# Ensuring Sustainability during a Crisis Using Flexible Methodologies

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The COVID-19 pandemic forced national governments and administrations to seek flexible solutions to deal with the emergency. Thus, it is necessary to design a model of a flexible methodology based on detailed flexible methodologies to make decisions and measures connected to COVID-19 pandemic to be effectively applied without the loss of meaning and within a short time. As a result, an expandable set of relevant methodologies for crisis management and flexible methodologies was identified, modeled, and formalized using a broad literature review and an innovative model of a flexible methodology for crisis management was created in accordance with standardized concepts, transforming them into secondary use models.

Keywords: crisis management ; flexible methodology ; COVID-19 pandemic

# 1. Introduction

Nowadays, crisis management is a key topic in research in different fields of sciences focused on pro-active suggestions to overcome the negative consequences on the economy, political environment, social environment, etc. In terms of economics and finance, the impact of the COVID-19 pandemic in Bulgaria on the labor market, economic activity, poverty, and inequality is growing steadily and is putting pressure on the government. What is happening can be defined as a constant search for a balance between the need to "restart" the national economy—to avoid social unrest and bankruptcies—and to prevent a consequent wave of the pandemic. This is a critical moment, because the danger of a slowdown in growth is the possibility of translating the economic crisis into the financial system.

The theoretical basis for crisis management, as part of the science of economics and management, has not yet found an integrative approach and has not developed and implemented a methodology to support the management of emergencies in societies (including those aimed at the so called "triangle of knowledge": science–business–society). The COVID-19 pandemic is an issue which causes novel problems and the existing solutions have proven to be insufficient. The countries are still struggling, and the indiscriminate change of government approaches is evidence that there is a niche to create new approaches or upgrade the existing ones.

# 2. Main Features of the Flexible Methodologies

Many authors focus their attention on the optimization of different processes and methods to minimize the negative consequences of the COVID-19 pandemic. The study of Pedrera-Jiménez et al. <sup>[1]</sup> sought to design and implement a flexible methodology based on detailed clinical models, which would enable electronic health records generated in a tertiary hospital to be effectively reused without loss of meaning and within a short time. Their methodology allowed the obtaining of the observation domain of the model with a coverage of over 85% of patients in most concepts. The authors furnished a solution to the difficulty of rapidly and efficiently obtaining electronic health records derived data for secondary use in COVID-19, capable of adapting to changes in data specifications and applicable to other organizations and other health conditions.

White and Marsh <sup>[2]</sup> focus on content analysis as a highly flexible research method that has been widely used in library and information studies (LIS) with varying research goals and objectives. It can be applied to many problems in information studies, either as a method by itself or in conjunction with other methods.

The research of Glas et al. <sup>[3]</sup> develop a flexible low-cost methodology for mapping flood hazard, vulnerability, and risk. A generic methodology was developed and customized for freely available data with global coverage, enabling risk assessment worldwide. It allows policy makers in developing countries to perform reliable flood risk assessments and generate the necessary maps.

## 2.1. Design Thinking

Design thinking is one of the nonlinear methods that can be used to deal with difficult problems that are undefined or unknown to understand the human needs involved, reformulating the problem, creating ideas through brainstorming, and by taking a practical approach to prototyping and testing <sup>[<u>4</u>]</sup>. Design thinking is an innovative thinking with orientation towards a radical innovation. It is based on the interdisciplinary principle <sup>[<u>5</u>]</sup>.

Its origin dates to 1919, according to researchers, when the German architect Walter Gropius founded the School of Crafts, Design, Art, and Architecture. He began to use many elements that are part of the design thinking such as teamwork, removing hierarchies in the innovation process and reversing the design approach to user needs. After that, in the 1960s, collaboration in creative processes between designers, engineers and representatives of other disciplines became difficult, as there was often a difference in education and thus contradictory approaches to problem solving <sup>[6]</sup> and it became necessary to create a flexible methodology that eliminates these differences and systematizes the different ways of thinking.

### 2.2. User Centricity and User Innovation

The concepts of user centricity and user innovation are tightly connected. To gain innovations from the users the organization must first adopt a user centric approach and then provide an environment for the users to innovate. Thus, first it is necessary to discuss the very idea of user centricity and its implementation in the administration as an approach and after that to extrapolate the user-innovation concept into the flexible methodology for emergency situations management.

The involvement of the users in creating or enhancing some product or service is related to innovation. The user usercentric innovation concept became popular in the 1970s and nowadays it is very up to date topic. It means that the end consumer participates in the process of creation of an innovation and such approach proves to be an engine for improving the products or services <sup>[Z]</sup>.

However, it seems that the user centricity approach require focus, dedication, even a strategy so that the consumer is "at the heart of any development process". To achieve the latter the organizations, need to identify the "relevant people", to ask them the right questions and then to meet their expectations by taking the needed steps <sup>[B]</sup>.

### 2.3. Agile

Compared to traditional management approaches, Agile offers several key benefits to meet modern needs and a dynamic environment. On the one hand, it increases team productivity and employee satisfaction, reduces continuous repetitive planning and routine meetings, excessive documentation, reduces defects in product quality and characteristics. By improving accountability and continuously adapting to changing customer priorities, agile improves customer engagement and satisfaction, bringing desired products and features to market faster and more predictably while reducing risk. By involving individuals, specialists in many scientific fields as members of the team, the organizational experience is expanded and mutual trust and respect between the participants is built. Finally, by dramatically reducing the time wasted on micro-management of functional projects, it allows senior managers to concentrate on working with higher value and importance to the company <sup>[9]</sup>. The importance of using agile methodologies is to achieve higher quality software in a shorter period, based on self-organizing teams, cooperation with customers, less documentation and reduced time to market <sup>[10]</sup>.

## 2.4. Lean Start-Up

The lean startup is a new approach being adopted across the globe, changing the way companies are built and new products are launched. It fosters companies that are both more capital efficient and that leverage human creativity more effectively. Lean focuses on people and teamwork at every level, in contrast to traditional management practices. In the late twentieth century, Peter Drucker <sup>[11]</sup> called for managers to act like scientists, and systematically and dispassionately investigate empirical evidence to detect threats and identify opportunities for new products and services. Blank and Dorf <sup>[12]</sup> state that the lean startup approach involves turning the underlying assumptions upon which a business model is built into hypotheses that can be tested through the careful use of experiments. The promise of experimentation as an approach is that business model development can proceed faster, with higher certainty and lower resource requirements.

## 2.5. Scrum

The increased competitiveness in the business environment and market globalization during the last decades, spur the invention and adoption of agile frameworks for more efficient product development. One of the most popular methodologies that is part of the agile approach is scrum [13]. The scrum emerged as a framework for new product development. It originates from a comprehensive study <sup>[14]</sup> in multinational companies from United States and Japan. The authors emphasize that there is arising need for speed and flexibility in the process of a new product development. Prior to the development of scrum, Takeuchi and Nonaka [14] conducted many interviews with employees and managers and found out that the leading companies had six characteristics in managing their new product development processes: builtin instability, self-organizing projects teams, overlapping development phases, multi-learning, subtle control, organizations transfer of learning.

# 3. Flexible Methodology: Innovative Model Creation

When formulating solutions and testing hypotheses about the affected areas of social life by COVID-19, design thinking could be applied with a certain budget. It should be noted that this is a methodology for collecting opposing hypotheses from all fields of science and would therefore, be a successful approach. This methodology is very suitable to be applied in emergency situations such as pandemics, because the latter are uncommon challenge and require non-traditional solutions. It is believed that the first reaction needs to be design thinking as it allows free, creative, and intuitive thinking and it must be implemented in the very first days of the crises. Furthermore, such situations require teams consisting of experts from different areas and this is one of the solutions in the context of the situation. Regarding the pandemic, not only experts should participate but representatives of society and business. Such an approach can assure the basis of the design thinking, namely the empathy. Thus, the solutions will not be distant and bureaucratic but regarding the real problems of the stakeholders.

The user innovation approach can be implemented as a part of a flexible methodology for emergency situations management for several reasons. First, the emergency situations very often require non-traditional solutions. Different social groups face different challenges and sometimes the governments do not even have an idea what are the real problems. The COVID-19 crisis has increased the use of ICTs. Instead of trying to guess how to help people in a case of emergency, the authorities can build in advance an online platform for sharing problems and offering solution by the civil society.



Based on the examined methodologies, the suggested flexible methodology is presented in Figure 1.

User Centricity/User Innovation

Figure 1. Flexible methodology for emergency situations.

# 4. Conclusions

The COVID-19 emergency has put countries' governments in a brand-new situation. Some of them have succeeded in finding solutions and have kept the pandemic under control. This saved lives and protected the healthcare system and economy. Others did not manage to deal very well with the crises. The causes for success and failures can be different, but the COVID-19 pandemic demonstrated that governments must be ready for flexible solutions and that is why turning to some flexible methodologies.

The emergencies, especially when they are new, do not need a ready solution burdened with formalities. This may cause more problems and more challenges for the system. It is believed that the suggested model can be very useful because it considers the problems of different social groups, develops an environment for creative solutions, and provides opportunities for these solutions to be constantly upgraded. The empathy in the model is the prevention of distrust in the government, which seems to be one of the most significant problems in the pandemic.

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