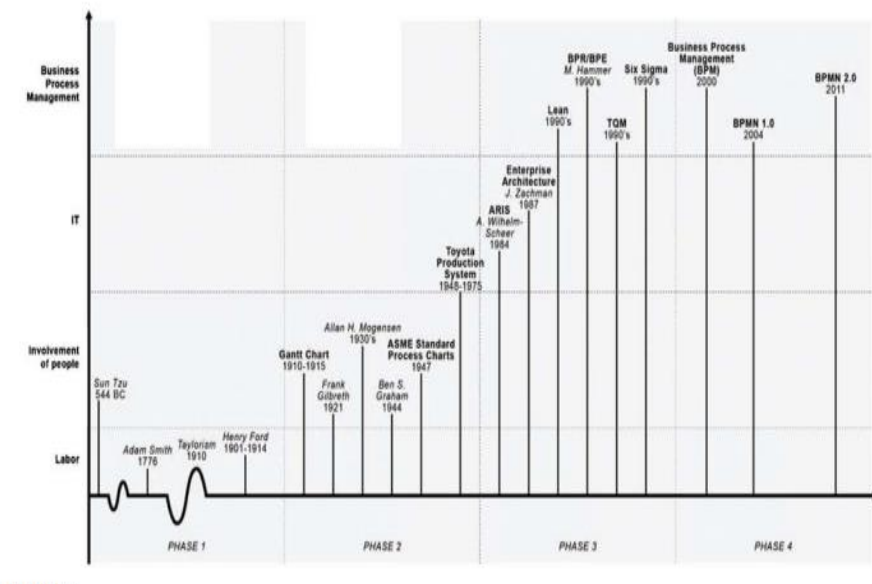


Figure 1- Historical Evaluation of Process

Source: Von Rosing [36]

Indeed, previous researchers have defined the term “business process” differently. Andersson, et al.[4], referred to the historical evolvement of the term, “process” that was derived from the Latin word, “processus” or “processoat”, while indicating to a performed action of something, along with the way by which it was done. Accordingly, the “process” is a series of interlinked activities and tasks that are carried out in response to a given situation that seeks to achieve a particular outcome from a used method. Processes are continuously taking places and are considered as the pillars of all actions, including significant concepts, such as time, space, movement, and these forms adhere to nature.

While referring to the term, “The business process” or “the business operation”, Andersson, et al.[4] denoted it to a set of individuals or related equipment, coordinated activities or even tasks in which a specific sequence for a particular client or customer produced a service or product (served a particular business purpose). One can understand that, the “business procedures” are carried out at all levels of an organisation, considering its obviousness or ambiguousness to the clients. A business process may also be represented (modelled) as a flowchart of a set of operations with interleaving decision points, or as a process matrix of a sequence of action with related laws accumulating data in the process [12]. The advantages of using business processes include increased customer satisfaction and versatility in adapting to the market’s rapid changes. The Process-oriented organisations can decompose institutional departmental barriers and work at eliminating functional silos.

Therefore, a “process” is a series of interrelated processes and actions conducted in the sense of an occurrence to accomplish a common end result for the user of the product. Processes are the basis of all acts concerning principles like time, space and motion and they form and conform to nature itself [36][37]. Understanding the meaning of the term, “process” requires an in-depth clarification of the “business process” itself.

2- Business Process

The word ‘process’ was derived from the Latin word *processus* or *processus*, that gave the meaning of “a performed action of something that is done, and the way it is done” [4]. Therefore, a process is a series of interlinked activities and tasks that are carried out in response to a situation that seeks to achieve a particular outcome for the method used. Processes are continuously taking place and happening all around us, with all that is done during the day. These are the pillars of all actions that include concepts such as time, space, and movement, and these forms and adhere to nature. A business process or business operation is a set of individuals or equipment related, coordinated activities or tasks in which a specific sequence for a particular client or customer produces a service or product (serves a particular business purpose).

Anand et al. [3] defined a business process as a collection of different activities that involved a combination of one or more inputs resulting in an output that was of value to the customer. A slightly generalised definition, according to the authors, is the specific ordering of activities across time and place, having a beginning and end with clear input and output, that collectively generate a valuable output to stakeholders.

Therefore, in literature, a process involved a series of steps aimed at achieving a task, and successful implementation of these steps during crises translated to business continuity [50]. To ensure business continuity, there is a need to undertake proper business continuity planning [9]. Some of the experts [41] posited that, the definitions of business planning were generated from several disciplines, such as risk management and facilities management (also see [29] and [19] for other applications). According to the experts [41], organisations ought to make sure that their CBPs were simple to be taken advantage if a crisis occurred. The authors further suggested that, organisations should establish a systematic process of identifying, managing and monitoring risks in line with the process of continuity of a business. While most of the studies advocated for this systematic process, the main problem that most business owners face recently, is the challenges in the identification of such risks in a business process. As Gates [11]

noted, the ability to identify critical business processes would allow the organisation to operate as efficiently as possible and to be fully aligned to its strategic goals.

3- Properties of Business Processes

Paying attention to the properties of business processes is an essential aspect of organisational process management. As long as there is a possibility of displaying an asset at the business model level of the process, all process instances based on the business process model must have this property revealed. Although structural process dependence is essential, dependence is the key that should be taken with data generated during business processes. Data dependency between activities is studied in business process models. Attention lies at the structural properties of process models; Properties are neither unique to application nor exclusive to a domain. In definition, the condition is close to that of database theory standardisation. With accordance to the explanation of an author [24], when all tables are found in, for example, a relational database schema is in third normal form. Then any irregularities will no longer occur during database runtime submissions. In the sense of Petri nets, the structural properties of the business processes were studied. The initial soundness criterion implemented in the sense of workflow networks was based on structural soundness. Although soundness is an essential criterion for particular situations it appears to be too solid. It has developed lazy soundness by providing sophisticated monitoring of flux structures for business process patterns, like that of the discriminator patterns [24].

Classification of business processes is vital for the development of effective business process frameworks [1][24]. Some of the previous researchers [35] encouraged a meaningful way of classifying the business process is by identifying and defining business processes ranging from core to management processes.

The current study emphasises on the identification of the core or critical processes, which are an end-to-end and cross-functional process that delivers value directly. As mentioned, critical business processes are the primary process representing essential activities performed by an organisation to attain its short-and long-term objectives. According to Rahimi, et al. [25], the business processes make up the value chain, which is a set of a high level of critical processes which are interconnected that adds to the product and service. The value chain ensures the creation and delivery of quality products and services that ultimately deliver values to consumers.

Similarly, a research conducted by some authors [34] shows that critical processes can exist within organisational functions but typically move across different functions and departments, and even across and between different organisations. In their study, Cici and D'Isanto [10] found that the number of critical processes in a company, irrespective of its size, range from 4-8; most of these processes are involved in the development and creation of products and services, the promotion and delivery to customers, and consumer feedback. Overall, critical processes are critical to the value chain and work flawlessly together to attain real customer value. Figure 2 shows the level of business processes;

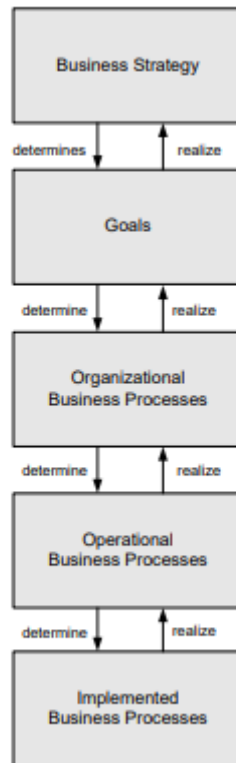


Figure 2 Level of Business Process

Source: Weske [39]

Research shows that the capacity of an organisation to recognise, identify, and control its critical processes falls under the strategic capability for that particular organisation [39]. It is appeared that, critical processes are of strategic significance, as they have a great impact in different organisations and play a vital role in their success. It is noteworthy that if critical processes are performed good, world-class service delivery can be provided; however, if they are inefficient or not managed well, they could pose a major strategic weakness. Maniora [18] states that critical processes are functional and facilitate distribution by offering the outcomes and value in the form of goods, services or knowledge directly to customers. The recognition and comprehension of important business processes is thus a key starting point for a positive approach to business process management [38].

Four core business management functions represent the business cycle phases. These are: Development, Marketing, Production and Administration (Management) this simple distinction is also rather informative, as these specific duties cover all types of corporations and all aspects of business units. The development involves product and business creation, as well as that of the company and its employees. Development requires responding to the needs of all business activities and is necessary. Marketing states that the task is market formation. The company cannot exist without the demand

from customers who need structures. The selling also requires the word, marketing. Production is the entire process of manufacturing products and fulfilment services that customers need and in the last Administration (management) includes all behaviour needed to monitor the resources. The definition includes all essential functions of management support to the operation in a business unit [5].

All the organisation's activities will strive to maximise the business processes. For a company with a diverse range of goods and services, it is likely that extras that do not fall within your core business can drain resources without adding value to customers. Helping tasks that made some sense could have missed their importance in older organisations at the time. For example, one may have adopted compliance requirements to collect data some years ago. He used the info, that does not need it, but his staff still faithfully produces the reports. If any feature does not bring value to the business process or require it, consider flowering it away. That is one of the reasons why mapping the core business processes are so critical.

Most of the major companies consider outsourcing services to companies whose primary activity is support functions. Most of them are considering cost-savings possibilities in this way. In the end, turning to process-oriented performance improvement management, there will be a need for a baseline. The best initiative for analysing the business process architecture is with the main functions. After all, they are the tasks which depend on everything else in the company. Business process integration involves the incorporation of both structure and actions of affected data objects. Research in federated information technology has so far primarily addressed the integration of object model or presumed the identification of the lower-level operations to be carried out if they concentrate on the representation of activities. Based on earlier work showing how to use a key distinction between possible memantine communication to improve the classification process, this examines business processes from the perspective of a prospective integration method or designer and also provides a description of various types of similarities between activities in the process [1][24].

From this definition, one can establish a collection of options for business process integration and, moving to a more comprehensive stage, present the set of options available based on different forms of interaction between the activities of the processes to be incorporated [21].

Given that, the models of business processes [6] can be defined via many methods. They include BPMN model OMG [7] and the Trend Initiative [28], among others. Börger [6] experiments have demonstrated that the methods do not have the appropriate means to catch situations for businesses beneficial to evaluate, control and communicate the resulting models[6]. However, for different purposes there is still little agreement about how to better characterise market processes. Both businesses are subject to threats regardless of scale [14]. Therefore, it is important to define key business processes for business continuity. The information system (IS) is utilised by companies to boost their key operations' productivity and quality [15]. The combined initiative of information systems, their job processes, their staff, and deployment methodologies will achieve total productivity and performance. In this segment organisations are observed to be sensitive to threats regardless of size; hence it is important to recognise core business processes that promote an organisation's continuity and sustainability. Hence, figuring out the differences in business processes across domains has many advantages.

4- Business Process Modelling

Previously, a great deal of focus has been given to the terms "company operations" and "workflow control." These are used for the development of specific office or manufacturing operations. As people rely on process analyses and templates, "workflow administration" is used because people often advocate the implementation of previously evaluated systems by computer technologies [40]. The term "market system modelling" is utilised in general.

A modern and streamlined solution is introduced in this study to the topic of process management. To date, current frameworks either concentrated on one aspect of workflow management (modelling or implementing) either or several different vocabulary constructs have been implemented for business process modelling. This allows the incorporation and application of modelling workflow definitions of "legacy" enterprise processes into a Workflow Management Model in a collaborative environment. This innovative method is a crucial factor in the efficient usage of process control systems. The framework for the definition of the SAP R13 method was used again in the EPC business process modelling vocabulary. There is also a lot of awareness and explanations of business processes in this organisation.

Business process modelling is used when people focus on process design and development, whereas "workflow administration" is commonly used when people often seek by information technology to facilitate the execution of the previously studied processes. A novel and streamlined approach to the process management problem is suggested in this paper. To date, current frameworks have either focused solely on one aspect of workflow management (modelling or execution) or implemented several new vocabulary constructs for business process modelling. This new method allows reusing of an existing language for business process modelling. It blends it with the validation and verification of the modelled processes and the efficient execution of those processes on database-centric systems.

The value chains have a high-level framework of the tasks the company carries out. To offer a more detailed view of this, these business functions at the top are broken down into smaller functions granularity and, essentially, efficient market processing operations. The technique of choice is practical decomposition. Business processes consist of a number of associated operations whose structured execution leads to the realisation of a corporate intent in a technical and organisational context, which can define the business processes by business process templates. Because this section focuses on the arrangement of tasks to be done, disregarding business processes' technological and organisational climate, the term "process model" is used. A notation is required to describe the process models and provide notational elements for the conceptual elements of process met models. For example, if the process met model has a concept called the activity model then a notational element for expressing the activity models is needed.

Coordination is an essential feature of a business process management program of work among the company staff. To accomplish this program information must be given about the organisational structures under which conduct the company method. The met model stage, as in process modelling and data modelling provides how models can be represented, in this case, organisation. At this point, the definitions are places,

responsibilities, teams, and relationships supervisor's roles. There are a few systematic examples in organisational modelling rules on how to express organisational structures, and notes to be presented [39].

The space for modelling business processes is organised conceptual models used. Although the terms given have the concepts behind those terms and their relationships used informally in previous chapters, conceptual models will now be discussed in greater detail. These models are presented in the "Unified Modelling Language", which is object-oriented modelling and design language. Business processes are operations the organised execution of which takes place some aim for the company. Those can be device processes, user contact activities, or physical labour. Neither is manual operations assisted. Intelligence networks an example of a manual activity is sending a parcel to a business partner. Activities of user interaction go one step further; these are activities in which awareness workers are doing the work, using information systems. Physical exercise isn't necessarily contributing. An example of human communication behaviour is the input of data about an insurance argument in the sense of a call centre. Since humans use data systems for conducting these activities includes applications with acceptable user interfaces to allow successful work. Such applications must be linked to back-end applications that store the information input and make it available for future use. Many tasks that are carried out during the establishment of a business process are manual, but state changes are reached by user engagement practices in the business process management system. For example, there is an information system that can monitor the delivery of a parcel. Usually, the receiver accepts the actual delivery of a package. The actual delivery is important logistical information business processes that need information systems to reflect properly. A logistics process requires many types of activities. Those happenings are also used as monitoring information for the customer. Computer operations do not require a human user; information systems do them. An example of device operation is to collect stock details from a stockbroker application or to check a bank's balance account. The specific parameters needed for the invocation are presumed ready. If a human user makes this information accessible, then contact is user activity. Both kinds of activities include access to the software systems concerned [39]. This will lead to classifying the business process is critical.

5- Classification of Business Process

Classification of business processes is vital for the development of effective business process frameworks. Many researchers [35] encouraged a meaningful way of classifying business process by identifying and defining business processes ranging from core to management processes. The current study emphasises on the identification of the core or critical processes, which are an end-to-end and cross-functional process that delivers value directly. As mentioned, critical business processes are the primary process representing essential activities performed by an organisation to attain its short- and long-term objectives. According to Rahimi et al. [25], the business processes made up the value chain, which was a set of high level interconnected critical processes that added to the product and service. The value chain ensures the creation and delivery of quality products and services that ultimately deliver values to consumers. Similarly, research by Varbanov et al. [34] showed that critical processes could exist within organisational functions but typically moved across different functions and departments, and even across and between different organisations. In their study, Cici

and D'Isanto [10] found that, the number of critical processes in a company, irrespective of its size, ranged from 4-8; most of these processes were involved in the development and creation of products and services, the promotion and delivery to customers, and consumer feedback. Overall, critical processes are critical to the value chain and work flawlessly together to attain real customer value.

Research showed that, the capacity of an organisation to recognise, identify, and control its critical processes fell under the strategic capability for that particular organisation as they had a major impact in different organisations and were vital to their success. It is noteworthy that if critical processes are performed well, world-class service delivery can be provided; however, if they are inefficient or not managed well, they could pose a major strategic weakness. Maniora [18] stated that, critical processes were operational and enabled delivery by directly providing the outputs and value to clients in the form of products, services, or information. Therefore, the identification and understanding of critical business processes is a vital starting point for a successful business process management approach [38].

While surveying the literature, the researcher found out that, several approaches were used to describe models of business processes [6]. They included the OMG standard BPMN [7], and Workflow Pattern Initiative among others [28]. A study by Börger [6] affirmed that the approaches did not provide practitioners with the best ways of capturing business scenarios that were useful in analysing, managing and communicating the resulting models [6]. Instead, the lack of consensus regarding how to best describe the business processes for various reasons remains to be the case. All businesses, irrespective of their sizes, were subject to risks [14]. Thus, identifying core business processes is essential in facilitating business continuity while considering Information System (IS) as what is utilised by organisations to improve the efficiency and effectiveness of their core activities [15]. Overall, effectiveness and efficiency can be achieved through the integrated effort of information systems, its work systems, its employees, and implementation methodologies.

Many of the previous researchers stated that, Design Science Research (DSR) was a research methodology for information systems that offered guidelines for evaluation and iteration in research projects [13]. Such design-science paradigm had been utilised in areas, such as engineering [31], digital forensics [20] and Information Systems (IS). The application of DSR to information systems was attributed to Hevner [13], "by engaging the complementary research cycle between design-science and behavioural-science to address fundamental problems faced in the productive application of information technology". The behavioural-science, which was also called kernel theories, involved the design and verification of theories that explained human, organisation dynamics, or theories from other fields [13]. The design-science, also called design theory, extended organisation and human capabilities by creating novel artefacts [13].

There were different DSR approaches, though Peffers, et al. [22] restructured prior research in DSR into six activities and established a concrete guideline for researchers in this field. These activities included "problem identification and motivation, the definition of the objectives for a solution, design and development, demonstration, evaluation, and communication." (See Figure 3 for a pictorial illustration)

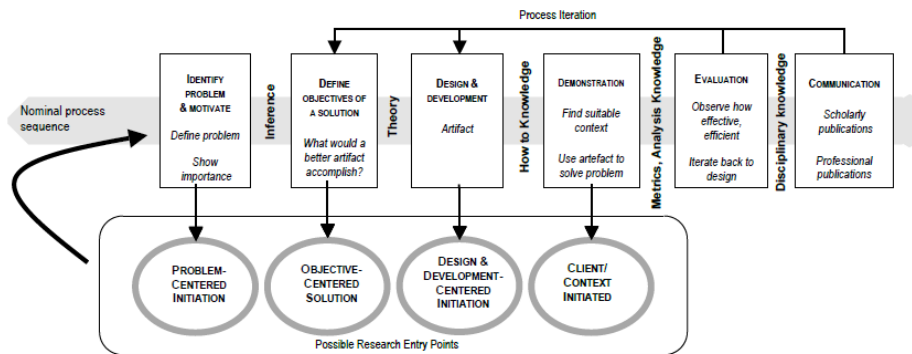


Figure 3- DSR following Peffers [22]' activities
<https://www.mdpi.com/2227-7102/10/8/199>

6- Conflicts Between Critical Business Processes (CBPs)

No doubt that, conflicts are unavoidable in organisations, but when there are conflicts between the critical business processes, the process of ending such conflict will vary. Some authoris [23] argued that, conflicts between CBPs could range from small to major encounters that might be highly visible and perhaps led to business destruction; therefore, organisations should find out swift, effective, and low-cost methods of resolving them. Conflicts between CBPs cause major inconveniences to all stakeholders, including customers, employees, and investors, whereas organisations must be proactive in developing ways of reducing or managing them, while finding out innovative ways to address potential conflicts before even they occur [32] [27] [16].

Allowing conflicts between business processes to fester and leaving them unresolved could be detrimental, as the conflicts could lead to significant damage as a result of highly problematic litigious situations. Therefore, the desire for conflict resolution between CBPs creates the foundation for attaining a good understanding of all CBPs [23] [26] [17] [30].

However, confrontation involves minimising, removing, or resolving certain types of dispute and all kinds of confrontation. Thomas and Kilmann [32] defined five models for dispute management; fight, negotiate, collaborate, avoid, and satisfy. Conflicts resulting from concurrent workflow processes should be carefully addressed when describing simultaneous workflow processes. By analysing the conflicts that are immanent in the concurrent workflow definition before runtime, business process designers and many other workflow management system owners would find it very helpful. Businesses should take advantage of acceptable dispute styles and rates, considering that, it is the purpose of dispute mediation and not the goal of dispute settlement. This while considering the fact that, business processes have been developed in recent years with increased protection and considering compliance issues. For example, recognising process-related security properties is critical because a conflict of interest may emerge from the simultaneous assigning of decision-making and control tasks to the same subject area [16] [23] [26].

In this context, process-related access control systems are typically used to establish constraints on authorisation, such as duty separation (SOD) and duty binding (BOD), to decide the subject is authorised (or obliged) to perform a specific function. SOD restrictions impose conflict of interest policies in a workflow system by specifying that two or more activities have to be carried out by separate persons. Conflict of interest results from the reciprocal distribution of two mutually exclusive entities to the same subject (e.g. permits or tasks) [17] [30].

Accordingly, tasks may be described as dynamically mutually exclusive (on the level of process type or dynamically reciprocal exclusive (on the instance level of the process). A static, then the restriction of mutual exclusion (SME) for all process instances can be seen universal in the Info System. Two roles for SMEs can therefore never be delegated to the same topic or position and two functionally mutually exclusive tasks that be delegated to the same subject. Still, they must not be carried out in the same method instance by the same subject [30].

While paying consideration to the theme that, process management system adaptability (PMS) is essential to agile enterprise intelligence networks, generally the changes in process-oriented applications may occur at two levels; the process form or the level of the process case. A type of process reflects a specific business activity (e.g., managing a patient's purchase order or treatment). At the same time, a System Schema explains it which determines the activity gathering and sets the control and the data flow between them [27]. Accordingly, new process instances should be created and executed based on such process schema with a focus on the given process logic. For example, changes to the process type are necessary to adapt the process-oriented information system to changed business operations or new legislation. They are handled by (structural) modification of the respective process scheme which leads to the respective form of news schema version. The propagation of a process type change to process instances already running is also needed particularly for long-running processes. Function instances for which this is possible to support the new schema and can therefore be moved to it [27].

On the other hand, concomitance to the workflow process is recognised as one of the major sources that trigger such an incorrect representation of the process. Therefore, conflicts generated by simultaneous workflow processes should be treated carefully when defining simultaneous workflow processes [17] [30].

Researchers suggest a set-based constraint method to evaluate potential read-write conflicts and write-write conflicts between activities that read and write to the shared variables. The system consists of two phases. Within the first step, a formal workflow description creates set constraints. The minimum solution of the set constraints is found in the second phase [17]. However, in some cases, conflicts may arise between business processes and critical business processes either due to resource requirements or dependency conflicts. In such cases, organisations have to identify which processes to keep, delay, and stop.

Once again and as it was mentioned in this paper; the critical business processes are those directly affecting an organisation's ability to protect its assets, meet its critical needs, and satisfy mandatory regulations and requirements and must be restored immediately after disruption to maintain business continuity. Therefore, by using the process classification frameworks discussed in this paper, an organisation's assessment team can identify critical processes, their dependencies, and outcomes in

addition to the conflicting business processes, considering that, the CBP has priority at all times with the execution of the conflicting BP depending on the availability of resources and the expected impact on the organisation for non-execution [1][24].

Since non-technical businesspeople began using IT, there has been a conflict between The Organisations and the businesses they are charged with helping. The IT Company is a profoundly complicated area that requires both different skills to produce and sustain. The Company's vocabulary is fundamentally different from the market vocabulary. IT talks about servers, equipment, licensing software, infrastructure, technology, and power. The Company uses terms such as forecasts, margins, and time-to-market, transparency for costs, end-user experience, flexibility, compliance, benefit, monitoring, and agility [16][30].

Owing to these competing considerations, the company frequently fails to understand the significance of a seemingly straightforward request. These requests may include the priority of having extra fund, stating the project's costs, the availability of human resources, further explanation of the project's details, resisting an innovation or validity of new software, and other conflicted requests and aims. This may consequently, end up with a terrible view of each other [16] [23] [26] [17] [30].

Typically, organisations resolve such conflicts by continuing execution of the critical business process while the business process can be delayed or performed concurrently with another activity. This allows companies to fulfil their core objectives and maintain regulatory compliance while deferring non-critical processes to appropriate times. The organisation will measure the impact of disturbances and place them in readiness stages to help identify the organisational continuity and disaster recovery criteria. Focusing on clear and accurate essential business processes has the potential to dramatically reduce operational costs and promote a disruptive product and marketing technologies that can make a massive impact in the industry [16] [23] [26] [17][30].

However, where a business process conflicts against another non-critical process, then the one with the highest number of dependencies takes precedence as non-execution would create issues in multiple parts of the system [26]. The organisations which are facing such conflicts should perform a comprehensive analysis of their processes to identify critical business processes, their dependencies, and outcomes to help inappropriate resource allocation policies. Not only did the business obligate to identify the critical business functions but it also developed possible responses that aligned with the level of risk significance [26]. The business processes could then be rescheduled appropriately to minimise duplication of effort and other resource usage inefficiencies.

Workflows coexistence is regarded as one of the most relevant examples of this incorrect description of the workflow method. The contradictions created by parallel workflow processes will also be closely addressed in describing concomitant workflow processes. But whether a workflow process is non-conflict or not, without experimental execution, is very difficult to determine; it would be a very tedious and time-consuming task for process designers [32] [27] [16]. When identifying contradictions in the concomitant workflow concept prior to runtime, then business process managers and several other workflow management systems consumers will find it extremely beneficial.

7- Contribution to Knowledge

While surveying the literature, the matter was clear that, the development of a novel framework for identification of critical business process is crucial to improving decision-making processes, which can enhance the sustainability of businesses. Thus, while finding out the gap in the literature concerning the absence of a framework, the structure and procedure and organisational and control system should be designed in line with the objectives to improve transparency and accountability in decision-making processes involving the identification of critical business processes. The framework must be tested and implemented with the highest quality and management teams must be thoroughly trained to handle and utilise the framework to reap maximum benefits as much as possible. Any imperfect testing and implementation could have detrimental effects on the overall organisations.

With the findings of this study, organisations that are interested in improving their performance and sustainability can utilise the framework to help them in identifying critical business processes. The major contribution of this study is to establish a novel framework that can be used to identify critical business processes in any business organisations regardless of their sizes. The framework can be utilised in obtaining conflict-free CBPs for any business organisation that is willing to improve their business processes, as the framework provides clear guidelines for the implementation of business continuity. Overall, the application of the framework can make a huge difference in improving business decisions and achieving sustainability goals.

Also, the study findings would be crucial in uncovering problems faced by business owners that identify critical business processes. The implication of this is that engaging in the activity, business organisations will be well informed of the problems that lie ahead. This is vital in establishing a way of managing any challenge that might adversely affect the CBPs identification process. In addition, the findings will inform policymakers of areas to concentrate on how to improve current techniques used to identify business processes.

Furthermore, this research has a high potential to address the challenges encountered by business organisations and management teams while identifying critical business processes. Identification of these processes is crucial in assisting organisations in understanding potential risks that can affect business continuity. Policymakers can use this information to make amendments on the current tools.

8- Conclusion and Further work

The framework will be utilised in obtaining conflict-free CBPs for XXX, as a case study, as well as any organisation regardless of their sizes willing to improve their business processes. This will assist professionals in development for business continuity (which is also a necessary step for certification, e.g., ISO/IEC 22301, 27001) with much less time and effort. In addition to that, the results will push forward the frontier in Information System research in optimising CBP identification. The framework will provide a clear guideline to the responsible managers for implementing business continuity (which is entirely dependent on CBP identification), without

seeking external support. Nevertheless, it will provide a mechanism for conflict resolution in CBP, reported by different business units, with minimum effort.

The development of a novel framework for identification of CBPs is vital to improving decision-making processes, which can enhance the sustainability of businesses. With the findings of this study, organisations that are interested in improving their performance and sustainability can utilise the framework to help them to determine their core competencies that require improvement to run the critical business functions. The organisation will be aware of their risks ahead as they identified CBPs which are within these process, which can be mitigated proactively and efficiently. Besides, the findings will support the governance policymakers to enhance and expand the scope of their policy by enforcing the new framework of CBPs identification techniques to all business units. A further work for this research is an investigation into automatic CBP identification using probabilistic techniques, and development of a functional automatic tool which could reliably identify CBPs with a reasonable computational time.

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