

LEVERAGING KNOWLEDGE FOR IMPROVED SPORT CLUB PERFORMANCE MANAGEMENT

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Abstract:

Systemic management of sport clubs is challenging task with interesting research potential. Its key difficulty insists in problematic evaluation of overall performance of sport organization and explicit quantification of resultant value for stakeholders. Consequently, numerous sport clubs serve own customers more or less successfully, but identification of their common managerial patterns is problematic. We see the reason of such inherent “fear of standardization” especially in internal maximization of subjectively motivated shared values like friendly environment, common enthusiasm or voluntary collaboration. Moreover, the public sport is still considered and widely promoted rather as a wellness activity than, for example, as an important national health straightening factor or overall productivity driver. The lack of explicit metrics leads also to unbalanced and sometimes even tricky distribution of financial resources across the sport sector, disregarding whether this money comes from government, sponsors, members or customers. In our opinion, existence of widely understandable and sufficiently expressive knowledge-based framework for sport club performance identification and management can help their decision makers establish and maintain appropriate and customizable internal structures and processes, maximizing both overall profit and sportsmen’s satisfaction. In this paper we (i) analyse internal structure of a particular sport club, (ii) process this data with a set of knowledge elicitation, specification and dynamic modelling techniques and (iii) demonstrate and discuss their application in sample environment.

Keywords: sport club, performance management, knowledge conceptualization, dynamic modelling.

1. INTRODUCTION

Proper institutionalization of key managerial terms like performance or value is crucial for any kind of vital organizations, including the sport ones. The difference between management in traditional business-oriented company and sport club insists especially in the structure of particular performance components. In commercial domain, primarily financial and marketing factors like cash flow, profit, economic value added or market share are evaluated (Payne, Benson & Finegold, 2009). Sport clubs addressed in this paper, are organizations, oriented to entertainment, satisfaction or wellness of mass population. They also usually do not refuse voluntarism and prefer informal social networking. Consequently, fitness centres or purely professional performance clubs are beyond our interest.

On the other hand, structure of sport organizations is roughly similar with the business ones, but clubs follow different goals and strategies (Hoye, Smith, Nicholson, Steward & Westerbeek, 2009; Taylor & Godfrey, 2003; Uyar, 2010). Also the role of intangible factors like leadership, team cohesion, satisfaction and success of members, quality of equipment, facilities or coaches is more influential in sport domain (Hee Song Ng, 2011) and forms its competitive advantage. Unfortunately, everyday duties of managers, including planning, organizing, leading, decision making and controlling are typically ill-developed there, which slows down the target performance fulfilment.

There are different approaches how to collect and evaluate both qualitative and quantitative indicators within the whole company or club. These standardized techniques collect key performance indicators of core and supportive processes and combine them into more abstract, cumulative quantities, which finally form the overall performance or value for stakeholders (Chodur, Pavelkova & Knápková, 2011). Balanced Scorecard (BSC) belongs among the most popular methods and was successfully applied also in sport sector (Bolivar, Lopez, Ortiz, 2010). Because of its popularity, flexibility and convenient structure we used this technique also in our research and discuss it deeper hereinafter. Other comparable but in our experiments unused tools are e.g., strategy maps or detailed business models.

Examples, presented in the following chapters are from the University sport club (USK) of authors' faculty. It has approximately 400 members and offers 18 sport activities. Thanks to the recently developed information system, there is a lot of valid data, facilitating strategic planning, quantifying the impact of managerial decisions, visualising basic behavioural patterns of members and exposing the level of their satisfaction, which altogether serves as a solid resource for the club overall performance estimation.

2. METHODOLOGY

2.1. Introductory analysis

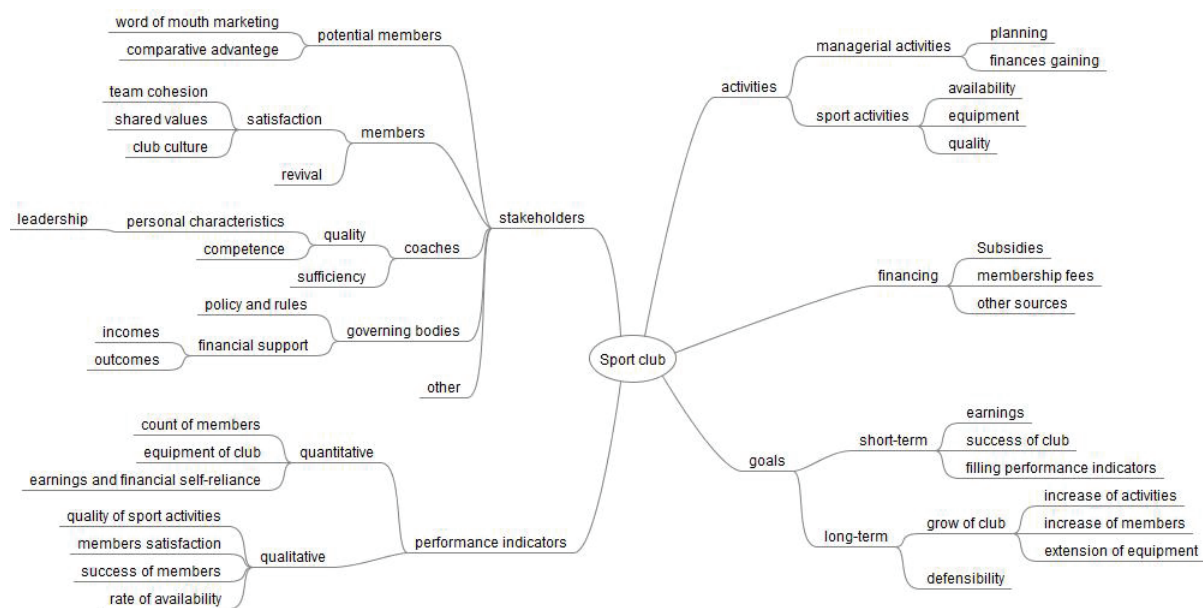
To be fully aware of the right future orientation and related values, any good sport club cannot omit two essential analyses, SWOT and PEST (Kovar, 2008). They help to structure the most significant internal and external drivers, enablers, forces and challenges. Sport club managers must be also fully aware of their competitors, political and demographical conditions and trends in sport as well as the amount of clubs members, ways of their satisfaction, particular interests, desires and needs.

2.2. Mind mapping

Trends and relations, identified from the analyses must be gradually transformed into the final model. We use mind mapping as the next stage in this process, when a representative group of all club stakeholders (owners, employees, financiers, sportsmen) strives to logically cluster and graphically outline all important aspects or just terms, related to their club. The process of mapping itself is easy, allows everyone to include own opinions and supports group decision making.

The main theme, i.e. a sport club in our case, is always placed in the middle of diagram and surrounded with several main branches, further expanded to thematically disjoint sub-trees. After facilitated interaction with stakeholders the resultant diagram shows potential subsystems, as well as their possible resources, parameters and metrics, as it is seen in Picture 1. When needed, we reduce and more formalize this terminologically rich and hierarchically flat diagram with repertory grid (Niu & Easterbrook, 2006). This grid forces designers to distinguish between their mental concepts and constructs. Also allows a gradual dimensionality reduction in accordance with available stakeholders' knowledge.

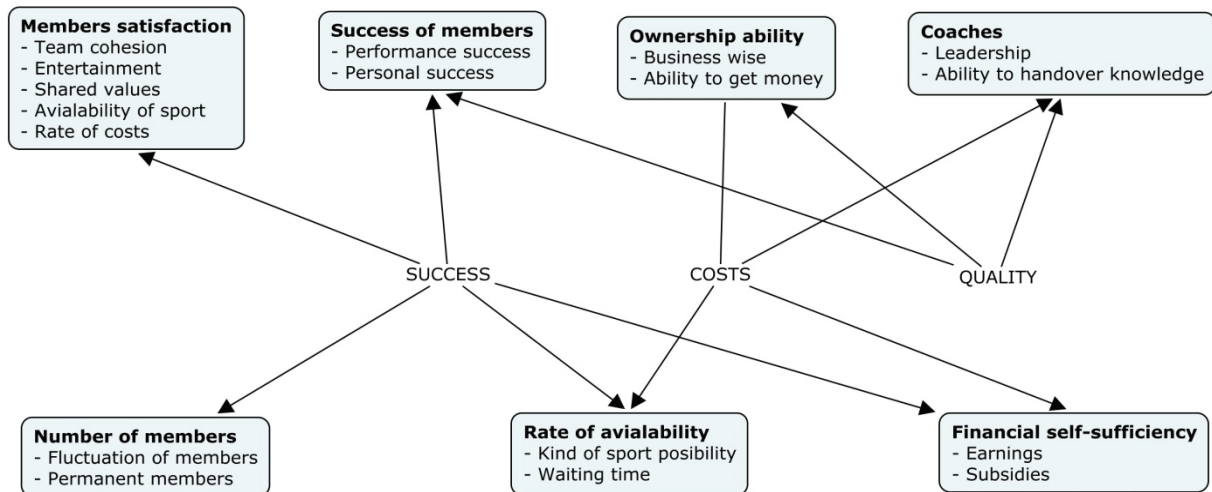
Picture 1: Mind map of sport club



2.3. Subsystem diagram

The main goal of this stage is identification of particular key performance factors of proposed dynamic model of sport club performance. In general, these searched phenomena are in the middle of diagram and comes from of affect the surrounding subsystems - resulting from mind mapping and repertory gridding - represented as rounded rectangles in the top and bottom parts of Picture 2.

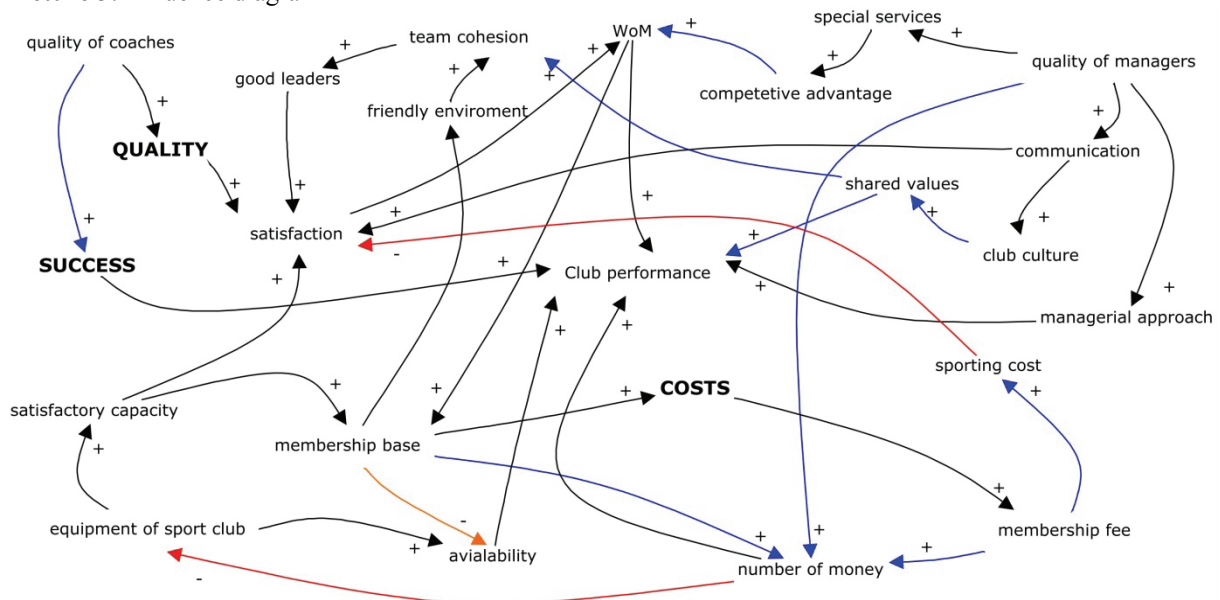
Picture 2: Subsystem diagram



2.4. Influence diagram

As seen in Picture 3, influence diagram “opens” subsystems’ boundaries and shows their most important structural features. The unifying element between the subsystem and influence diagrams is the list of key performance factors, which are now distributed inside the diagram. Relational directionality established in the preceding step is extended to the whole system and completed with arrows’ polarity. The plus sign represents direct proportion, unmarked arrows hold for indirect one. Mutual influence of numerous included loops, delays and different time constants originates dynamics of the whole system.

Picture 3: Influence diagram



Influence diagram is still also almost self-explanatory. Planning of volleyball trainings is our practical example of internal causality, which, if not managed properly, can spoil the organizational performance. We have several teams on different levels in our sport club. It is evident, that members of each team have own motivation, shared values and cohesion drivers. Groups, oriented more on results, want to train and compete with similarly powerful partners.

On the other hand, we have members, playing volleyball entirely for recreation, satisfaction or social inclusion. The tension appears when the both teams have to train or play against each other. If such configuration appears repeatedly, none of the teams can fulfil own expectations, which leads to the global lack of satisfaction. As a consequence, volleyball players either reduce or completely drop the sporting in our club, which logically slows down its performance. As a side effect, social climate in the club is eroded and polarized. Smart managers, equipped with up to date planning tools can recognize and either resolve or mitigate a starting crisis in time.

2.5. System dynamics implementation of balanced scorecard

Modern management faces complex, holistic, dynamic problems with significant portion of subjectivity, nonlinearity and nonstationarity. Moreover, tools, supporting their decisions in this nontrivial world must be computationally powerful, reliable and flexible on one side and user friendly, interactive and understandable on the other. As it might be visible from single steps in our problem analysis strategy, we use the system dynamics (Sterman, 2001) as the major design platform.

The notation of stock and flow diagrams, where stocks represent various institutional resources and their levelling is realized through input and output valves is straightforward. Control logic, turning valves on and off establishes necessary flows of all resources over the whole system. As amount of certain resource influences the others in an exact time step and vice versa scenario happens in another step, the modelled system realized complex, emergent dynamic behaviour, structurally similar with diagram in Picture 2.

We selected Balanced Scorecard (Kaplan & Norton, 1992) as the generic performance metamodel. This tool, widely used in industry, divides internal processes into the following four groups:

- Customers and marketing,
- Finances,
- Human resources, quality, learning and growth perspective,
- Operations.

In our case, the sport club customers are sportsmen, performing own favourite activities and achieving expected utilities either individually or in teams. As emphasized above, the overall satisfaction, cohesion and collaboration across this group is essential. If club management concentrates rather on development of operations, equipment or employees, possible untreated disruptions among customers can result to their leaving, disregarding whether it has excellent coaches, latest training technologies or new gymnastic halls. That's why we introduced a new, fifth subsystem into BSC, characterizing the processes inside the group of sportsmen. Here we model their motivation, subjective satisfaction, level of leadership and coaching, individual and team sport performance, availability of facilities, team learning or overall group culture. Later in discussion we show, that the proper management of this "sportsmen' internals" sector is the most critical for harmonic and well-balanced growth of any non-profit sport institution.

Marketing part of our BSC is implemented traditionally, i.e. with Bass diffusion model, combining different advertisement channels with worth of mouth (WoM) marketing. Financial sector is closely connected with the amount of active sportsmen. All earned

resources are redistributed into marketing, amount and education of staff, capacity and quality of sport operations.

3. EXPERIMENTS AND DISCUSSION

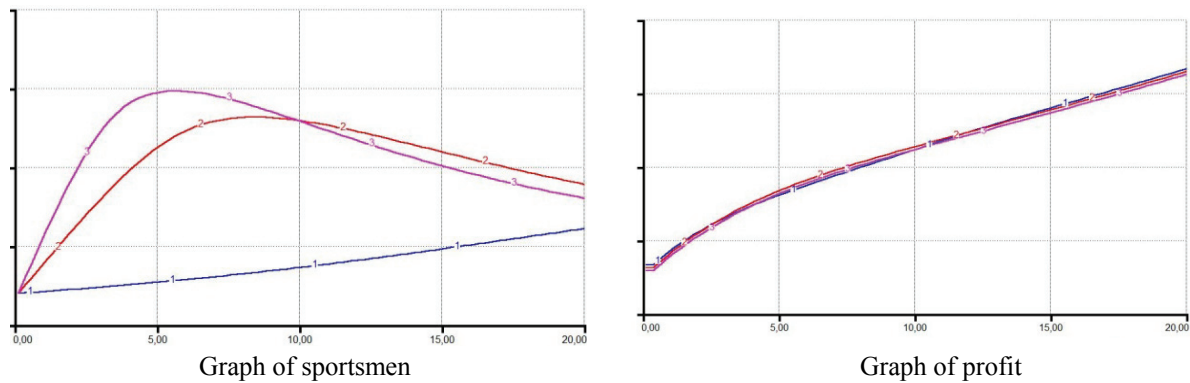
The simplest but powerful management rule for sport organizations is to maximize the amount and satisfaction of customers, as well as the quality and capacity of services within the balanced budget. To be more precise, although we do not expect that the sport clubs of our interest must generate any considerable profit, the existence of any, i.e. even a very small, but continuously growing or, at least, non-decreasing, financial surplus can be considered as a credible performance indicator. Because of such rather qualitative mode of evaluation we purposely omit numeric annotations of y-axes in graphs in pictures 4–7 and just left their scales identical to facilitate mutual comparison. Thus the presented graphical outputs primarily document the most significant behavioral patterns of knowledge-based model and in the related discussion we focus entirely on relative comparison of these features rather than on an explicit value analysis.

The below suggested experiments strive to match our active managerial knowledge related to the University sport club structure and processes (mental model) with data, collected during the past four semesters (validation). We analyse the significance, sensitivity and interrelationships among parameters, characterizing sport marketing, quality of club services, its capacity and sportsmen's satisfaction on the background of optimally calibrated base model.

3.1. Marketing

In the university sport, marketing campaigns are inherently connected with the beginning of each semester. Simply are hungry for sporting after summer holidays or winter exam period. As a small club we were curious how much our marketing is investment worthwhile, because the experience says that although we can initially attract new members through focused promo actions, this number traditionally falls over the semester. To be concrete, if USK management maintains facilities carefully and takes care for high quality of services continuously, the total amount of members at the end of period is only for a couple of per cents higher than at its beginning. Our model confirmed this behaviour and allowed us to study also other related features. There are, indeed, several reasons why new members quit the club, but important conclusion is, that its financial performance grows anyway and large initial variation of customers does not propagate to the bookkeeping dramatically. Graph 2 in Picture 4 shows the optimal marketing budget with moderate costs and maximal gain.

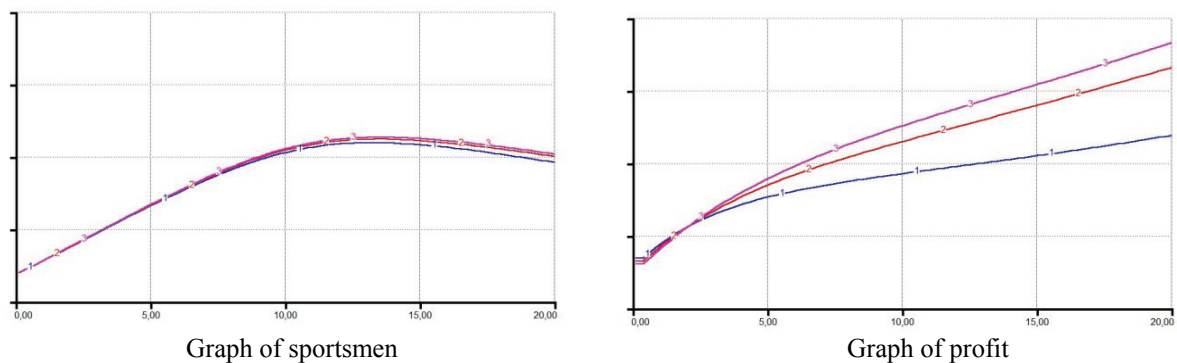
Picture 4: Amount of sportsmen and net profit (i.e. club performance) per teaching period (in weeks) as a function of changing marketing investments, growing equally from graph 1 to 3.



3.2. Quality

Quality improvements are transformed directly to the net profit (i.e. performance) without significant influence of members' base, as it is seen in Picture 5. Graph of profit also says that it grows nonlinearly with respect to the investment. Such behavioural pattern corresponds with our experience, that a certain level of its assurance must be always considered, but does not need to be overemphasized.

Picture 5: Amount of sportsmen and net profit (i.e. club performance) per teaching period (in weeks) as a function of changing quality investments, growing equally from graph 1 to 3.



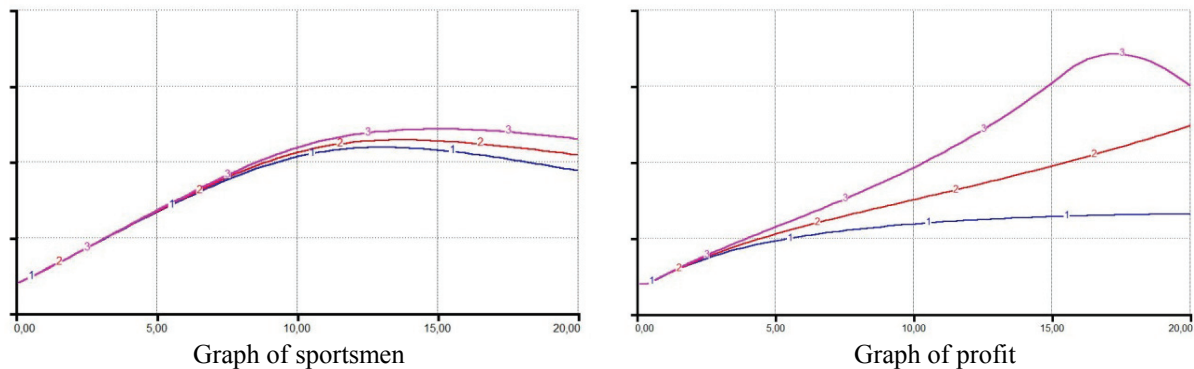
3.3. Capacity

Capacity is more visible than quality and sportsmen are sensitive on availability and amount of their environment. Capacity extension can attract new members, but, as we can see in the right part of Picture 6, its growth is also connected with nonlinear reaction of profit. According to our model, a larger extension of existing capacity is potentially risky, but its release does not cause problems.

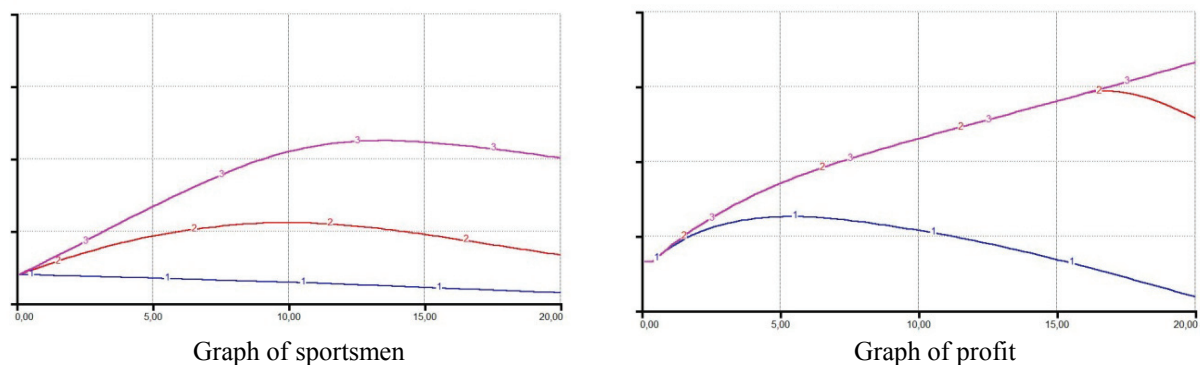
3.4. Satisfaction

This is evidently the most sensitive attribute, influencing all discussed variables. As we can see in Picture 7, if dissatisfying tempers among club members are left without any control reactions, the club can lose significant part of its members and tend to the red numbers.

Picture 6: Amount of sportsmen and net profit (i.e. club performance) per teaching period (in weeks) as a function of changing capacity investments. Changes are symmetrical around the base run (graph 2); graph 1 shows a decrease and graph 3 similar increase of capacity.



Picture 7: Amount of sportsmen and net profit (i.e. club performance) per teaching period (in weeks) as a function of changing sportsmen's satisfaction, growing equally from graph 1 to 3 (base run).



4. CONCLUSION

We proposed a dynamic planning tool for sport clubs. It is based on the balanced scorecard performance framework, extended with a new sector of team spirit and satisfaction. Our experiments proven that this additional area is the most sensitive one from the managerial point of view and, if ignored, can even threaten the club existence. This conclusion means that managers must carefully follow the overall atmosphere among their clients and develop effective control mechanisms for its prospective adjustments. As a part of our future research we will implement selected monitoring techniques in the University sport club and specify an appropriate set of related control actions.

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