

ПСИХОЛОГІЧНИЙ ЕКСПЕРИМЕНТ ЕМОЦІЙНОГО ЗАРАЖЕННЯ: МІЖНАРОДНА ІНДУСТРІЯ ГОСТИННОСТІ

PSYCHOLOGICAL EXPERIMENT OF EMOTIONAL CONTAGION: INTERNATIONAL HOSPITALITY INDUSTRY

Psychological aspects, such as psychological attitudes, motivational mindset, and emotional incentives are the main driver of human behavior in the economical environment. In today's conditions of COVID-19 realities, these aspects have been dramatically changed. And some important factors of these changes are emotional connections, contacts. The purpose of this study is the generalization, identification, and further development of different sets of approaches for the implementation of discrete aspects of the Hospitality Industry in the context of new economical, psychological, and social conditions with differentiation and further identification of emotional response in internet communications.

Many agree that the understanding and classification of human behavior are the key part in solving any problems, the behavior producing.

In our research we are going from point of view, that one of the main driver of this dramatic process is emotional or psychological contagion.

From these perspectives, the main aim of our work is systematization and improvement of some basic elements of psychological and economical communicative strategy in the Hospitality Industry, based on emotional contagion. We consider it will be possible with systematization, generalization, and adaptation of the psychological factors to the purpose of this development.

In conducted research, we adopted and experimented with one of the existing approaches (PANAS) for emotional measurement with modifications. It can be concluded that measurement in social apps is very effective and very manipulative simultaneously. In perspectives of further research, these results should be verified with more sophisticated algorithms and bigger respondents and response base. In the research process was developed principal logical schema emotional measurement, adapted for the social messenger environment. The result of emotional measurement was dramatically changed with priming and framing effects, which allow conducting a wide range of manipulation for changing results of this measurement in Telegram messenger.

The research schema can be used in the international hospitality industry for measurement and improving potential clients' experience in the COVID-19 era.

Key words: Telegram messenger, Hospitality Industry, emotional contagion, COVID-19 era, communicative response, behavioral psychology of pandemics.

Психологічні аспекти, такі як психологічні установки, мотивація та емоційні стимули, є головними рушіями поведінки людини в економічному середовищі. У сучасних умовах реалії COVID-19 ці аспекти кардинально змінилися. Одним із важливих факторів цих змін є емоційні зв'язки, контакти. Метою дослідження є узагальнення, ідентифікація та подальший розвиток різних підходів до реалізації дискретних завдань індустрії гостинності в контексті нових економічних, психологічних і соціальних умов із диференціацією та подальшою ідентифікацією емоційних реакцій особистості в інтернет комунікації.

Багато дослідників сходяться на думці, що розуміння та класифікація людської поведінки є ключовою частиною в розв'язанні будь-яких проблем, пов'язаних із цією поведінкою.

З таких позицій основною метою нашої роботи є систематизація та вдосконалення деяких основних елементів психологічної та економічної комунікативної стратегії в індустрії гостинності, заснованих на емоційному зараженні.

У проведеному дослідженні ми використали один із наявних підходів (PANAS) для вимірювання емоцій разом із запропонованими модифікаціями. Можна зробити висновок, що емоційне вимірювання в соціальних мережах є дуже ефективним та одночасно дуже маніпулятивним. У перспективах подальших досліджень ці результати слід перевіряти за допомогою більш досконалих алгоритмів і більшої бази респондентів і відповідей. У процесі дослідження була розроблена принципова логічна схема емоційного вимірювання, адаптована до середовища соціального месенджера. Результат емоційного вимірювання в месенджері Telegram кардинально змінився за допомогою залучення ефектів праймінгу й фреймінгу, які дозволяють проводити ефективні маніпуляції щодо впливу на результати емоційного вимірювання.

Схема дослідження може бути використана в міжнародній індустрії гостинності для вимірювання та покращення досвіду потенційних клієнтів в епоху COVID-19.

Ключові слова: Месенджер Telegram, індустрія гостинності, емоційне зараження, ера COVID-19, комунікативна реакція, поведінкова психологія пандемії.

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Background. Psychological aspects, such as psychological attitudes motivational mindset, and emotional incentives are the main drivers of human behavior in the economical environment. In today's conditions of COVID-19 realities, these aspects have been dramatically changed. And one of the important factors of these changes is emotional connections, contacts. The purpose of this study is the generalization, identification, and further development of different sets of approaches for the implementation

of discrete aspects of the Hospitality Industry in the context of new economical, psychological, and social conditions with differentiation and further identification of emotional response in internet communications.

It was found, that the real situation in the world is much worse than official statistics available from national governments. All possible impacts on the global economic environment will be much more sophisticated than the only simple effect of short-term reducing economic activity. Media

are sending a strong message for potential clients and investors of the Hospitality Industry, labeling the industry as “The danger’s territory”.

Extrapolation and systematization risk factors were performed from different sources. It was concluded that the industry should begin developing new communicative strategy and informational company based on the behavioral psychology of pandemics with unification and standardization of industry’s business processes for reducing risk factors.

Formulation of the problem. Many agree that the understanding and classification of human behavior are the key part in solving any problems, the behavior producing. At the beginning of our work we need to state, that this article has been accomplished in March 2021, then the deadly COVID-19 outbreak already begins to fall. According to WHO COVID-19, Weekly Epidemiological Update the number of global new cases reported continues to fall for the sixth consecutive week, with 2.4 million new cases last week, an 11% decline compared to the previous week (figure 1). The number of new deaths also continued to fall for the past three weeks, with nearly 66 000 new deaths reported last week, a 20% decline as compared to the previous week.

In these conditions Hospitality industry starting a slow recovery process from the 2020 year falling. Revenue per available room (RevPAR – performance measure used in the hospitality industry and calculated by multiplying a hotel’s average daily room rate by its occupancy rate. It is also calculated by dividing total room revenue by the total number of rooms available in the period being measured) significantly declined. Analytic from the leading PwC’s United States professional expanded worldwide consulting services reassured: We

currently expect annual occupancy for US hotels this year to drop to 44%, and average daily room rates to drop 21%, with resultant RevPAR declining 47% from last year. RevPAR in 2020 is expected to fall to a level not seen since 1996. In figure 2 as an example, we can see and understand the recovery problematic.

In this context, we can consider the current pandemic situation in the Hospitality industry and all economics world as a “Perfect storm” witch takes place with a rare combination of disparate circumstances produces an event of extreme violence: in such a case, a synergy of forces releases energy much greater than the mere sum of its individual contributors. The term was popularized by Sebastian Junger’s nonfiction bestseller.

In our research we are going from point of view, that one of the main driver of this dramatic process is emotional or psychological contagion, because “all around us exist an emotional ecosystem <...> and like catching a cold, we can catch others’ positive and negative emotions <...> Zoe Franklin. Emotional Contagion: How we mimic the emotions of those similar to us” [5].

Analysis of recent research and publications. Psychology of COVID-19 become very popular in recent times. Such authors as Jolanda Jetten, Stephen D. Reicher, S. Alexander Haslam, and Teegan Cruwys in the free SAGE project seriously contribute to research on this interesting topic [3]. We can find here and agree with thoughts, that compliance is shaped by perceptions of the behavior of other members of our communities, and acts of followership are not individual in nature but result from the internalization of collective concerns.

We must also mention another new interesting book from SAGE Publications Ltd with the nearly

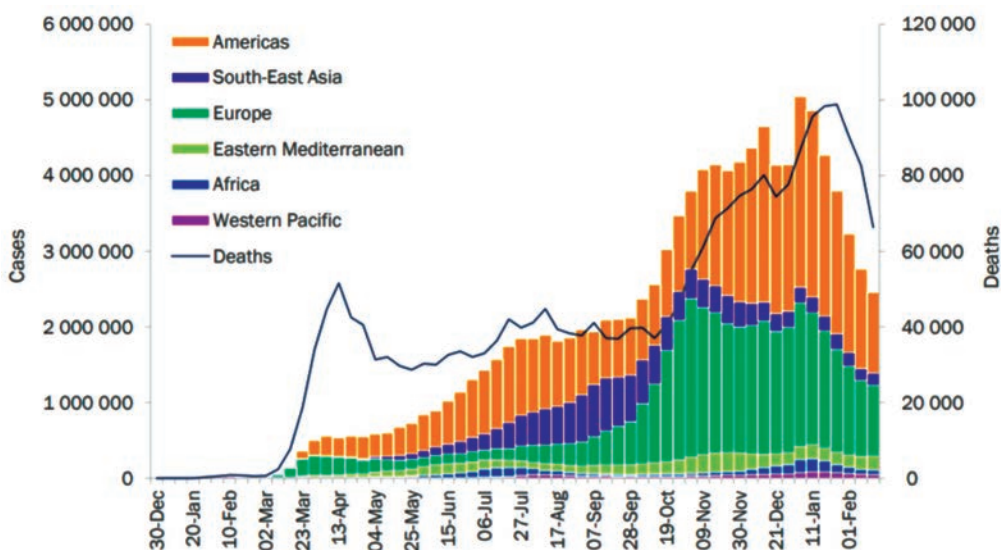
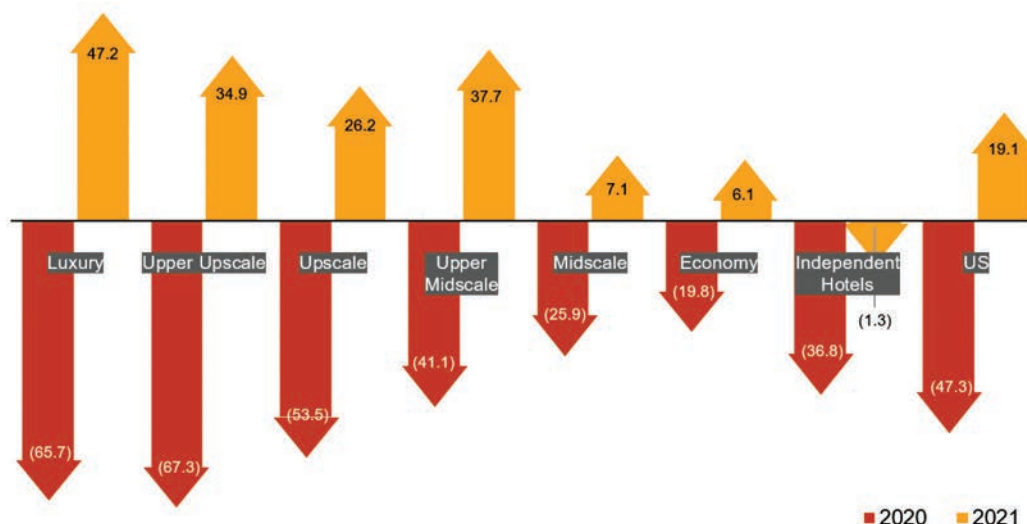


Fig. 1. COVID-19 cases reported weekly by WHO Region, and global deaths as of 21 February 2021 [1]



Source: PwC, based on STR data

Fig. 2. RevPAR percent change, US and chain scales [2]

identical title – The psychology of COVID-19: Building Resilience for Future Pandemics psychologist, philosopher, and researcher Joel Vos [4]. In this context it is important to agree, that “Science during pandemics is extraordinary science, as researchers need to make bold conclusions and brash recommendations while there are still many uncertainties” [4].

The Lee Daniel Kravetz last work “Strange Contagion: Inside the surprising science of infectious behaviors and viral emotions and what they tell us about ourselves” is an impressive journey of personal author’s experience from connections with infectious behaviors and viral emotions [6].

Although emotional contagion is a well-known phenomenon and the topic of economic and hospitality industry problems remains actuality, we consider that emotional contagion remains ambiguous in relationship with today’s problematic and need further research into connection with the Hospitality industry specific situation.

Introduction. Aim and actuality of the problem. The phenomenon, known as emotional contagion was perfectly-identified in the groundbreaking book Emotional Contagion by Walster, Elaine Hatfield, Rapson, L. Richard and Cacioppo, T. John. When people are in a certain mood, whether elation or depression, that mood is often communicated to others. When we are talking to someone who is depressed it may make us feel depressed, whereas if we talk to someone who is feeling self-confident and buoyant we are likely to feel good about ourselves [7].

From these perspectives, the main aim of our work is systematization and improvement of some basic elements of psychological and economical communicative strategy in the Hospitality Industry,

based on emotional contagion. We consider it will be possible with systematization, generalization, and adaptation of the psychological factors to the purpose of this development. We also consider this focus of our attention as very actual because of the real negative economical impact of the deadly COVID-19 outbreak that already has a place.

Results. What is emotion? From Wikipedia we know, that Emotions are “biological states associated with all of the nerve systems brought on by neurophysiological changes variously associated with thoughts, feelings, behavioral responses, and a degree of pleasure or displeasure”. Currently, there is no scientific consensus on a definition. And we do not have one approach to recognize and understand the subject. In this context, we should mention only a few from such emotional theories as Evolutionary, Somatic, James–Lange, Cannon–Bard, Two-factor, Cognitive and Perceptual theories. It is not the main topic of our research. So we choose the famous and the most convenient for us general psychoevolutionary theory of emotion of Robert Plutchik that was developed with collaboration with Henry Kelerman [8].

The theory was chosen with the consideration that the theory was developed for empirical research using serial of next tools and concepts:

First, it provides a broad evolutionary foundation for conceptualizing the domain of emotion as seen in animals and humans.

Second, it provides a structural model which describes the interrelations among emotions.

Third, it has demonstrated both theoretical and empirical relations among a number of derivative domains including personality traits, diagnoses, and ego defenses.

Fourth, it has provided a theoretical rationale for the construction of tests and scales for the measurement of key dimensions [8].

In psychoevolutionary theory paradigm impotent role playing the next complex, Probabilistic Sequence of Events Involved In the Development of an Emotion, there was developed next five stages of events:

1. Stimulus event;
2. Inferred cognition;
3. Feeling;
4. Behavior;
5. Effect.

From this point of view after choosing a system of emotional differentiation for further processing our empirical research we need to choose a system of emotional recognition.

One of the most common and deceptively simple ways to measure emotional states in human adults is by means of adjective checklists. Such lists consist of a series of adjectives - such as calm, nervous, fearful, or bored – that the subject identifies as reflections of his or her feelings. The various checklists differ in a number of ways. They vary in length, from as few as 8 adjectives to as many as 235. Some require a simple “yes / no” response, while most ask for a graded intensity judgment or a graded frequency of occurrence judgment.

Sophia J. Durrani in her Thesis Submitted for the Degree of PhD dedicated to studies of emotion recognition from multiple communication channels has proposed the selective list of basic emotions [10].

And it should be understandable, that the first starting point in this process is Robert Plutchik’s work from his famous series “Emotions Theory Research and Experience” – “The Measurement of Emotions” there subjective reports of inner states are one of the central parts of management systems. From the point of view of the psychoevolutionary theory, an emotion is a complex chain of events that includes the eight basic emotions, their different intensity levels, their mixtures, and their derivatives.

After choosing the working concept the main question of our work is how to measure emotional state. And need to mention, that we do not choose any of the existing systems of measurement due to a lack of simplicity. At this stage, we consider such emotions/affect measurement as: Positive and Negative Affect Schedule (PANAS);

- PANAS-X;
- The International Positive and Negative Affect Schedule Short Form (I-PANAS-SF);
- The State-Trait Emotion Measure (STEM);
- Differential Emotions Scale (DES);

Table 1

Selective list of basic emotions

Reference	Fundamental emotions	Reason for inclusion
Arnold (1960)	Anger, aversion, courage, dejection, desire, despair, fear, hate, hope, love, sadness.	Relation to action tendencies.
Ekman, Friesen, and Ellsworth (1982)	Anger, disgust, fear, joy, sadness, surprise.	Universal facial expressions
Frijda(1986)	Desire, happiness, interest, surprise, wonder, sorrow.	Forms of action readiness.
Gray (1982)	Rage and terror, anxiety, joy.	Hardwired.
Izard (1971)	Anger, contempt, disgust, distress, fear, guilt, interest, joy, shame, surprise	Hardwired.
James (1884)	Fear, grief, love, rage.	Bodily involvement
McDougall (1926)	Anger, disgust, elation, fear, subjection, tender-emotion, wonder.	Relation to instinct.
MacLean (1990)	Desire, affection, fear, anger, sadness, ecstasy	Derived from activities in the limbic system
Mowrer (1960)	Pain, pleasure.	Unlearned emotional states.
Oatley and Johnson-Laird (1987)	Anger, disgust, anxiety, happiness, sadness.	Do not require prepositional content.
Panksepp(1982)	Expectancy, fear, rage, panic.	Hardwired.
Plutchik(1982)	Acceptance, anger, anticipation, disgust, joy, fear, sadness, surprise.	Relation to adaptive biological processes.
Tomkins (1984)	Anger, interest, contempt, disgust, distress, joy, fear, sadness.	Density of neural firing. Related to facial expressions.
Watson (1930)	Fear, love, rage.	Hardwired.
Weiner and Graham (1984)	Happiness, sadness.	Attribution independent.

Table 2

The “I” project principal logic – schema

Triggers		Auditory	Links	Behavior	State machine	Targets	DB		
main	detailed						1	2	3
Events									
Commands									
Time									
User’s message									
State machine									

- Profile of Mood States (POMS2);
- The State-Trait Anger Expression Inventory (STAXI);
- STAXI (-2);
- The Anger Rumination Scale (ARS);
- The State-Trait Anger Scale (STAS).

The decision was made considering that mood (negative / positive) measurement systems, such as ARS or STAS do not have options for emotion recognition, and even PANAS not simple enough for everyday measurement. This approach was been mixed with positive/ negative affectivity measurement for linking and graduation emotion recognition system for further practical usability.

For the purpose of the practical experimental test system, we used open-sours project “i” that have been placed on GitHub web address: <https://github.com/chirichenko/i/> that working as chat-bot in Telegram messenger.

The “i” project has the next principal logic – schema (table 2)

As we can see, chat-bot actions can be triggered by five types of events:

- λExternal events (for example starting user participation in the project);
- λUser commands;
- λTime-triggers;
- λUser’s informational message;
- λThe state machine (technically for state machine configuration was used async python library for such development – Asyncio with an embedded approach to “User’s state”).

So for purpose of our research, we used Plutchik’s emotional wheel (figure 3) and have been transformed PANAS removing the grading scale and adding positive / negative affectivity measurement.

We conducted research with 3 test grope every one of which was consisted of 30 participants from unknown age / gender groups. Also was used Emotional measurement (Plutchik schema) with PANAS removing grading scale and adding positive/ negative affectivity measurement.

The second grope used priming effect with Joy emotion. (thirst emotional assessment was a priori

Joy. Participants have seen joy as the emotion that already was chosen and can a posteriori consider that it was chosen by previous participants from the current group.

The third group independently used the framing effect, then choose Joy was stimulated by motivational phrases and separately drawing this emotion on pie diagram.

The experiment was conducted 30 days (30 sequential interactions) with the next results (neutral diagram, diagram with priming, and diagram with framing effects) in figure 4.

As we can see in figure 4, the Joy variable was chosen more time in conditions there Nudge priming, and framing was used.

As we already declare previously, in the pre-COVID-19 era, the main differentiation in the Hospitality Industry was the level of comfort to guests or travelers with appropriate cost equivalences. In the COVID-19 era, it additionally will be an epidemiological safety level. The communicative response should be based on a unified and standardized system that can be verified with some form of external audit.

Conclusion. In conducted research, we adopted and approbated one of the existing approaches (PANAS) for emotional measurement with modifications. It can be concluded that measurement in social apps is very effective and very manipulative simultaneously. In perspectives of further research, these results should be verified with more sophisticated algorithms and a bigger response base. In the research process was developed principal logical schema emotional measurement, adapted for the social messenger environment. The emotional measurement result was dramatically changed by using priming and framing effects, which allow conducting wide manipulation for changing emotional measurement results in Telegram messenger.

The research schema can be used in the international hospitality industry for measurement and improving potential clients’ experience in the COVID-19 era.

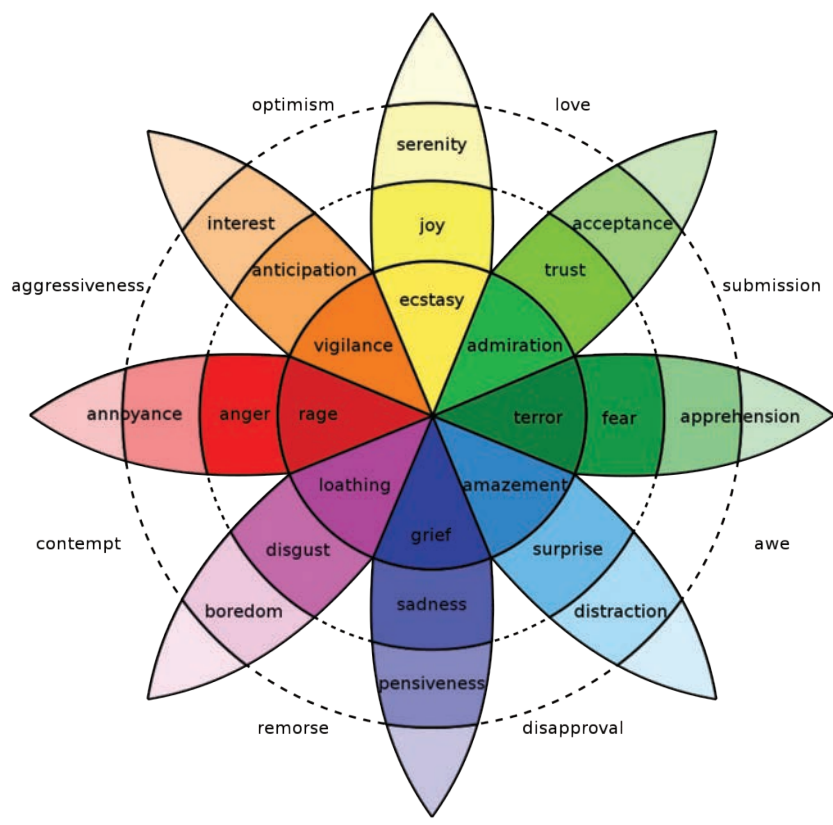


Fig. 3. Plutchik emotional wheel. Sours [8]

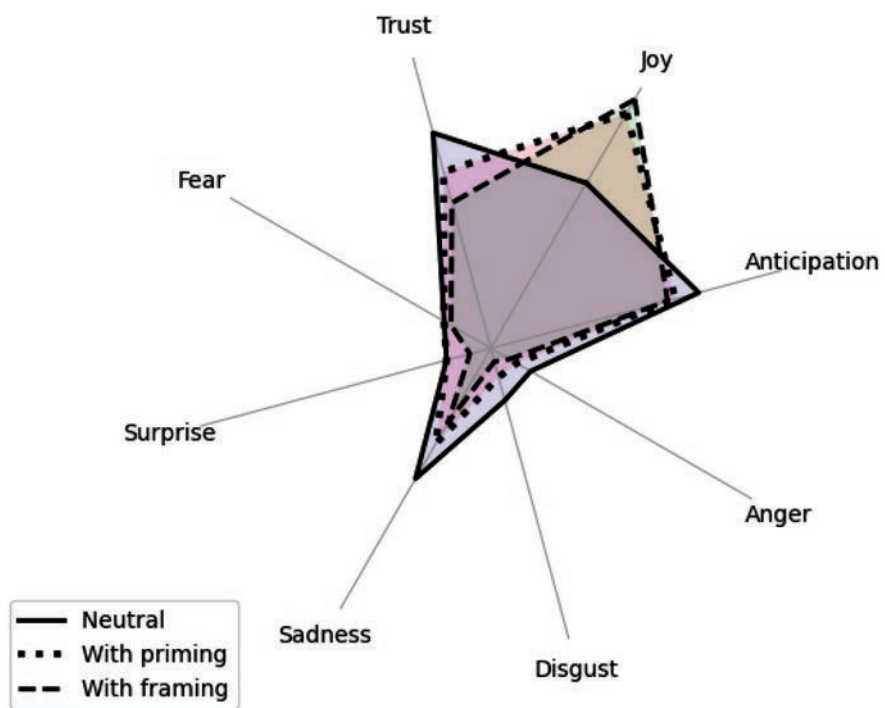


Fig. 4. Results of emotional measurement with neutral, priming and framing effects

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