



# Components of Financial Literacy of Young People

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**Abstract.** The financial crisis has drawn attention to the importance of the population's financial literacy. I am investigating assessment methodologies to evaluate financial literacy both from the point of view of macroeconomics and microeconomics in my study. I am of the opinion that the elaboration of the financial competency model based on international database is the solution that can lead to the determination of conditions of financial awareness by collectively investigating financial education, core competencies, and the psychological role of money. I surveyed the financial knowledgeableability of Hungarian high school students with the help of field research after assessing the OECD and PISA findings. I received very different results of knowledge, behaviour, and attitudes by school type, gender, age-group, and family background, which might support the assessment of financial literacy indicators, the evaluation of results, and international comparisons.

**Keywords and phrases:** young generation, financial competency model

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## 1. Introduction

The economic crisis has demonstrated that the financial literacy of retail investors is closely linked to the economic decisions they make. Increasing the financial insight serves not only individual but social welfare as well, i.e. the economic growth of the country is also favourably affected (Béres 2013). These days, the general public uses a growing number of financial products; however, they are not aware of the related interest income or risks. If the previously acquired knowledge is not developed, there will be a gap between the financial knowledge of people and the required level of knowledge necessary for safely using the offered financial products (Botos et al., 2012).

OECD research called attention to the fact that in order for people to make considered financial decisions, the coordinated improvement of financial literacy on a social level is essential (Zsótér et al., 2017).

In the first part of my study, I intend to summarize the factors affecting financial literacy, and then I will examine the role of financial education as well as the key competencies and attitudes toward money within the financial awareness of young people. Then, in the following two chapters, I will present the results of research aimed at financial literacy, emphasizing the data on the secondary school age-group. The last chapter will discuss the primary research I carried out, which was conducted among secondary school students attending different types of schools.

## **2. Indicators of Financial Literacy**

The international literature divides the indicators of financial literacy into four main groups: disposable income, size and components of savings, external sources, and level of demand for cash in the economy (Béres & Huzdik, 2012). These variables provide a sound basis but do not provide a complete description of the phenomenon examined. A criticism levelled at them is that the indicators applied by researchers are closely connected to each other, and therefore research results can be rightfully questioned. Ignoring characteristics of current life situations is another negative momentum. Youth assessment has been omitted completely from the scope of recent research. The financial literacy of students, however, is not always worse than an individual's financial behaviour whose willingness to save and self-care lags far behind the average performance of those who have similar standards of living. Creating the proper measurement methodology necessary for youth assessment is missing though!

The literature has not paid enough attention to financial literacy assessment until now. It is not surprising at all since there are three obstacles in the way of the above-mentioned: defining financial literacy, specification of tools, and content of interpretation in terms of findings. A solution would be that the elements of financial literacy are elaborated uniformly. The lack of a precise and consistent theoretical concept places obstacles in the way of comparative analysis, the survey of financial literacy level, and the examination of their impact on the financial well-being of individuals and society (Samy, 2008).

A demand for the elaboration of financial competency has been formulated in the international financial literacy surveys. Financial competency mainly depends on three factors: general financial education, core competencies, and the psychological role of money in the lives of individuals and households.

### **3. Creating the Financial Competency Model**

#### **3.1. The Role of Financial Education (General Financial Education)**

In the beginning, financial literacy research laid special emphasis on the role of general financial education to improve youth literacy. Surveys reveal youth financial illiteracy in Australia, the United Kingdom, and Germany, which is mainly due to the lack of financial knowledge (Weberpals, 2006). A strong correlation can be observed between financial education and financial literacy among students because students demonstrate a much more thorough financial knowledge in the countries where a financial subject forms a compulsory part of the curriculum (Huston, 2010). However, in the long term, the interpretation of general financial education must be broadened, and the financial competencies essential for effective decision making by individuals and households must be specified. Although students from different family backgrounds are forced to solve different economic problems, there are clearly definable skills and abilities where mastering might create a suitable and effective financial management framework for solutions (Mantseris, 2008). All the above-mentioned is included in the definition of financial education developed by the OECD as follows: “the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being” (Clarke, 2005).

#### **3.2. Core Competencies**

The notion of competence has undergone significant changes over the past few years, in which the PISA project launched in the framework of OECD indicator programme in 1998 (Programme for International Student Assessment) plays a significant role. The PISA project deals with the assessment of student achievement (Balázsi, 2010).

This programme aims at assessing the extent to which students between 15 and 17 have acquired the wider knowledge and skills essential to start seamless functioning and participating in the society (<http://www.oecd.org/pisa/>). PISA covers three main subject areas: reading literacy, mathematical literacy, and scientific literacy. The survey is repeated every three years.

The programme does not only measure student knowledge and skills but also their motivations and attitudes towards learning, which can be regarded as a positive factor (Csapó, 2010).

PISA laid the content frameworks of measurement on new fundamental principles and thereafter elaborated a new concept of knowledge. Assessments of skill-based sets of knowledge are carried out by internationally recognized scientists in the most modern assessment centres. The philosophy of PISA lies in that the data directly supporting decisions at the system level must be collected. A new sampling methodology procedure is used in the PISA assessments. Not the students in the same school year but the students born in the same year are examined. Thus, efficiency of time spent in different schools and the influences of early and later school start can also be compared. Repetition on a 3-year basis is favourable as this way trends can be detected as well, and the impact of the measures also become visible.

In terms of Hungarian student performance, reading improvement can be observed in 2009 as compared to 2006. Examining both genders, there is a significant difference in favour of girls. However, the achievement data have not changed in the other two subject areas surveyed. We lag a little behind the OECD average in mathematics, while our performance in science is also close to the average. Mathematical competence also plays a significant role in the development of financial skills and practices. On the basis of international research (Mantseris, 2008), we can state that a strong correlation can be observed between financial literacy and poor performance results in core competencies. It is especially worth paying attention to that since 22.3% of the Hungarian students did not achieve even the second level from the six skill levels according to the PISA mathematics assessment in 2009, although other subjects and the development of the skills necessary for life are touched by the negative influences of low-level mathematics skills.

*The Hungarian situation:* Hungary established a national assessment system expanding to a couple of age-groups, by applying data recording, measurement theory, and data analysis technologies accumulated during the PISA assessment processes. In the framework of the National Competence Assessment in Public Education (Herman & Molnár, 2009), a standardized test measurement of student knowledge has been continuously surveyed since 2001. The assessment characteristically surveys reading and mathematical knowledge of students in grades 6, 8, and 10 and is completed by a student questionnaire about family background and an institutional questionnaire about educational conditions. The assessment strives to achieve several goals at the same time, partly measuring the total public educational system performance and partly interpreting this achievement in terms of each school surveyed.

This competence measurement does not assess how students master learning materials but measures students' skills, i.e. how students can make use of their acquired knowledge in everyday life. In addition, the research provides a sound basis for the development of school assessment on a professional basis.

Competence assessments provide one of the main data sources for empirical research into public education, and they can also be applied to labour market analyses very well. In terms of barriers to assessment, the oldest students measured by the National Competence Assessment in Public Education are in the 10<sup>th</sup> grade, although their core competencies might improve after that, and the distribution of students among regions and school types only partially corresponds to the later distribution of employee population.

### **3.3. The Psychological Concept of Money**

The psychological significance of money plays an increasing role in the development of financial competence since it is now proved that it is of high significance what function money in the life of individuals and households has besides general financial education and core competencies (Mantseris, 2008). Our attitude towards money depends on our character, which can particularly come under the influence of social requirements, demographic characteristics, and economic circumstances. Different international studies segmented consumers by attitude towards money in many ways. The elaboration of special financial programmes corresponding to the characteristics of the individual groups is of high importance. In particular, financial institutions should keep an eye on the segment categories “anxious spenders”, “disinterested followers”, and “anxious savers” identified by Füngeld and Wang (2009) since financial problems arise with these types of clients more often than with prudent clients.

## **4. The OECD Financial Literacy Measurement**

The economic crisis has drawn attention to the significance of financial literacy, and therefore measurements in the subject have become widespread all over the world.

Unfortunately, however, the focus of attention on youth at the international level is still missing because transborder research of international organizations has aimed at the development of the adult population’s financial literacy.

Student assessments take place at the national level, which, however, lack the possibility of taking over comparisons, assessments, and good methodologies at the international level.

Our country also joined the international assessment coordinated by the International Network on Financial Education – INFE – of OECD examining to what extent the population has a clear knowledge of the information necessary for their financial decisions ([www.mnb.hu](http://www.mnb.hu)). Another objective of the research is to establish an international database in order to make the knowledgeability levels

of the population measurable and comparable. Furthermore, the assessment findings might provide a sound basis for improving the population's financial literacy and stimulating change in financial approach.

The questionnaire-based assessment was used for data recording among minimum 18-year-old citizens in 14 countries, among them Hungary, across four continents. The questionnaire consisted of three different parts: analysis of financial knowledge, financial behaviour, and financial attitudes. The survey of knowledge consisted of eight questions, including different financial topics at different difficulty levels. In terms of financial behaviour, the assessment was aimed at how many conscious and how many impulse buyers were among the respondents, whether the families create a budget, and in what form they keep their savings. In terms of financial attitude, respondents' attitude towards money and future planning was measured by three attitude statements from which attitude indicators were created. The collective analysis of the three indicators reveals a lot about the citizens of each country surveyed by assessing each element of the research one by one (Atkinson & Messy, 2012).

I will only concentrate on the findings of our country due to size limits. Barely two-thirds of the population in Hungary have a clear knowledge of the basics of calculating interest rates, and only a few are of the opinion that investment risks can be diminished by diversification, with the help of several investment forms. The above-mentioned can provide an explanation for the fact that although the population knows increasingly more financial products, they hardly trust them.

A good example of the above-mentioned is that although 89% of the Hungarian population has a bank account only 40% uses it actively. In terms of financial behaviour, our country performance was partly very poor, which indicates that the level of financial knowledge above the average is not reflected in the financial behaviour of the population. This is proved by the fact that 52% of the respondents do not have any savings, and those who have some reserves keep them at home or in current bank accounts. When it comes to choosing between financial products, more than one-third of the population does not make any comparisons between different service providers before they make their choice. It is regarded as extremely low, even in an international context, that only one-third of the Hungarian families create a budget. Concerning financial attitude questions, our country ranks in the middle, i.e. almost half of the respondents consider long-term thinking in finances important.

The collective indicator of financial literacy has been developed from high scores, and we can draw important conclusions from its average value (13.7). The following countries achieved above-average cumulative results: the Czech Republic, Hungary, Germany, Ireland, Norway, Malaysia, Peru, the United Kingdom, and the British Virgin Islands (Atkinson & Messy, 2012).

## **5. Examining the Financial Culture of Young People**

The above-described research into adult financial literacy provides a sound basis for drawing conclusions in connection with youth, as financial practices in the family determine students' attitude towards money (Clarke et al., 2005). The young have, however, individual characteristics due to which it is essential to measure and improve their financial knowledgeability.

Two national assessments of youth financial literacy were conducted over the past few years in our country – by the Hungarian National Bank in 2006 and by the University of Szeged in 2011. Both research findings show that the financial literacy of the age-group between 14 and 19 has serious shortcomings in financial information, and in terms of right answers the average performance of high school students was 54%, which cannot be regarded as good at all. In terms of knowledge tests, those who were interested in financial products reached a better result, and the performance of boys exceeded that of the girls (MNB, 2006).

Students between 14 and 16 achieved the lowest performance. The three main sources of money are pocket money, receiving money as a gift, and income earned from work. 64% of the respondents keep their money in cash, 27% in bank accounts, and the rate of different forms of savings is low. Students would rather finance their later studies with the parents' support (44%), and only 2.5% would choose a student loan. When it comes to savings, high school students would rather ask for advice from banking officials (38%) (Ecoventio Round Table Public Benefit Association).

Surveys conducted among young people have shown that there is not one homogeneous group of all young people regarding their financial attitude and behaviour. In their research, Zsótér et al. (2015) identified three significantly different consumer groups on the basis of objectives, source of income, financial insight, experience of banking, and information source as follows: conservative, rebel, and experienced groups. The identification of these market segments is important because they differ in respect of their financial awareness, and therefore different tools are needed to impress them.

The survey aimed at the financial knowledge of young Hungarians in Transylvania (aged 18–25) also demonstrated the diversity of young people. Research has shown that the level of financial culture of young people in higher education is affected by gender, specialization, and participation in financial-economic training in secondary school (Eszter Barabás, 2017).

Several authors have confirmed that personal experience in finance is also of great importance. However, increasing financial knowledge may be limited by negative financial attitude and if they are strongly distanced from this topic.

As a solution proposal, the studies regarded education of financial knowledge as necessary, which, besides providing theoretical knowledge, should be practice-oriented.

## 6. Conclusions

While the best practices of financial literacy development and the establishment of a financial debt prevention network are among the discussion topics at international conferences, the theoretical basics of the field still have serious shortcomings. The most important challenge is to create the scientifically reliable concept of financial competence, which can provide a framework for enabling individuals and households to acquire the necessary financial knowledge (Mantseris, 2008). The range of core competencies must be extended by financial abilities as without them one cannot get on in life. It is necessary to identify what knowledge and skills are needed for the management of personal finances, savings, loans, and family budget. It is by all means necessary to act in time in order to develop a financial literacy and to prevent over-indebtedness, wherefore youth must be involved in these programmes. However, it can only be carried out on the basis of a uniform and widely-applied assessment concept extended to youth financial knowledge and behaviour.

The PISA and the National Competence Assessment in Public Education programmes could provide a sound basis for surveying youth financial knowledge if economic skills would be involved besides current literacy areas. The different professional education programmes would become comparable, which would support adopting and applying effective methodologies across different educational institutions and countries. Acquisition of basic financial knowledge in high schools is essential for the effectiveness of subsequent special educational programmes. According to the dynamic model of life-long learning, ongoing adaptation to a changing world becomes possible through acquisition of new knowledge and skills which are mastered not only during the school years but also continuously throughout the entire life.

## 7. Field Research

### 7.1. Research and Methodology

The objective of my research was to assess high school students' general financial knowledge, financial practices, and attitudes towards banks. I carried out field research in various high schools from spring 2011 to autumn 2012. I was planning to compare high school students in different regions of the country; therefore, I recorded data in Budapest, Eastern Hungary (Miskolc, Debrecen, Nyíradony), and Western Hungary (Sopron). In all the three regions, secondary grammar school, economic high school, and other high school students were included in the



selected sample because I strived to conduct an investigation into the influence of professional education on the age-group.

Assessment questionnaires were used as a methodology of polling.

I handed out paper-based questionnaires to the students and asked them to answer each question if possible. I received 573 questionnaires back out of the 600, but 21 could not be evaluated, and therefore I managed to process 552 questionnaires. According to school types, 35.3% of the respondents were secondary grammar school students, 33.3% other high school students, and 31.3% economic high school students.

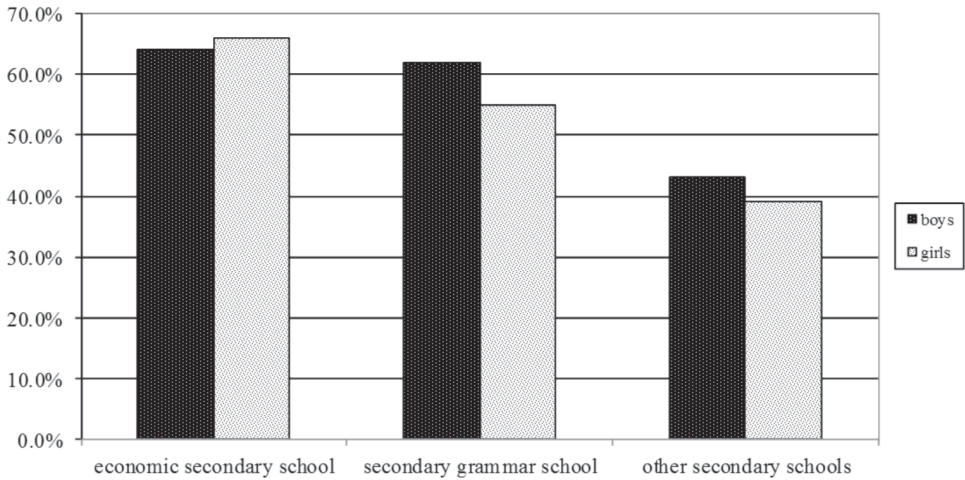
The structure of my questionnaire was the same as that of the OECD, i.e. it consisted of three parts: financial knowledge, financial behaviour, and financial attitude questions.

## **7.2. Financial Knowledge**

My questionnaire – similar to the OECD research – included eight knowledge questions, i.e. general financial knowledge questions. They were difficult in many ways and reflected various styles and contents. While a couple of questions enabled a completely free choice, other questions forced the respondent to pick an answer from a given number of options.

In terms of knowledge questions, the differences between students with different high school backgrounds are also prominent. A higher rate of secondary grammar school students gave the right answer than students from other school types. These were general interest-rate-related exercises, which are by all means solved during mathematics classes. The highest number of right answers was given in connection with division and interest rates on bank loans. However, students from professional high schools gave the highest number of right answers to questions about risk and yield, inflation and diversification. The question about diversification brought the worst result since only 55% of secondary grammar school students, 63% of economic high school students, and 32% of technical high school students evaluated it well. On examining the differences between both sexes, I stated that boys gave more right answers to almost every question than girls.

There was just one exception, the question about inflation and diversification, where girls performed better due to the fact that two-thirds of the interviewees from economic high schools were girls.

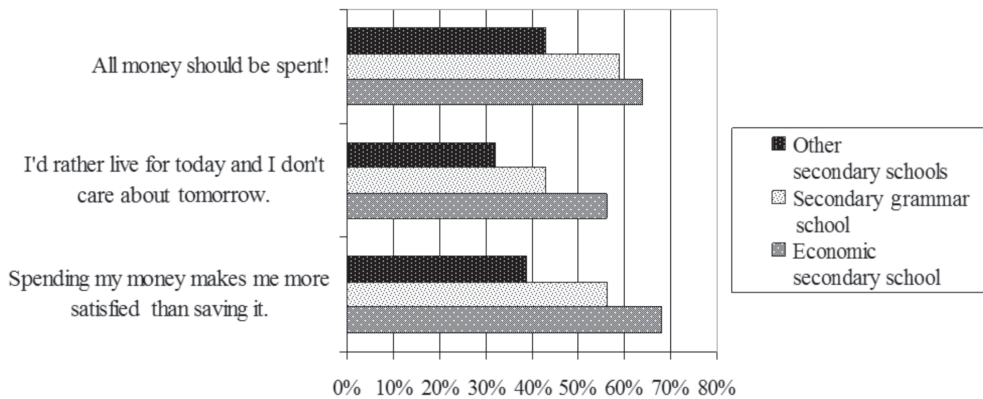


**Figure 1.** High knowledge points based on types of school and gender

### 7.3. Financial Attitudes

I measured the respondents' attitudes towards money and future planning with the help of three attitudinal statements in the questionnaire. These questions were focused on whether the respondents agreed with the statements, whereby I gained an overview of their attitudes and preferences. I created a collective attitude indicator from the answers given to the three statements, i.e. the high score was interpreted as an average attitude indicator over 3 (1 = absolutely agreed, 5 = did not agree at all). Those respondents indicated the long-term preferences who favoured savings over short-term needs. As the diagram shows, students' attitudes towards money were different by high school type as the highest number of respondents who reported feeling satisfied if they saved money were from economic schools. They recognized that self-caring and creating a financial budget are the basis of their long-term future. However, students from other high schools rather live for today, and they do not care about their future finances. It is rather risky because they give their short-term needs a priority over their long-term safety. Such an order of preferences shows lack of financial budgeting, which places obstacles in the way of preparation for unexpected situations.

By examining the differences between both sexes, it becomes visible that girls achieved higher scores, i.e. their attitudes towards long-term financial questions were more favourable. It is they who think in the longer term, i.e. give priority to savings over immediate consumption.



**Figure 2.** Attitude about thinking in the long term

#### 7.4. Financial Behaviour

The measurement of financial behaviour forms is a very important part of financial literacy assessment as it is not enough to possess knowledge and information about different economic issues – there is also a need for their proper use. The questionnaire strived to examine a wide range of behavioural forms, emphasizing the factors either increasing or decreasing financial well-being. The answers given to the different styles of questions provided conclusions such as students' willingness to save, taking out a loan, attitudes towards budgeting, long-term planning, or what they do in order to achieve financial goals.

I experienced significant differences by school type in terms of students' financial behaviour. The diagram shows that only a few of the students from other high schools (39%) set long-term objectives, and likewise only a few (32%) consider things before buying. In terms of the above-mentioned data, 76% of them consider taking out a loan necessary for the everyday life.

Secondary grammar school students strive to behave more consciously as 56% have long-term objectives and 60% consider material possibilities before buying. However, 59% of the respondents can imagine taking out a loan, which I regard as an extremely high rate for it would be by all means avoidable by creating a family budget. A more thorough financial knowledge of students from economic high schools is reflected in their behaviour, as they are the highest number who indicated long-term planning (68%), and it is they who could be best characterized by a conscious consideration before buying (63%). I regard it as promising that 65% reject taking out a loan necessary for the everyday life.

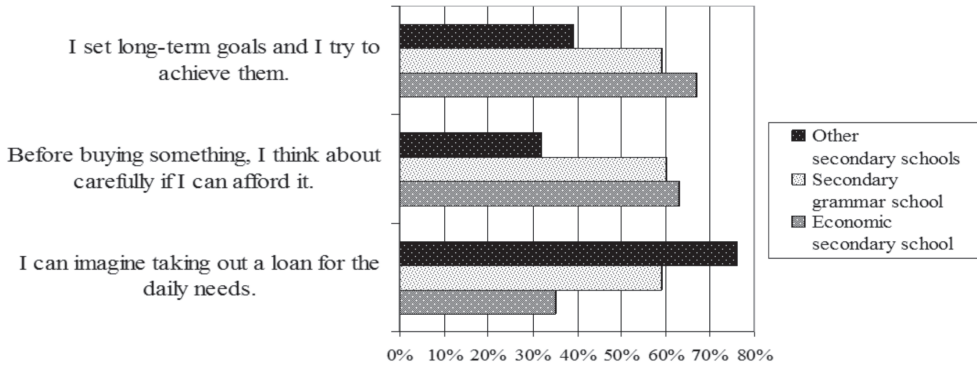


Figure 3. Features of financial attitude

### 7.5. Collective Indicators of Financial Literacy

After examining each element of financial literacy surveyed one by one, I focused my research on what characterizes the students from the three school types collectively and commonly.

Table 1. Summary

Type of school	High knowledge – points	High behaviour – points	High attitude – points
Economic secondary school	69%	55%	65%
Secondary grammar school	62%	46%	55%
Other secondary schools	37%	29%	38%

The findings show that there is a positive relationship between depth of knowledge and behaviour in every school type. Respondents with a level of higher financial knowledge also proved to possess a more conscious economic behaviour. Similarly, a significant relationship can be observed between the scores of behaviour and attitudes as the students who consider long-term thinking important show a more positive behaviour than those with short-term preferences. Surprisingly, I recognized that behaviour reached the lowest score, independently from school type. It might be worth considering that students possess basic financial knowledge for nothing if it cannot become an integral part of conscious behaviour. A significant relationship can be shown between school education and financial literacy since in all three main subject areas students from economic schools reached the highest values. The lowest scores were reached by students from other high schools. In terms of conscious financial behaviour

and positive preferences, students of secondary grammar schools lagged behind students attending professional education. All in all, it is visible that the role of economic education takes shape not only in terms of knowledge transfer but also in terms of the development of financial attitude.

## 8. Summary

In my study, I have strived to prove the necessity of creating a financial competence model that must be tried out in practice after laying the theoretical foundations. I tried to identify the determining elements of financial knowledge, behaviours, and attitudes in my research conducted among high school students. I recognized significant differences in all three main subject areas by sex, school type, and family background.

I am of the opinion that the elaboration of a uniform assessment methodology is necessary at the international level. It would make youths' literacy measurable and comparable with the help of the statistical data collected in several countries and would show further possible directions of the development of national financial education.

As a matter of course, the assessment methodology only identifies the abilities determining future financial situation and those needed for an economically appropriate behaviour but cannot guarantee that it will take place that way. The characteristics of youths' behaviour, impulsiveness, unusual preferences, family background, and friend relationships all have an impact on actual decision making.

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