



# The Role of the Strategy Map in Managing a Strategic Medical Entity During the Covid 19 Pandemic

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## ABSTRACT

Healthcare facilities that want to effectively manage the existing resources, as well as better and more efficiently respond to changes in the environment, looking for new management methods. Especially in times of limited resources of medical staff during the fight against the COVID 19 pandemic. Taking into account the above factors, managing a medical entity will require managers to be interested in the strategy map. The strategy map was analyzed and its role in the strategic management of a medical entity was shown. National and foreign literature and legislation were used for the analysis.

**KEYWORDS:** Strategy maps; Hospital; Management; Change management

## INTRODUCTION

As a result of the COVID 19 pandemic, the healthcare system has become an entity that requires special management skills. Healthcare entities, wanting to manage the existing resources more effectively, and to respond better and more efficiently to changes taking place in the environment, are looking for new management methods. Taking the above factors into account, managing a modern healthcare facility requires managers to be interested in the strategy map. The aim of the article is to present a map of the strategy and its role in the strategic management of a healthcare facility, in particular during the COVID 19 pandemic. The analysis was made with the use of domestic and foreign literature and legal acts.

Conclusions formulated in the study may be helpful in the management of health care organizations.

### Characteristics of Strategic Management in Health Care Institutions

Strategic management has been of interest to managers of health care facilities for many years. Unfortunately, in Poland, the procedure of creating an organizational strategy, forced on many hospitals by the legal system, turned out to be impossible to implement in many cases; managers did not implement strategic control. Therefore, it is necessary

to consider what actions should be taken in order for the strategic management of a medical facility to bring the expected results.

The principles of building a strategy in relation to health care facilities can be limited to several conditions [1]:

- the healthcare facility must have a well-organized internal information system,
- the health care facility must as precisely define its future position, using all available sources of knowledge and possibilities to influence the environment,
- the healthcare facility must define the internal conditions for the implementation of the strategy, i.e., the resources it will have at its disposal,
- the healthcare facility must make the best choice from several policy options developed jointly by management, regulatory authorities and workers. In order to select variants, it is necessary to distinguish several critical determinants significantly affecting the future of the hospital,
- a healthcare facility must develop a strategic plan, i.e., a path to reach the proposed solutions, using available resources,

- health care facility managers must obtain the support of the staff for the implemented strategy,
- health care facility managers should ensure ongoing supervision and control of progress in the implementation of the strategy at every stage of the strategy implementation and later at the stage of its implementation.

These activities guarantee not only the development of a good strategy, but also a stable future and lower risk associated with changes in the environment [2]. The difficulties in developing and implementing strategies in healthcare facilities are obvious. Among the many difficulties encountered in health care institutions at the stage of strategy formulation, [3]:

- difficulties in determining which of the services provided by a health care institution are the most important,
- no common organizational goals for doctors, nurses and administrative staff,
- lack of coordination and proper cooperation between the staff of the health care facility and the doctor and medical workers caring for the patient before and after hospitalization,
- a threat to the functioning of the organization on the local medical services market,
- imbalance between the quality of medical care, patient satisfaction, employee satisfaction and research and financial goals,
- the problem of internal communication and communication with the highest management in the area of strategic goals,
- problems with meeting legal requirements in the field of environmental protection,
- increased employee dissatisfaction.

To counterbalance the above problems, you need to develop a mission and then think about how to translate the defined goals into actions.

### Strategy Map – Concept

One of the ways to translate the strategy into operational activities is the strategic scorecard proposed by R.S Kaplan and D.P. Norton. The Balanced Scorecard as a management concept was developed in the 1990s from research initiated by Robert S. Kaplan of Harvard Business School and David P. Norton, founder and president of Renaissance Solution Inc., on measuring organizational performance [4-6]. The strategic scorecard gives management a universal tool for



Figure 1: Strategy oriented management

translating the vision and strategy of the organization into a set of logically related performance measures [17]. The strategic scorecard presents the strategy, i.e., the way in which the healthcare unit will fulfill its mission in the form of the so-called strategy maps.

The strategy map is the first step in building a strategic scorecard. According to R. Kaplan and D. Norton, the strategy map is intended to present the process of transformation of intangible assets into tangible financial effects. Thanks to this, it is the basis for strategy management [18]. Kaplan and Norton also believe that the strategy map is a generalized architectural structure describing strategy. It is used to analyze the consistency of a strategy and understand it. They make it possible to capture in a logical manner the structure of connections between particular strategic elements [19].

Building a map of a healthcare institution's strategy shows the role of tangible and intangible factors, which allows them to be properly selected for the strategy being implemented, and thus increases their effectiveness. This makes it possible to identify, on the one hand, redundant assets that need to be liquidated, and, on the other hand, missing assets and skills that must be replenished. health care facility [15]. Creating a strategy map is based on five principles [23]:

- the strategy balances the opposing forces. Investing in intangible assets in the long term is opposed to cutting

costs in the short term;

- the strategy is based on a differentiated value proposition for the client.

This means that the value offered is to correspond strictly to the need's consumers, and this in turn is associated with a good recognition of their needs; value is created in internal business processes. Results in the financial and client's perspective, they are a consequence of actions taken within the framework of the processes:

- the strategy is made up of parallel, complementary themes;
- strategic fit determines the value of intangible resources.

The strategy is a plan to achieve the long-term goals of the organization. It implies a transition from the present situation to the desired state expressed in the vision. The vision as a goal reflecting the level of aspirations and dreams of the organization's management usually differs from the prognosis of the health care facility's condition if the current course is maintained. As the future is always uncertain, especially during the COVID 19 pandemic, the strategy is a set of hypotheses (i.e., unproven assumptions) about an effective way to move from the current point to the desired state of health care organization in the future [7-10].

In order to use the strategy map as a strategic management tool, it is necessary to create a coherent system of strategic goals, connected with cause-and-effect relations. The prerequisite for using a strategy map as the basis of a Scorecard is an efficient strategic planning system in the organization. As shown in Figure 1, the development of a strategy map should be preceded by the definition of the mission and vision as well as the formulation of the organisation strategy. It is worth noting that in some entities, the implementation of BSC entails the commencement or arrangement of the strategic planning process [26]. The strategy of a healthcare facility is a set of hypotheses concerning the transition from the current state of the facility and achieving the desired state in the future. The strategy map groups these hypotheses into four perspectives and combines them into a coherent whole through the causal relationships between them [26].

If a healthcare facility has the right people, knowledge and technological infrastructure at its disposal, it will be able to successfully implement processes that bring the expected value to patients and the local community. Thus, it will ensure the achievement of financial goals - efficiency and growth - ensuring constant improvement of the

organization's value. The use of a strategy map and strategic scorecard allows you to integrate all activities around health care facility strategy, which may contribute to increasing the effectiveness of its implementation. The strategy map translates into practical actions through actions included in the strategic scorecard [30].

The structure of the strategy map is based on four perspectives: financial, client (patient), internal processes and knowledge and development. The description of the actions to be taken in each perspective is determined by the operational activities that make up the strategic initiatives for each perspective. All perspectives are created on the same principle, i.e., strategic goals and specific goals are defined for each perspective.

- What do we exist for?
- What is our business?
- What do we want to achieve
- What must our position and process system be to achieve?
- assumed vision?
- How to describe the strategy through a set of logically related goals?
- in four perspectives?
- How to translate the strategy map into a system of indicators?

The financial perspective indicates the management of the entity's financial resources and answers the question: "What should the financial results be to meet the expectations of the owners?". However, from the point of view of a healthcare facility, whose main goal is to balance costs with revenues and maintain financial liquidity, it will be more important to answer the questions: "How to stay in the medical services market, how to maintain relative financial liquidity or how to maximize costs?". Because the price of the medical procedure is imposed by the payer, in the financial perspective it should be examined whether the medical procedure is provided at an appropriate cost. Healthcare facilities may have strategic financial goals: increase in revenues, reduce costs, improve efficiency, and improve resource use. These goals should constitute a reference point for the goals and measures formulated under the other perspectives [20].

The patient's perspective answers the question: "How do customers perceive us?" Patients constitute the most important group of clients in the healthcare sector, without

whom the diagnostic and therapeutic process could not take place. The patient is at the heart of a healthcare facility's strategy. In this perspective, it is necessary to define who is a hospital patient, how the hospital intends to compete for it, and what medical services are most expected and desired from the patients' point of view [21]. In this perspective, typical goals are: customer satisfaction, increasing their loyalty, loyalty, acquiring new customers or their profitability [12].

Relationships with the payer or medical staff are also important in health care institutions. They contract and finance the entity's operations on behalf of the client. On the other hand, the goals and measures reflecting them must take into account the needs of both groups of clients, and their implementation should contribute to the improvement of the financial situation [11].

The perspective of internal processes is identification and improvement the most important activities and key processes for the goals formulated in the financial and patient perspective. It answers the question: "What processes should be improved in a given unit?" [13]. In this perspective, the focus should be on the effectiveness of key internal processes implemented. These processes are considered effective when they meet expectations customers in a responsible financial manner. Internal processes of a health care facility should be understood broadly and include: innovation, proper treatment process and patient care after completion of the treatment course [14].

Goals and their measures formulated in the perspective of internal processes should focus on those internal processes that will have the greatest impact on patient satisfaction and achievement of financial goals. The perspective of internal processes has a very significant impact on the goals set in other perspectives. Objectives in this perspective enable faster and better-quality patient service and increase operational efficiency hospital, which translates into an improvement in its economic results [15].

The development perspective answers the question: "Is it possible to develop further and create value?". The cause-effect chain of strategic goals, passing through all four perspectives, begins in the development perspective [23]. The development perspective determines the resources necessary to introduce changes in the implementation of tasks in terms of the patient, financial and internal processes. Medical resources and qualified medical staff should be an important area of the hospital's interests. The goals set in this perspective are the basis for the long-term

development and improvement of the organization and are achieved over time. They may be related to the development strategies of such areas as the introduction of a new medical procedure, the development of new management methods, the development of applied medical technologies or the development of medical personnel competences, carried out by a healthcare facility. Individual goals should be defined for medical personnel [23].

The individual levels on the strategic scorecard are directly related to each other and influence each other. For example, the appropriate organization of hospital departments and their employees (development perspective) affects the quality and efficiency of patient service, and thus the level of their satisfaction (patients' perspective), and also affects the costs of implementation. medical benefits, i.e., also on the financial result, which is part of the financial perspective. The process of creating a strategy map is continuous, i.e., its implementation ends only when the designers have no doubts as to the correctness of the created relations. Verification of the correctness of the construction of the strategy map may take place indirectly by analyzing the correlation between the measures assigned to individual strategic perspectives and initiatives Table 1.

### **Methodology for Constructing A Balanced Scorecard**

A health care institution interested in the method of FMC must have a clearly defined strategy, which is a specific action plan. With regard to this issue, there is often an error affecting the downstream elements of the process, not only for hospitals, but also enterprises. The managerial staff very often cannot determine the position of their unit in the situation of the current COVID 19 pandemics, because they forget about the basic elements of management, for example about the life cycle of the organization.

It should be noted that the implementation of a balanced scorecard does not have to be related to the problems of the organization, although Polish hospitals most often use a balanced scorecard at a time critical for them. Undoubtedly, the phase of the organization's life cycle in which a given hospital is located is important. For example, a Polish hospital: Lower Silesian Specialist Hospital in Wrocław is in the maturity phase. At this stage, the hospital reaches stabilization under in terms of size, cost and resources. It also benefits from the achieved level of growth, and thus - has an experienced managerial staff, aware of the strength of the health care unit on the market. This also means that the hospital is well known in its surroundings in which it functions.

Table 1: Strategic Scorecard for a hospital - an example

The Patient's Perspective	
Strategic objectives	Meters
Increase the satisfaction of patients and their families	- patient satisfaction index
	- number of complaints from patients and their families
Improve access to health services	- - number of patients waiting for health care
	- bed occupancy rate
The Perspective of Internal Processes	
Improve resource efficiency	- average hospitalization time
Implement quality improvement programs	- bed occupancy level
Development Perspective	
Improve employees' skills	- number of trainings - the number of specializations obtained by employees
Financial Perspective	
Increase your revenues	- valuable level of contract with the payer
	- value of revenue from the sale of health services
	- value of income from the hospital's medical activities
Increasing financial stability	liquidity ratio
	- profitability index
Increase the level of hospital modernization for better service delivery	- the number of new generation medical equipment purchased
	the number of trained doctors, nurses and midwives in the field of new methods of diagnostics and therapy

Organizations in this phase often have significant resources, experienced management, and low costs thanks to economies of scale. Achieving excellent results, they do not pay attention to financial liquidity. The aforementioned specialist hospital is interested in a card due to the COVID 19 pandemic.

Another important, even necessary element in the implementation of the balanced scorecard method is the definition of strategic and financial goals. A goal is the future desired state or result of an organization's operation. Strategic goals define the desired market position, e.g., achieving a leading position in the market in terms of the quality of medical services. The financial goals determine the level of financial parameters, such as the rate of return-on-investment expenditures or the low level of costs that the organization should achieve in the planning period. Achieving strategic goals should lead to improving the competitive position of the organization, and financial goals - to improve its financial condition. It should be emphasized that both types of goals should be set and achieved both in the long and in the short term. Goals should be organized according to the perspectives of the strategic scorecard.

Within each perspective of the strategic charter, not only strategic goals are formulated, but also measures of achieving goals are indicated, target values for each of the measures in the short and long term, and strategic initiatives necessary for achieving goals. For example, for the goal of, caring for operational efficiency, a hospital could adopt measures such as average length of patient stay and bed occupancy rate. Then, specify target values for each gauge in in both short-term (e.g., one month) and several years (e.g., 3 years) perspective. The management of the hospital aims to achieve a situation where the average length of stay is 5 days and the bed occupancy rate is 92%. However, in order to actually achieve such results, apart from ambitious plans, it is necessary to identify initiatives that will make it possible. For each initiative, a schedule of implementation should be created along with the allocation of persons responsible for the performance of individual tasks and specified available budget for their implementation.

Thus, the strategy is implemented through strategic initiatives that allow the organization to move from the current state to the desired state in the future. In the literature on the subject, there is a lot of information about goals and the measures assigned to them, but in a few items, we can find answers to the questions of how to do it, how to correctly associate goals and measures of their implementation. In practice, even setting the goals of the organization is a problem, which means a poorly defined strategy, which results in the above-mentioned too arbitrary

locations in the life cycle of the organization. It should be remembered that the goals and measures are individual for each organization, and most importantly, they are selected on a non-accidental basis. Especially the first ones have to be verified and discussed by management. It is necessary to use specific techniques supporting this process. Selection of meters by the so-called discussing in practice most often takes place in a messy and chaotic manner [23].

Managers, who want to implement the tool as soon as possible, forget about the basics. It seems important therefore, a reminder of detailed techniques, known, for example, from the subject of organizational and management methodology. As it turns out, there are many methods that allow solve these problems and select goals and measures in a logical and orderly manner. These are often forgotten, overlooked or cursory methods.

### Methodology of Selecting and Measuring Indicators

Referring to the basics of management organization methods, as well as techniques, which are detailed methods, at the very beginning we will come across a method referred to as management by objectives. It is worth noting that the full procedure of management by objectives consists of the following stages: 1) work preparatory, 2) setting goals and tasks, 3) developing organizational change plans, 4) implementing organizational change plans, 4) management controlling the processes of achieving goals by lower-level managers, 5) periodic reviews of work results, which include quarterly and annual reviews of reviews of managers' work [8].

Undoubtedly and not accidentally, the above-mentioned stages of management by objectives resemble the implementation scheme of the strategic method of the debit card.

### Delphi Method

The Delphi method is a very well-known and important strategic scorecard management tool due to selecting goals and measures. It is one of the methods of generating solutions based on free associations [8]. The name comes from the name "Delphi" - the famous city of central Greece, where there was a mythical oracle. The Delphi method consists in creating scenarios for the shaping of certain phenomena in the future, using mainly specialists in the field of knowledge related to the analyzed problem. For the first time it was used in the Rand Corporation in the 1960s. In addition to specialists, an important role is played by liaison officers responsible for maintaining contacts between specialists, as well as for statistical processing of information presented by specialists. We are dealing here

with the function of a coordinator (in this case, they are liaison officers), whose appointments when implementing a strategic scorecard are required by the card's creator.

The Delphi method works according to the following stages:

- a group of liaison officers edits the problem presented to it for solving in the form of a questionnaire containing open and closed questions,
- specialists answer the questions contained in the questionnaire, present their point of view, then send their answers to the liaison officers,
- liaison officers develop statistically responses and synthesize results calculating the median and quartiles among groups of responses, then, together with an anonymous list of comments, send them to specialists,
- specialists reconsider the problem, compare their point of view with anonymous comments from liaison officers and other specialists and send them back to the experts.

This cycle is repeated until unambiguous opinions are obtained, suggesting one, agreed way to solve the problem, or several different ways of solving it, together with a list of arguments justifying these choices. In practice, this cycle is most often repeated four times.

The presented methods are based on the opinions of experts, they provide specific and quick solutions. Sometimes, however, it is necessary to use opinions from the outside and go beyond the usual patterns of thinking. This is achieved by more creative methods, sometimes even based on some kind of abstraction.

## RESULT MAP - THE ESSENCE OF MAPPING

An important element in verifying the efficiency of the organization's functioning, including the hospital as a whole, and the selected department, is the selection of a specific method of describing given processes. Currently, during the COVID 19 pandemic, hospitals need tools with which they will be able to communicate to their employees in an understandable and clear manner the strategies of the organization, as well as the methods of their implementation. One of the most common tools is the process map, which is a graphical presentation of what is done in organization of operations.

Creating a process map, also in a hospital, requires the identification of all entities that take part in the process, and the identified elements of the process are recorded in column layout. This allows for the creation of a general structure of the examined object - from the level

of the organization. On the other hand, starting from the organizational structure, the tasks and activities performed in the organization are analyzed (process diagram). The allocation of activities performed to individual components of the organizational structure allows for the preparation of a description of the course of the process of transforming specific streams (feeds) into subsequent activities carried out by these components of the structure, until the final result of the process is obtained [5]. The map, therefore, shows the participation of individual components of the structure in the performance of the task and at the same time allows the assessment of this participation both in the perspective of the final result and the necessary supply (input), as well as involvement of own resources.

In simpler terms, a process map can be said to show vertical and horizontal connections within an organization - the connections between the structure of an organization and its operations. As for the concept of the map, it can be assumed that, depending on the degree of accuracy, the process map describes in sufficient detail the way in which processes are implemented in the organization. Mapping the management process aims to identify all elementary processes, as well as to organize them regularly and chronologically. Management process mapping it combines all the processes carried out in the organization and is the starting point for the development of strategy maps. Mapping in line with this approach will allow for construction performance measurement tools, such as a balanced scorecard, which in turn is based on a detailed map - a strategy map. The strategy map is an important tool which enables the development of a balanced scorecard and learning by controlling and adjusting the adopted strategy [5]. Although there is widespread agreement, both in the literature on the subject and in practice, about the need to develop a strategy, there is a lot institutions, including hospitals, treat the strategic plan as a document that has little relation to reality. The implementation of a balanced scorecard allows you to combine the strategy with a set of measurable goals, between which the relationship is captured by the map strategies.

In the hospital strategic map, which is a type organization non-profit, it is important to distinguish between two types of stakeholders; They are: beneficiaries, i.e., patients, as well as founders, i.e., institutions that finance the operation of medical care facilities (e.g., companies purchasing a medical care package for their employees). The organization must work in such a way that both of these groups are satisfied. In addition, the hospital should take care of its reputation, the quality of services provided, and take into account the needs of the local community. The procedural perspective should take into account, inter alia, implementation of

quality improvement programs (na e.g., by shortening the waiting time for specialist examinations or rehabilitation). It must indicate where changes should be made and what processes should be improved to satisfy beneficiaries and funders [5]. There is also a need to improve medical and inpatient care over the patient. Due to the fact that these goals are achieved by medical personnel, their qualifications are important.

Examples of measures in this perspective may be: time waiting times for admission to hospital, complication rate, bed occupancy rate or the average length of a patient's stay in the hospital. It should be recognized that the hospital, while implementing its mission, must first of all give satisfaction to patients and their families with the services provided there. To achieve this, it must provide modern, high-quality services, using modern technologies, e.g., by reduce infections - safety for workers and patients is the goal. Patient satisfaction affects the reputation of the hospital and its good image in opinion payer. This is reflected in the hospital funds received from the payer for further development. The patient and stakeholder perspective gives the public a general feeling safety [5].

The hospital must be a reliable institution that receives funds and implements them properly. Process improvement helps to maximize the value for the patient. This, in turn, is related to the high productivity of employees, the condition of which is that the staff were motivated, patient-oriented and at the same time well-trained. The high skills of the employed staff are not only the result from training, but also from his motivation to work. The financial liquidity and solvency of the hospital are also very important. It cannot be expected that the people employed in it will be out focus only on work, that the mere fact of doing work will motivate them to act. The staff must also be sure that they will receive a salary - hence, liquidity is so important financial hospital. In hospitals, control and cost reduction are necessary.

#### **DISCUSSION ON THE APPLICATION OF THE STRATEGY MAP BY POLISH HOSPITALS AND ITS ROLE IN STRATEGIC MANAGEMENT**

World experience, including Polish experience, on the management of the strategy map is so great that it can be successfully applied and its effects can be predicted. There are sets of gauges used in hospitality and methods of their selection as well all kinds of suggestions for additional card perspectives, there is also knowledge about breaking the current perspectives into two more detailed ones. Undoubtedly, strategic scorecard management is able to provide many interesting solutions in the management of Polish hospitals. The introduction of strategy maps in hospitals can only be successful if many additional steps

are taken and all participants in the strategy are ready to change the mindset. However, there are many advantages to implementing it in hospitals. The strategy map imposes discipline on improperly managed units, because it is a pragmatic aid in achieving the organization's goals, moreover, it takes into account the interests of all groups using medical services, thus avoiding stressful situations from suing. However, it takes hard work to be successful. A. Key suggests making the organizational structure more flexible first, as rigid hierarchies inhibit changes. Employees' doubts about making changes should also be taken seriously [22-26].

The use of strategy maps in hospitals is possible and seems to be the right solution. Already on the first level, the tool as a template is able to organize the activities of the hospital [27]. Further development allows to capture unnecessary tasks performed by hospitals and integrate them into one coherent whole. The advantages of using a strategy map in a hospital, especially in the COVID 19 pandemic, mentioned R. Lewandowski, confirm that the method is right. Therefore, the founding and supervising authorities of hospitals should consider the application of solutions [28].

It should be noted that health care in Poland has never been a strong link in the economy. Health care units, especially public ones during the COVID 19 pandemic, providing services to the widest range of patients, in most cases try to survive, while trying to meet the expectations of stakeholders. If health care wants to survive in a pandemic and perform public health tasks, it must implement the hospital's activities to make it possible. Therefore, essential is the idea of sustainable management. The interpenetrating economic, social and environmental elements are reflected in the management method. The hospital must satisfy both patients and its founding bodies and financing its activities [29].

It is about managing hospital resources in a way that suits him it will last a long time and treat as many patients as possible.

#### **CONCLUSIONS**

1. The strategy map helps with the process strategic management in healthcare organizations. It reflects the "heart" of the strategy and defines the ultimate criterion for the success of the strategy. It shows how the development of tangible and intangible infrastructure will support the strategy to combat the COVID 19 pandemic [30].

2. The strategy map helps to maintain the integrity of the strategy, pointing to systemic cause-and-effect relationships, so that the key elements of the strategy

overlap and reinforce each other.

3. The strategy map in conjunction with the strategic scorecard, by integrating financial and non-financial information, also presents a comprehensive assessment of the effectiveness of the medical entity.

4. From a practical point of view, the use of the strategy map method in Polish hospitals is not as obvious as in scientific studies. Contact with the practice shows that tools of this type are neither widely known nor used. In fact, a small number of entities use or consider the application of the tool in question in the near future. The vast majority of hospitals resort to minimum solutions set by supervisory authorities [31].

5. It can be concluded that the undertaken research topic is extremely important from the point of view of stakeholders and the turbulent environment of hospitals. The conducted research returns attention to the large number of external factors affecting the efficiency of hospitals. The literature research undertaken in the work allows to show the possibilities offered by the use of a strategy map, especially in the COVID 19 pandemic [32].

6. The words of A. Krey mentioned in the work are confirmed, suggesting that the scorecard imposes discipline on improperly managed hospitals because it is a pragmatic help in achieving the goals of the organization, taking into account the interests of all stakeholders. It should be noted that ten years have passed since Krey's publication, and many Polish health care units still need such a discipline, which was confirmed by the author's in-depth interviews with the administration and management of hospitals [33].

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