

**ANALYSIS OF PSYCHOLOGICAL PREREQUISITES  
FOR THE ARCHITECTURAL AND SPACE-PLANNING DESIGN OF  
THEMATIC ENTERTAINMENT COMPLEXES WITH THE HELP OF  
«MASLOW'S HIERARCHY OF NEEDS»**

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**Abstract.** Psychological preconditions for the architectural and space-planning design of thematic entertainment complexes with the help of Maslow's hierarchy of needs reveal the preconditions for the formation of thematic entertainment complexes as a modern type of building. Maslow's hierarchy of needs is the common name for a hierarchical model of human needs. It makes possible to calculate the interest of human needs according to the expanded type of Pyramid in a certain type of buildings – thematic entertainment complexes; to form the percentage benefit parameter according to the Pyramid stages; to develop the scientific analysis of thematic entertainment complexes as for their usefulness and profitability for the society, the state, the investors and others. For this research, an extended Maslow's pyramid was taken, in which there are seven stages: Physiology, Security, Society, Respect, Creativity, Aesthetics and Self-actualization. For convenience, these stages are grouped according to the type of needs: Basic, Contact and Development needs. Each of the stages is divided into three clarifying sub-stages such as: sleeping, food, security, love, respect, beauty, leadership, etc. This Pyramid, unlike the standard five-story one, which does not include Society and Aesthetics, will help to analyse the thematic entertainment complexes in more detail.

The scientific novelty of the research is the use of Maslow's hierarchy of needs in the design of thematic entertainment complexes, which require rapid analysis of their usefulness, profitability, identification of human needs (which are not closed in the society) and help to formulate the design tasks for the architects more clearly. The research goal is to analyze the psychological preconditions for the architectural and space-planning design of thematic entertainment complexes with the help of Maslow's Pyramid. In accordance with the goal, there are the following tasks – to develop the table for the analysis of the area and the profitability of thematic entertainment complexes with which it is possible to determine the investment attractiveness and profitability of thematic entertainment complexes, existing or designed one; the ability to use this table without any specialized educational background and take a minimum amount of time. There is the analysis method of society's needs of any region, city, town. This method will determine which needs are closed and which are vacant, as well as help the investors to choose the construction plots and the content of thematic entertainment centres.

**Keywords:** thematic entertainment complex, architectural and space-planning design, Maslow's hierarchy of needs, modern types of buildings, basic human needs, the table of profitability of thematic entertainment complex.

**Formulation of the problem.** The goal of the research is to analyse the psychological preconditions for the architectural and space-planning design of thematic entertainment complexes (TEC) with the help of Maslow's hierarchy of needs.

In accordance with the goal there are the following tasks:

- to make an in-depth analysis of the existing Maslow's pyramid and TEC;
- to identify the ratio of items of Maslow's pyramid to the TEC;
- to develop a table of profitability.

**Materials and research methods.** Graphoanalytical and mathematical techniques of the research using the formulas and the tables, the Pyramid of human needs by Abraham Maslow applying it on the TEC architecture. The scientific novelty of the study is the use of Maslow's hierarchy of needs during the design of thematic entertainment complexes. Designing TECs need a quick analysis of their usefulness, profitability, identification of human needs (which are not closed in the society) and will help to formulate more clearly the design tasks for the architects. As a result, the analysis method of regions, cities, towns for the needs of the society will be obtained. It will identify which of the needs are closed and which are vacant, and will help the investors to choose the construction plots and the content for themed entertainment centers. The state will also be able to use this method to highlight those projects that need governmental grants for construction, because they will meet public needs. Therefore, the designers will be able to use this analysis to identify those stages that need to be preferred when planning the general plan or choosing the dominant.

**Analysis of recent research sources and publications.** Thematic parks are a global industry with huge, fast-growing income. In the textbook «Thematic Parks of the World», the authors (A.Yu. Alexandrov and O.N. Sedinkina) identify the specific features of the thematic parks that distinguish them from other specialized parks. In their opinion, they are «artificially created entertainment parks, all the structures of which are united by a common theme» [1].

In the monograph «Thematic parks as museum-type facilities: challenges and opportunities», the authors (O.Y. Nelzina, O.V Okorokov., T.P. Polyakov) state that «most parks in the world have the theme connected with their location (state, region, city, etc). Beside its own history, the exposition of thematic parks includes world history (in huge thematic parks there are from 4 to 6 thematic zones). There is the architecture history in the expositions of masterpieces, formed in a reduced form, sometimes made of unusual materials (Lego bricks, ice or chocolate)» [2].

The idea of thematic parks originated in Europe in the late 19 century. At the World Expo in Brussels for the first time there was the display of the amusement rides (from French language – «Attraction») – a roundabout, a Ferris (observation) wheel. A little later in Paris there was the world's first amusement ride on a literary basis – «From the cannon to the Moon». The visitors one by one climbed into a tight «spacecraft», they were in the smoke, and then through the viewing port they could see lunar landscape with the amusement rides located nearby, it was called Luna Park. In the Netherlands in 1952 the park based on European fairy tales was created as a modern idea of any thematic park. The real flourishing of thematic parks was in the United States and then began to spread around the world. The entertainment centers structured in the form of a thematic park are developing in the United States, France, Spain, the Netherlands, Denmark, Germany, Britain, Japan, China and Australia. More than 90 million people visit US parks each year, with income nearly \$ 3 billion. European thematic parks welcome about 60 million visitors per year (income - \$ 1.8 billion). European Disneyland gets twice as many visitors per year as the Louvre and the Eiffel Tower [2-4]. Thematic parks are young and dynamic branch of the economy, which can bring sizable income with shrewd and forward-looking planning. The basic features of the thematic park are consumer-orientated. The classic studies of Abraham Maslow [5-8] are based on human needs. TEC requires customer orientation and analysis of the ultimate customer [9-10].

**Main part.** The pyramid of needs is the hierarchical system of human needs by the American psychologist Abraham Maslow [5-6]. In 1943 he studied the factors influencing human behavior and divided them into five stages and arranged according to a certain hierarchy, so-called Maslow's pyramid (Fig. 1). At the heart of this hierarchy there are the most critical needs: food, water, housing, and at the top there are higher ones, individual requests: recognition, self-expression. When the needs of the lowest level are met at least partially, a person begins to meet the needs of the next level of the hierarchy. Psychological preconditions for the architectural and

space-planning design of thematic and entertainment complexes with the help of Maslow's pyramid reveal the preconditions for the formation of thematic entertainment complexes as a modern type of building.

Maslow's pyramid investigates human needs and allows to make their projection on the architecture [9-11]. Basic human needs such as physiology and security are provided first by housing, hospitals, industrial buildings and are reflected on the «first stages of the Pyramid» of Maslow's pyramid (Fig.1).

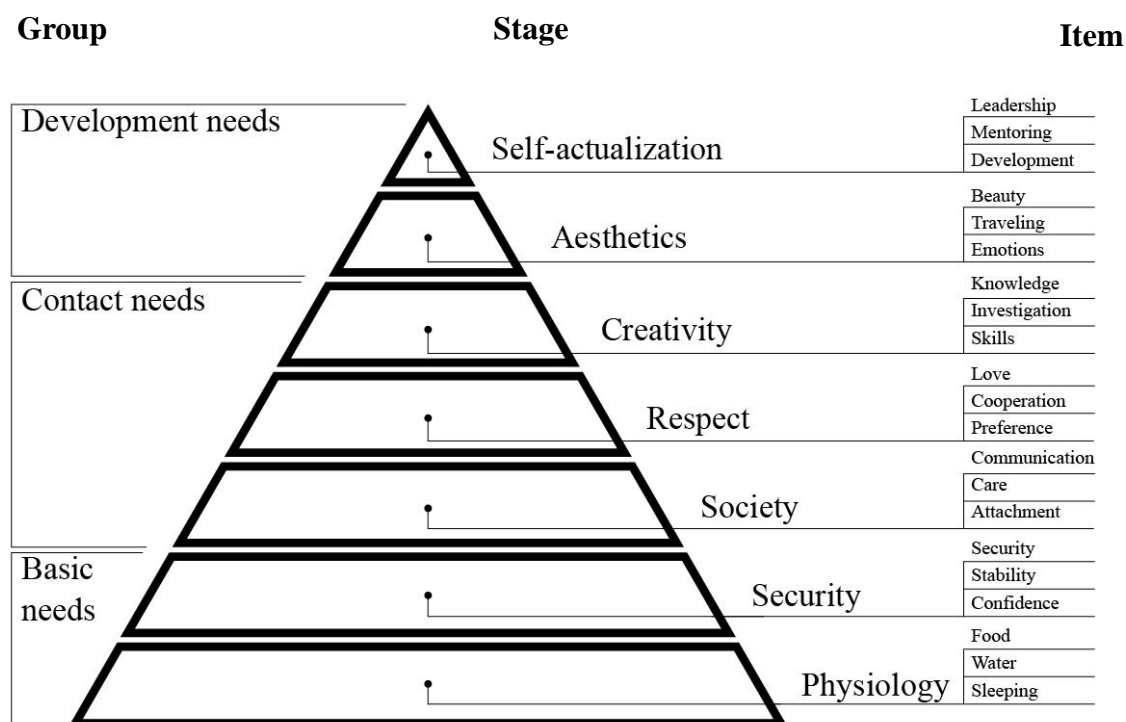


Fig. 1. Maslow's hierarchy of needs

Analysis of planning decisions of thematic entertainment complexes showed that the psychological preconditions of Maslow's pyramid (the third and higher «stages») cover a significant number of needs, and possibly above basic needs. There is a necessity for a more detailed architectural analysis of existing TECs to determine all the psychological preconditions for their formation, and to identify the maximum interest of human needs with the help of TEC. This will allow in the future to give an interest profitability of TEC for the society, and identify what items should be in the TEC for its commercial success. The state institutions can use this method to analyze those projects for which it is advisable to give governmental grants. Such a technique will help to reduce the risks and the number of unprofitable and unsuccessful constructions [13]. The private investors can analyze the region with the help of Maslow's Pyramid, identify the items that can be closed with the help of TEC, which are not fully closed. Satisfying these items, we increase the probability of profitability and the need for new construction and design of TEC [12, 14-15]. Table 1 shows the ratio of the stages of Maslow's pyramid to TEC. We determine which items can be closed with the help of TEC and which cannot be. For convenience, it is necessary to calculate the interest of each item. The Pyramid has seven stages, each one has three sub-stages, a total number is 21. We take 21 stages for 100 % and get that one stage is equal to  $100/21 = 4.76$  % of the total number. The information of Maslow's pyramid of needs is considered from the first stage – Physiology (Tab. 1).

Table 1 The ratio of the stages of Maslow's pyramid to the TEC

Maslow's Pyramid Needs	TEC-needs relationship	Interest, %
<i>I. Basic needs</i>	It doesn't matter	0
<i>1. Physiology</i>	It doesn't matter	0
- Sleeping		0
- Water		0
- Food		0
<i>2. Security</i>	It doesn't matter	0
- Confidence		0
- Stability		0
- Security		0
<i>II. Contact needs</i>	It closes almost all the needs	38,1
<i>3. Society</i>	It closes all the needs	
- Attachment		14,29
- Care		
- Communication		
<i>4. Respect</i>	It closes all the needs	
- Commitment		14,29
- Cooperation		
- Love		
<i>5. Creativity</i>	It does not close only «Knowledge», because TECs are designed for those who are already familiar with the topic	9,52
- Skills		
- Investigation		
- Knowledge		
<i>III. Development needs</i>	It closes most items	19,05
<i>6. Aesthetics</i>	Closes all the needs	
- Emotions		14,29
- Traveling		
- Beauty		
<i>7. Self-actualization</i>	It closes only «Development», because TECs are aimed at entertainment	4,76
- Development		
- Mentoring		
- Leadership		
<i>Number of closed needs</i>	<i>12/21</i>	<i>57,1</i>

Each of the items is equivalent, because each person has his/her own order to close the items of the Pyramid. Analyzing Table 1, we see that TECs close 12 positions of Maslow's pyramid, this is 57.1 % of human needs. Having such data, we can conclude that:

- TEC, as a phenomenon, could not but appear in the 20 century;
- TEC is a required part of modern society, when Basic needs are closed and people need to close the other stages of Maslow's pyramid.

Based on these data, a corrected Maslow's pyramid was developed, which reflects the needs closed by TEC (Fig. 2) and percentage parameter of the profitability of thematic entertainment complexes was formed. Analysis of Table 1 showed that TECs cover 57.1% of human needs, which is 12 of 21 stages of Pyramid (Fig. 2). Using this method, we can provide the profitability of a particular TRC by taking 57.1 % for 100 % profitability, and then dividing 100 % into 12 parts (the number of items that TEC can close). We'll get the percentage of

profitability that cover one closed item. For this value we take the mark  $\eta$  (eta), which indicates the efficiency:

$$\eta = 100 / 12 \times a = 8.33 \times a \quad (1)$$

where,  $\eta$  (eta) – the coefficient of TEC profitability;  
 $a$  – the number of the items closed by a particular TEC.

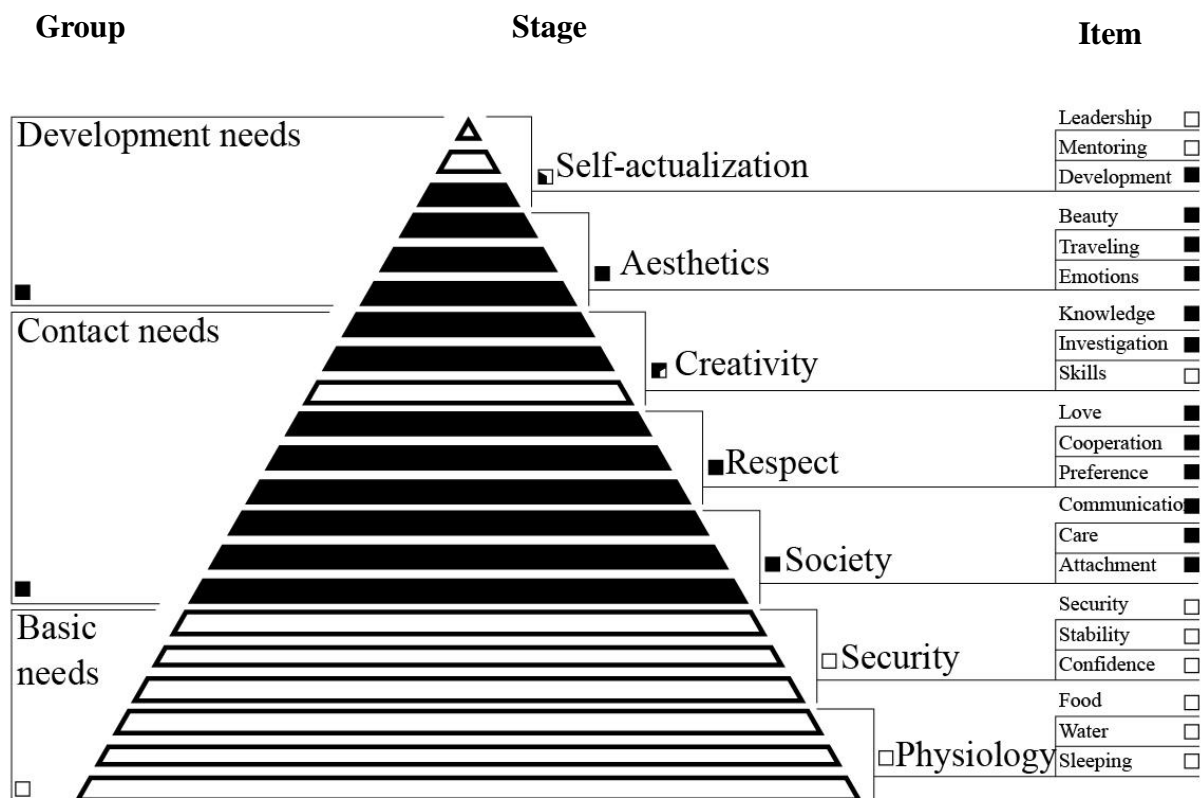


Fig. 2. Corrected Maslow's pyramid of needs

Disneyland Paris (Table 3) closes 7 of 12 profitability items, which corresponds to 58 % of the profitability. Based on these data, we can conclude that Disneyland Paris is successful because of its usefulness to society.

**Conclusions and prospects for further research.**

A new mathematical tool for the TEC analysis, which helps to accurately identify its usefulness and profitability, was obtained (Table 2).

Based on the research, it was found that TECs can cover from 50 % to 60 % of human needs. The construction of thematic entertainment complexes in the developed regions is able to cover almost all other needs, because currently most people on the planet are provided with all basic needs such as food, water, sleeping.

With the new mathematical tool for TRC analysis in Table 2, the investors and the government can make preferences for certain objects.

In further research for the subjective analysis of TEC profitability, it is necessary to develop a tool for the analysis of regions, cities, towns, blocks, etc. for the social needs of society.

Table 2 Analysis of the area (region) and profitability of TEC *The example of use*. For instance, the profitability of the Disneyland Paris, thematic entertainment complex, built in 1992 in the suburbs of Paris (France), is given in Table 3

Need	Stage	Item	%	✓
<b>Development needs</b> (4 / 33%)  a = <input type="text"/> η = <input type="text"/>	<b>Self-actualization (1 / 8%)</b>	Development	8,3 %	<input type="checkbox"/>
	<b>Aesthetics (3 / 25%)</b>  a = <input type="text"/> η = <input type="text"/>	Beauty	8,3 %	<input type="checkbox"/>
		Traveling	8,3 %	<input type="checkbox"/>
		Emotions	8,3 %	<input type="checkbox"/>
<b>Contact needs</b> (8 / 67%)  a = <input type="text"/> η = <input type="text"/>	<b>Creativity (2 / 17%)</b>  a = <input type="text"/> η = <input type="text"/>	Knowledge	8,3 %	<input type="checkbox"/>
		Investigation	8,3 %	<input type="checkbox"/>
	<b>Respect (3 / 25%)</b>  a = <input type="text"/> η = <input type="text"/>	Love	8,3 %	<input type="checkbox"/>
		Cooperation	8,3 %	<input type="checkbox"/>
		Preference	8,3 %	<input type="checkbox"/>
	<b>Society (3 / 25%)</b>  a = <input type="text"/> η = <input type="text"/>	Communication	8,3 %	<input type="checkbox"/>
		Care	8,3 %	<input type="checkbox"/>
		Attachment	8,3 %	<input type="checkbox"/>
	<b>Number of closed items (a)</b>		<input type="text"/>	
<b>Coefficient of TEC profitability (η)</b>		<input type="text"/>		

Table 3 Analysis of Disneyland Paris using the table to analyze the location and profitability of TEC

Need	Stage	Item	%	✓
<b>Development needs</b> (4 / 33%)  a = <input type="text"/> η = <input type="text"/>	<b>Self-actualization (1 / 8%)</b>	Development	8,3 %	<input type="checkbox"/>
	<b>Aesthetics (3 / 25%)</b>  a = <input type="text"/> η = <input type="text"/>	Beauty	8,3 %	<input checked="" type="checkbox"/>
		Traveling	8,3 %	<input checked="" type="checkbox"/>
		Emotions	8,3 %	<input checked="" type="checkbox"/>
<b>Contact needs</b> (8 / 67%)  a = <input type="text"/> η = <input type="text"/>	<b>Creativity (2 / 17%)</b>  a = <input type="text"/> η = <input type="text"/>	Knowledge	8,3 %	<input checked="" type="checkbox"/>
		Investigation	8,3 %	<input type="checkbox"/>
	<b>Respect (3 / 25%)</b>  a = <input type="text"/> η = <input type="text"/>	Love	8,3 %	<input type="checkbox"/>
		Cooperation	8,3 %	<input type="checkbox"/>
		Preference	8,3 %	<input checked="" type="checkbox"/>
	<b>Society (3 / 25%)</b>  a = <input type="text"/> η = <input type="text"/>	Communication	8,3 %	<input checked="" type="checkbox"/>
		Care	8,3 %	<input type="checkbox"/>
		Attachment	8,3 %	<input checked="" type="checkbox"/>
	<b>Number of closed items (a)</b>		<b>7/12</b>	
<b>Coefficient of TEC profitability (η)</b>		<b>58 %</b>		

## References

- [1] Aleksandrova A.U., Sedinkina O.N. (2011). *Tematicheskie parki mira: uchebnoe posobie*. 208, URL: <https://ru.ua1lib.org/book/2897997/2c2044>.
- [2] Nelzina O.U., Okorokov A.V., Poliakov T.P. (2019). *Tematicheskie parki kak uchregdenia muzeinogo tipa: problemi I perspektivi*. Institut Nasledia, 7-10, URL: <https://heritage-institute.ru/?books=tematicheskie-parki-kak-uchrezhdeniya-mu>.
- [3] 11 krupnejshikh parkov attrakcionov v mire. URL: <https://businessvisit.com.ua/blog/11-krupnejshih-parkov-attraktsionov-v-mire-razvlecheniya-s-privkusom-riska/>.
- [4] Tematichni parki cvity. URL: <https://uk.ellas-cookies.com/puteshestviya/92147-tematicheskie-parki-mira-spisok.html>.
- [5] Piramida potreb Abragama Maslou. (2021). July 9. URL: [https://uk.wikipedia.org/wiki/Piramida\\_potreb\\_Abrahama\\_Maslou](https://uk.wikipedia.org/wiki/Piramida_potreb_Abrahama_Maslou).
- [6] Piramida potrebnostej Maslou. (.2021). *Kak ispol'zovat' v zhizni i marketenge*, URL: <https://www.unisender.com/ru/support/about/glossary/piramida-maslou/>
- [7] Teoriya potrebnostej Abrahama Maslou. (2021). URL: [https://studme.org/34682/menedzhment/teoriya\\_potrebnostey\\_abrahama\\_maslou](https://studme.org/34682/menedzhment/teoriya_potrebnostey_abrahama_maslou).
- [8] Maslou A. (1999). *Motivaciya i lichnos*, SPb.: Evraziya, 77–105, URL: <http://surl.li/bvszy>.
- [9] Ierarhiya potrebnostej A. Maslou, 2021. URL: <https://www.cfin.ru/encycl/pyramid.shtml>
- [10] Potrebnosti cheloveka po piramide maslou. URL: <https://sendpulse.com/ru/blog/maslows-hierarchy-of-needs>.
- [11] Piramida Maslou, URL: [http://praktiks.com/new\\_page\\_15/?mode=preview](http://praktiks.com/new_page_15/?mode=preview)
- [12] Aleksandrova A.U., 2013. *Osobennosti teritorial'noi organizacii I prodvizhenia parkov razvlechenii*, 38-47, URL: <https://cyberleninka.ru/article/n/osobennosti-territorialnoy-organizatsii-i-prodvizheniya-parkov-razvlecheniy>
- [13] Berezko O.V. (2017). *Arhitekturno-planuval'na organizaciya komunikativnogo prostoru u strukturi torgovo-roz vazhal'nih centriv: dis. kand. arh. L'vivs'ka politekhnika*, 34, URL: [https://ena.lpnu.ua/bitstream/ntb/37500/1/avt\\_Berezko.pdf](https://ena.lpnu.ua/bitstream/ntb/37500/1/avt_Berezko.pdf).
- [14] Grachova M.V., Shikina O.V. (2016). *Perspektiva stvorenniya tematichnogo parku v Odes'kij oblasti. Mikolaïv*, 336-339, URL: <http://global-national.in.ua/archive/14-2016/69.pdf>
- [15] Kopiev's'ka O.R. (2015). *Parkova industriya: pidruchnik*. Kiyv: NAKKKiM, 20-23, URL: [https://nakkkim.edu.ua/images/Instytuty/nauka/vydannia/Kopiev's'ka\\_Pidruchnyk\\_Parkova\\_industriya.pdf](https://nakkkim.edu.ua/images/Instytuty/nauka/vydannia/Kopiev's'ka_Pidruchnyk_Parkova_industriya.pdf).

### АНАЛІЗ ПСИХОЛОГІЧНИХ ПЕРЕДУМОВ З АРХІТЕКТУРНО-ПЛАНУВАЛЬНОЇ ОРГАНІЗАЦІЇ ТЕМАТИЧНИХ РОЗВАЖАЛЬНИХ КОМПЛЕКСІВ ЗА ДОПОМОГОЮ «ПІРАМІДИ МАСЛОУ»

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**Анотація.** Психологічні передумови з архітектурно-планувальної організації тематичних розважальних комплексів за допомогою піраміди Маслоу виявляють передумови утворення тематичних розважальних комплексів як сучасного типу споруди. Піраміда Маслоу - це загальноживана назва ієрархічної моделі потреб людини. Вона дає можливість вирахувати відсоток покриття людських потреб по розширеному типу піраміді в певному типі споруд - тематичних розважальних комплексах; сформувані відсотковий параметр корисності у розрізі поверхів піраміди. Розробити науковий аналіз тематичних розважальних комплексів на їх корисність та рентабельність для суспільства, держави,

інвесторів та ін. Для цього дослідження була взята розширена піраміда Маслоу, у якій сім поверхів: Фізіологія, Безпека, Соціум, Повага, Творчість, Естетика та Самоактуалізація. Ці поверхи для зручності групують по типам потреб: Базисні, Контактні та Розвиткові потреби. Кожен з поверхів ділиться ще на три уточнюючі підпункти такі як: сон, їжа, безпека, любов, повага, краса, лідерство, тощо. Ця піраміда, у відмінності від стандартної п'ятиповерхової, куди не входять Соціум та Естетика – допоможе більш детально проаналізувати тематичні розважальні комплекси.

Наукова новизна дослідження полягає у застосуванні піраміди Маслоу у проектуванні тематичних розважальних комплексів, що вимагають швидкого аналізу їхньої корисності, прибутковості, виявлення людських потреб (які не закриті в суспільстві) та допоможе чіткіше формулювати завдання на проектування для архітекторів. Метою дослідження є аналіз психологічних передумов з архітектурно-планувальної організації тематичних розважальних комплексів за допомогою піраміди Маслоу. У відповідності до мети сформовані наступні завдання - розробити таблиці для аналізу місцевості та корисності тематичних розважальних комплексів за допомогою якої можливо визначити інвестиційну привабливість та рентабельність тематичних розважальних комплексів, існуючого чи який проектується. Можливість користування цією таблицею не маючи профільної освіти та займати мінімальну кількість часу. Отримано метод аналізу потреб суспільства будь-яких регіонів, міст, будь-яких поселень. Даний метод дозволить визначити, які з потреб закриті, а які вакантні, а також допоможе інвесторам доцільніше вибрати місця будівництва та контент тематичних розважальних центрів.

**Ключові слова:** тематичний розважальний комплекс, архітектурно-планувальна організація, піраміда Маслоу, сучасні типи споруд, базисні потреби людини, таблиця корисності тематичного розважального комплексу.