

Research paper

Indicators Related to Theorizing Measurement (a Capacity Measurement Framework)

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Abstract

Purpose: Relatively much research has been done into theorizing and its importance. However, the number of studies related to the understanding of contexts is very negligible and so far no framework has been provided including indicators and evaluation methods. This research has been done with the aim of achieving the indicators related to theorizing and subsequently presenting a formula to measure the potential and theorizing capacity of scientific institutes. **Method:** Library and field methods have been used to collect information. Data were first collected through a checklist and then through the AHP questionnaire. Questionnaire was distributed among experts and AHP method was used to analyze the data. Expert Choice software was used to analyze the data obtained from the AHP questionnaire. **Findings:** The results indicate that individual index is 9 times more important than non-individual index in the theorizing process. A pairwise comparison of individual sub-indices showed that "awareness of theorizing" and "research ability" have an equal portion in theorizing. The "coherence of personality traits" is sextuple as important as the "awareness of theorizing". "Coherence of personality traits" up to sextuple "research ability" can be considered important in the theorizing process. A pairwise comparison of non-individual index sub-indices showed that "communication level" is twice as important as "institutional index level". However, the "effect level" is twice as important as the "communication level". The "communication level" is 7 times more important than the "management index level". The "effect level" can be considered 7 times more important than the "institutional index level". "Institutional index level" is quadruple more important than "management index level". The "effect level" is extremely important compared

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to the "management index level". Conclusion: Although theorizing is done by a researcher or a group of researchers, but ultimately, it is a collective matter or at least, several components are involved in its formation. Theorizing is a coherent, dynamic, purposeful and thoughtful practice whose results can lead researchers to recognize the credible generalizable relationship between causes and effects. Finally, the formula $Tp = (0.9I + 0.1NI)$ was presented, which can be used to assess the capacity of theorizing in institutes.

Keywords: Theory, Theorizing, Theorizing Capacity, Assessing Theorizing.



Introduction

Many definitions of theories are available; each of the experts has defined the theory from their own point of view. "Theory is a set of propositions or theorems that provide explanation or description or understanding between different topics" (Harsij, 2011). According to Dubin, "theory is a set of causal relationships between phenomena" (Danaeifar, 2010). Some people believe that due to its systematic nature, theory is very effective and helps the researcher in achieving and understanding complex theorems (Van de Van, 1989; quoted in Najjari, 2011). Most researchers understand the importance of theory and theorizing; Researchers and experts emphasize its importance by mentioning the benefits of theorizing. Theory, by explaining, interpreting and predicting events, leads to the formulation of scientific laws and the presentation of a body in which phenomena make sense (Piroozbakht, 2013). Through theory and theorizing, the motivation for research in society is strengthened and the bases for new research is provided. Following the theorizing, the collected information is summarized and organized. Also, by interpreting the relationships of the variables derived from the evidence, the correlation between the events becomes clear. According to the rules gained from the theory, future events are predicted and subsequent problems are prevented (Nourbakhsh Moghaddam, 2014). Meshkat (2011) in an interview with the Office of Theory, Criticism and Debate of the University of Isfahan, considers the life of human knowledge as dependent on theorizing. In an interview with the bi-monthly journal of Farabi International Festival, Zibakalam (2008) defines theorizing as follows: "Facing phenomena or problems or issues, and trying to understand them in order to solve or eliminate them, or in some cases, in order to Expand or consolidate those phenomena". Theorizing in academic centers is a fundamental element of the growth and development of scientific fields and a sign of research artistry in the field of science; it is not possible to solve society's problems by imitating the thoughts of others. Theorizing as the lever and background of innovation is considered the lifeblood of the humanities and also the entire scientific community (Salimi, 2016). Dinarvand (2012) recognizes the importance and necessity of theorizing in creating change, independence and do not imitate of thought of others and says: "Today Theorizing is the need of human societies to get out of the current situation. Theory is the new word for

eliminating the obsolete and inapplicable words of yesterday. Theorizing creates change. It is an important factor in detecting changes. It is a great incentive to accept new data that creates individual improvements. We must feel this need profoundly. We want development. Without theorizing we can only wait for the thought of others". As the definitions show, it is clear that theorizing is very important. However, as it should be, no research has been done into theorizing and the indicators related to theorizing and their internal relationships. In other words, it is not clear what indicators are important for burgeoning of the theorizing process. Also according to the initial evidence, it can be argued that it is not to what extent scientific institutes have the capacity and potentiality for theorizing. Identifying indicators related to theorizing can be a useful and efficient tool for universities and scientific institutes. Universities and scientific centers can identify their strengths and weaknesses by matching their status and facilities with theorizing indicators and also by computing the capacity of theorizing and trying to strengthen the strengths and eliminating the weaknesses. The main problem of this research is what are the indicators related to theorizing and how can the theorizing capacity of scientific centers be calculated? In the field of identifying indicators related to theorizing, so far no research has been done that has directly focused on this problem, but indirectly, some researches has been done that have been briefly mentioned. Previous researches have tended to examine the barriers of theorizing and research. In fact, researchers have focused less on identifying the indicators and factors influencing theorizing. But a logical point to note here is that sometimes the presence or absence or even having or not having of a trait can be effective in referring to that trait as a promoter or deterrent. Indeed, having or not having something makes us consider it a promoter (effective factor) or a deterrent (obstacle). For example, in the field of educational accomplishment, intelligence seems to be an important component. But the truth is that intelligence is not in itself one of the factors influencing educational accomplishment, but "having or not having intelligence" makes us consider it an obstacle or a factor. This is also true in the field of theorizing. For example, the individual dimension is one of the dimensions that have been identified as a barrier of theorizing. Paying attention to the internal components of the individual dimension shows that shifting the verbs of "having and not having" can change

the role of a component from an obstacle (deterrent) to a positive factor (promoter). For example, lack of or weakness in critical thinking is one of the individual barriers. Naturally, having critical thinking can be considered a positive individual factor. Mahmoodi, Hassanzadeh and Zandian (2019) in a qualitative study focused on modeling the barriers of theorizing in information science in Iranian universities concluded that individual, educational, cultural, managerial, economic, social and political barriers prevent the researcher from theorizing. The model of the septet barriers of theorizing shows that in the individual dimension, components such as weakness in critical thinking, self-confidence and creativity can deviate the researcher from theorizing. The results indicate that the researcher is at the center of theorizing and ignoring theorizing is more relevant to the researcher than other dimensions. Ashrafi et al. (2015) examined the individual, socio-cultural, and organizational dimensions of research barriers. Their results show that students' course density is more deterrent than other barriers. The individual dimension seems to be more influential than other dimensions. According to them, if a person is not familiar with the research method, he will not be very successful in research. These results can be generalized to theorizing. In fact, it seems that a person who is not familiar with research methodologies and theorizing will not succeed in this. Alexander Olesen et al. (2017) examined research barriers in the emergency medical group. The findings of this study indicate that time; skill and culture are three important factors in research. In other words, a person who does not have enough time and skills to conduct research and theorizing will be less interested in this. Also, if the culture of research and theorizing is not institutionalized in the scientific community, we cannot hope to conduct research and provide consistent theories. Aditi Hegde et al. (2017) in a study found that workload, time constraints, lack of financial resources, weakness in education and lack of instructor change the research process. When the workload of researchers as well as theorists is large, conducting research will be difficult. Most researchers believe that time constraints prevent them from conducting research. In addition, a researcher who is not financially supported and has financial concerns will not pay attention to research and theorizing. Fazlollahi (2012), in a descriptive study, investigated the inhibitors of the study. His results show that teaching research methods has an undeniable role in

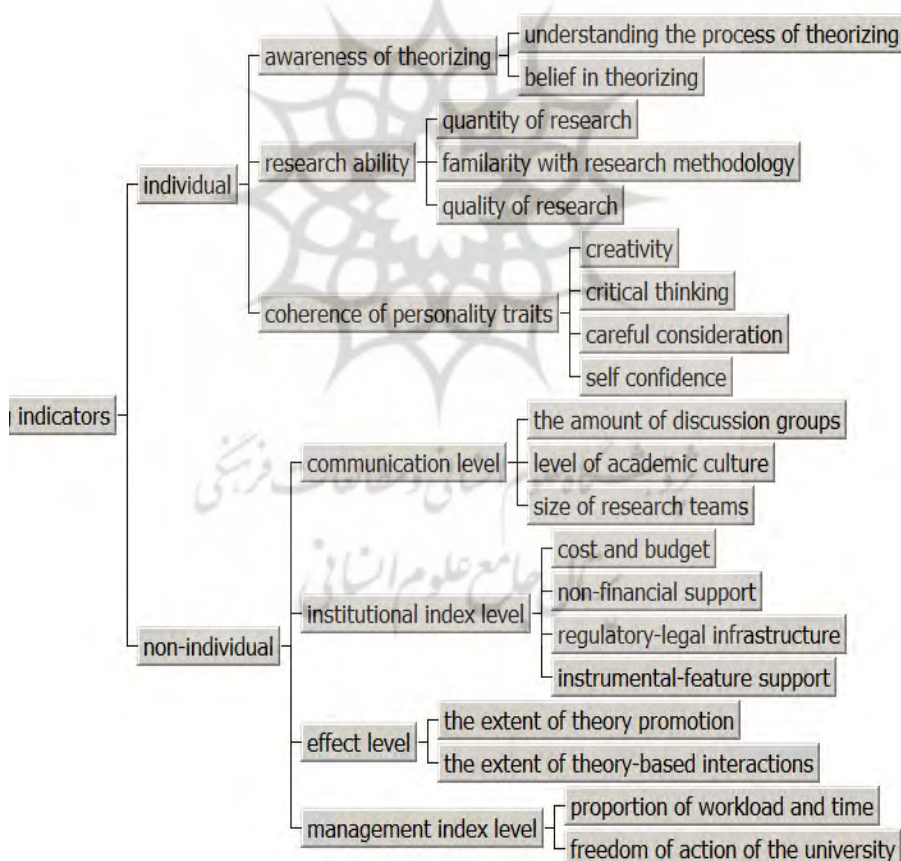
research. Indeed, if the researcher is not trained in research and theorizing, he will have problems in matters related to research and theorizing. Doing research and presenting theory requires technical and specialized skills as well as sufficient motivation. With financial support, research motivation and theorizing motivation can be injected into the researcher. Sirofi and Shariatmadari (2015), in a study showed that lack of facilities, equipment and emphatically lack of financial resources are obstacles to conduct research. Their findings show that the management system is a turbulent system in which management, research and theorizing are seriously damaged. Researches are often imitative, and thoughtful and novel research is seldom presented. Paybast, Babaei and Nasri (2018) in a descriptive study claimed that politics interferes in science. This political interventionism is a major obstacle of theorizing. According to them, the lack of budget and financial resources keeps the researcher away from research and theorizing. Hassanzadeh, Rasouli and Karimi (2019), in a qualitative study concluded that the graft between society and science is not a strong connection. Higher education management is inefficient and educational-research policies are incorrect or incomplete. Aghapour, Farrokhi and Delavar (2019), in a descriptive study, acknowledged that the lack of funding prevents the researcher from research and theorizing. According to them, the wrong culture has become common in the scientific community and the collaboration and desire for cooperation of researchers is very weak. The results show that there is no proportionality between time and workload. Motivation and motivational components are also a significant component in research and theorizing. A researcher who does not have enough motivation to conduct research will face difficulties in conducting research.

According to previous research, it can be concluded that barriers are generally related either to the researcher or to the public and scientific society, which are considered non-individual barriers. In other words, sometimes the researcher does not have enough motivation and potency to do theorizing and sometimes the managerial, economic, and cultural systems governing the scientific society hinder theorizing. In this research, it has been endeavored to identify the indicators related to theorizing measurement by reviewing previous researches and documents with the aim of presenting a formula for measuring theorizing capacity.

Conceptual framework

In this research, the model of septet barriers of theorizing by Mahmoodi, Hassanzadeh and Zandian (2020) is considered as the initial conceptual framework. The septet dimensions of this model, including individual, educational, cultural, managerial, economic, social and political dimensions, were used to come up with a formula. In this model, the researcher as the main entity is at the center of the theorizing process and the relationships of other dimensions around the individual dimension are explained. The main idea of the concepts of this research is also based on the model of septet barriers. In fact, in the process of theorizing, on the one hand, the researcher and on the other hand, the (non-individual) society plays a role.

Figure1. Conceptual model



In the individual dimension, sub-indicators such as "awareness of theorizing", "research ability" and "coherence of personality traits" are considered. In the sub-indicator of "awareness of theorizing", the components of "understanding the process of theorizing" and "belief in theorizing" are considered. In the sub-indicator of "research ability", the components of "research quantity", "familiarity with research methodology" and "research quality" are categorized. The subset of "coherence of personality traits" includes the components "creativity", "critical thinking", "careful consideration", and "self-confidence". The non-individual dimension covers "institutional index level", "management index level", "communication level", and "effect level". The "Communication level" includes the sub-indicators of "Level of Academic Culture", "the amount of discussion groups" and "Size of Research Teams". The "institutional index level" includes the sub-indicators of "cost and budget", "non-financial support", "regulatory-legal framework", and "instrument-facility support". The "effect level" refers to the "the extent of theory promotion" and the "the extent of theory-based interactions". The "management index level" also includes "freedom of action of the university" and "the proportion of workload and time". This is an applied research and library and field methods were used to collect information. In order to collect information, checklist tools and a questionnaire designed by AHP method were used. The AHP questionnaire consists of 31 questions. In order to answer the questions, the experts were asked to give score to the four elements A, B, C and D from 1 to 9. The elements were placed opposite each other in pairs (Table 1).

Table1. Guide to scoring questions (scores: identical 1, slightly more important 3, more important 5, relatively important 7, extremely important 9, numbers 2, 4, 6, 8 intermediate)

B	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	A
C	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	A
D	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	A
C	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	B
D	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	B
D	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	C

The questionnaire was distributed between the experts. In order to measure the validity and reliability of the questionnaire, the inconsistency rate was used. The inconsistency rate is an indicator whose value indicates possible inconsistencies in the pairwise comparison matrix. If inconsistency rate would be less than 0.1, the compatibility of the comparison matrix is approved and acceptable. However, if the inconsistency rate would be greater than 0.1, it indicates inconsistency and instability in the evaluations and judgments of experts. In this study, all indicators and questions had acceptable compatibility. Expert Choice 11 software was used to analyze the data.

Coefficients Allotment

As mentioned earlier, in order to obtain the weight or coefficient of each of the indicators, the method of Analytical Hierarchy process has been used. In general, all sub-indicators were placed in individual and non-individual indicators. A pairwise comparison of individual and non-individual indicators shows that the individual index is extremely important in theorizing. Given that the inconsistency rate of this comparison is less than 0.1, we can hope for the reliability of this claim. In general, it can be concluded that according to experts, the individual index is 9 times more important than the non-individual index in the theorizing process. According to the results of the analysis, a coefficient of 0.9 can be assigned to the individual index and a coefficient of 0.1 to the non-individual index.

Table3. Comparing the relative importance with respect to: Individual

	awareness of theorizing	research ability	coherence of personality traits
awareness of theorizing		1.0	6.0
research ability			6.0
coherence of personality traits	Incon: 0.00		

A pairwise comparison of sub-indicators of individual index shows that the level of awareness of theorizing and the level of research ability have an equal share in theorizing. However, the coherence of researchers' personality traits is 6 times more important than awareness of theorizing. Also, the degree of coherence of personality traits is 6 times more important than the research ability. Given the inconsistency rate, we can be sure of the reliability of this claim. In

other words, there is no contradiction in the opinions of experts. According to the calculations of Expert Choice software, a coefficient of 0.125 can be considered for each of the indicators of research ability and the level of awareness of theorizing, and a coefficient of 0.75 for the index of coherence of personality traits.

**Table4. Comparing the relative importance with respect to:
Individual\awareness of theorizing**

	understanding the process of theorizing	belief in theorizing
understanding the process of theorizing		9.0
belief in theorizing	Incon: 0.00	

A pairwise comparison of the internal components of awareness of theorizing sub-index shows that the degree of understanding the theorizing process is 9 degrees less important than the degree of belief in theorizing. In other words, the degree of belief in theorizing is extremely important and reliable in the theorizing process. The inconsistency rate indicates that this claim is reliable and stable, and no inconsistency is seen in the statements of experts. Therefore, assigning a coefficient of 0.9 to the degree of belief in theorizing and a coefficient of 0.1 to the extent of understanding the process of theorizing seems logical.

**Table5. Comparing the relative importance with respect to:
Individual\Research ability**

	quantity of research	familiarity with research methodology	quality of research
quantity of research			9.0
familiarity with research methodology			9.0
quality of research	Incon: 0.00		

A pairwise comparison of the internal components of the research ability (research competency) index indicates that the quantity of research is 9 times more important than the level of familiarity with the research methodology. In addition, the quality of research is 9 times more important than familiarity with research methodology. Experts' opinions show that the quality and quantity of research have equal value in the theorizing process. According to the results of the analysis, a coefficient of 0.474 can be assigned to each of the components of quantity and quality of research, and a coefficient of

0.053 can be assigned to the component of familiarity with research methodology.

Table6. Comparing the relative importance with respect to: Individual\Coherence of personality traits

	creativity	critical thinking	careful consideratio	self confidence
creativity		1.0	3.0	9.0
critical thinking			1.0	9.0
careful consideration				9.0
self confidence	Incon: 0.06			

A pairwise comparison of the components of coherence of personality trait index shows that the degree of importance of the researcher's creativity and critical thinking is equal. However, the level of critical thinking is 3 times more effective than the careful consideration. Self-confidence is extremely important in theorizing compared with creativity. Although the degree of importance of careful consideration and critical thinking is not different, it seems that self-confidence is 9 times more important than critical thinking. Findings show that self-confidence is also extremely important compared with careful consideration. The findings led us to assign a coefficient of 0.113 to the component of creativity, a coefficient of 0.082 to the component of critical thinking, a coefficient of 0.064 to the component of careful consideration and a coefficient of 0.74 to the component of self-confidence.

Table7. Comparing the relative importance with respect to: Non-individual

	communication level	institutional index level	effect level	management index level
communication level		2.0	2.0	7.0
institutional index level			7.0	4.0
effect level				9.0
management index level	Incon: 0.04			

A pairwise comparison of sub-indicators of non-individual index shows that the communication level is twice as important as the level of the institutional index. However, the effect level is twice as important as the communication level. Paired comparisons show that the communication level is 7 times more important than the management index level. The effect level can be considered 7 degrees more important than the institutional index level. The institutional index level is 4 times more important than the management index

level. The effect level is extremely important compared with the management index level. Considering the inconsistency rate, it can be concluded that there is no contradiction in the statements of experts and the opinions of experts are highly compatible. According to the results of the analysis, a coefficient of 0.265 to the communication level component, a coefficient of 0.123 to the institutional index level component, a coefficient of 0.569 to the effect level component and a coefficient of 0.042 to the management index level component can be assigned.

Table8. Comparing the relative importance with respect to: Non-individual\Communication level

	the amount of discussion groups	level of academic culture	size of research teams
the amount of discussion groups		9.0	9.0
level of academic culture			2.0
size of research teams	Incon: 0.05		

A pairwise comparison of the internal components of the communication index shows that the degree of importance of the level of academic culture is 9 times more important than the amount of the discussion groups in theorizing. The size of research teams is 9 times more important than the amount of discussion groups. It also seems that the level of academic culture is 2 units more important than the size of research teams. Given the inconsistency rate, we can hope for the consistency of the experts' statements.

Table9. Comparing the relative importance with respect to: Non-individual\Institutional index level

	cost and budget	non-financial support	regulatory-legal infrastructure	instrumental-feature support
cost and budget		1.0	1.0	1.0
non-financial support			1.0	1.0
regulatory-legal infrastructure				1.0
instrumental-feature support	Incon: 0.00			

A pairwise comparison of the components of the institutional index level shows that no component is superior to another. In fact, in the theorizing process, the amount of cost and budget, the amount of non-financial support, the regulatory-legal framework, and the amount of instrumental-facility support (instrumental-feature support) are equally important. Therefore, it makes sense to assign a coefficient of

0.25 to each of these cases. Considering the inconsistency rate, the stability and consistency of the experts' statements can be ensured.

Table10. Comparing the relative importance with respect to: Non-individual\effect level

	the extent of theory promotion	the extent of theory-based interactions
the extent of theory promotion		1.0
the extent of theory-based interactions	Incon: 0.00	

A pairwise comparison of the components of the effect level sub-index indicates that the extent of theory promotion and the extent of theory-based interactions are equally involved in the theorizing process. Therefore, the weight of these two components is equal and the allocation of weights is such that a coefficient of 0.5 is considered for each of these components.

Table11. Comparing the relative importance with respect to: Non-individual\Management index level

	proportion of workload and time	freedom of action of the university
proportion of workload and time		9.0
freedom of action of the university	Incon: 0.00	

A pairwise comparison of the components of the management index level shows that the degree of freedom of action of the university is 9 times more important than the proportion of workload and time. Therefore, allocating a coefficient of 0.9 to the degree of freedom of action of the university and a coefficient of 0.1 in proportion of workload and time seems reasonable. Given the inconsistency rate, it can be argued that the statements of experts are reliable and consistent.

The obtained coefficients for each of the studied indicators and sub-indices have provided a suitable framework for calculating and explaining the "theorizing capacity" of scientific and academic institutions. Based on the performed formulation, the formula $TP = 0.9I + 0.1NI$ is presented. (The full name of each symbol is given in Table 12):

$$I = (0.125At + 0.125Ra + 0.75Cpt)$$

$$At = (0.1Upt + 0.9Bt)$$

$$\begin{aligned}
 Ra &= (0.474Q1r+0.053Frm+0.474Q2r) \\
 Cpt &= (0.113C+0.082Ct+0.064CC+0.74Sc) \\
 Ni &= (0.265CI+0.123Iil+0.569EI+0.042Mil) \\
 CI &= (0.051Adg+0.582Lac+0.367Srt) \\
 Iil &= (0.25Cb+0.25Nfs+0.25Rli+0.25Ifs) \\
 EI &= (0.5Etp+0.5Etbi) \\
 Mil &= (0.1Pwt+0.9Fau)
 \end{aligned}$$

TP-

$$=0.9(0.125At+0.125Ra+0.75Cpt)+0.1(0.265CI+0.123Iil+0.569EI+0.042Mil)$$

$$\begin{aligned}
 TP &= 0.9(0.125(0.1Upt+0.9Bt)+0.125(0.474Q1r+0.053Frm+0.474Q2r) \\
 &+ 0.75(0.113C+0.082Ct+0.064Cc+0.74Sc))+0.1(0.265(0.051Adg+0.582Lac+0.367Srt) \\
 &+ 0.123(0.25Cb+0.25Nfs+0.25Rli+0.25Ifs)+0.569(0.5Etp+0.5Etbi)+0.42(0.1Pwt+0.9Fau))
 \end{aligned}$$

Table12. Indicators and symbols (abbreviations)

Indicators\sub indicators	Symbol
Theorizing potential	Tp
Individual	IS
Non-Individual	NI
Awareness of theorizing	At
Research ability	Ra
Coherence of personality traits	Cpt
Communication level	CI
Institutional index level	Iil
Effect level	EI
Management index level	Mil
Understanding the process of theorizing	Upt
Belief in theorizing	Bt
Quantity of research	Q1r
Familiarity with research methodology	Frm
Quality of research	Q2r
Creativity	C
Critical thinking	Ct
Careful consideration	Cc
Self confidence	Sc
The amount of discussion groups	Adg
Level of academic culture	Lac
Size of research teams	Srt
Cost and budget	Cb
Non-financial support	Nfs
Regulatory-legal infrastructure	Rli

Indicators\sub indicators	Symbol
Instrumental-feature support	Ifs
The extent of theory promotion	Etp
The extent of theory-based interactions	Etbi
Proportion of workload and time	Pwt
Freedom of action of the university	Fau

Conclusion

Although theorizing is done by a researcher or a group of researchers, but ultimately, it is a collective matter or at least, several components are involved in its formation. A focus on the individual or a one-dimensional view of theorizing cannot explain its collective and group nature. Theorizing is a coherent, dynamic, purposeful and thoughtful practice whose results can lead researchers to recognize the credible generalizable relationship between causes and effects. In a simple analogy, if we assume theorizing as medicine, we see that a surgeon needs indicators to diagnose and treat a patient; the physician needs medical knowledge first, then medical tools, a suitable environment for treating the patient, and the presence of colleagues to facilitate the treatment and surgery process. Likewise, to do theorizing, some indicators are needed, some of which go back to the individual and some to society. In the individual part, since theorizing is a precise and accurate multidimensional activity, the researcher, in addition to being aware of theorizing, must have the necessary capabilities. The coherence of the researcher's personality traits, like a facilitator, can accelerate and facilitate the theorizing process. Each of the individual components has a different degree of importance. In fact, the degree of importance of individual components and indicators may not be the same. When it can be claimed that the researcher is aware of theorizing, firstly, he would have a clear and definite understanding of the theorizing process and secondly, he would believe in theorizing.

The more the researcher believes in theorizing, the more he / she becomes aware of theorizing; He is also more likely to be interested in this fascinating phenomenon. The researcher's research ability can be calculated by examining the quantity of research, the quality of research and the level of familiarity with research methodology. Apparently, the quantity and quality of research have the same value in comparison with each other, but they are 9 times more important in comparison with the level of familiarity with research methodology;

this difference is normal! Because the researcher can produce a lot of quality research that is equipped with research methodology. As the belief in theorizing of researcher increases, the awareness of theorizing would increase; He\she would be also more likely to be interested in this fascinating phenomenon. The researcher's research ability can be calculated by examining the quantity of research, the quality of research and the level of familiarity with research methodology. Apparently, the quantity and quality of research have the same value in comparison with each other, but they are 9 times more important in comparison with the level of familiarity with research methodology; this difference is normal! Because when the researcher would be equipped with research methodology he\she could produce a lot of high quality research. The coherence of the researcher's personality traits is one of the individual indicators that can be assessed by examining the level of creativity, critical thinking, careful consideration and self-confidence. A researcher who coherently has the components of creativity, critical thinking, careful consideration, and self-confidence he\she would be likely more interested in theorizing. Creativity and critical thinking seem to be equally important in theorizing, but the level of critical thinking is 3 times as effective as the careful consideration in this process. The problem for many researchers is that they do researches with a definite view. However, scientific content, except in a few cases, has relativity and not certainty. The theorist is a critical and astute researcher who constantly observes the mistakes and shortcomings of previous researches with great care and tries to eliminate the weaknesses of previous researches in a coherent and attractive way. In this way, self-confidence can deeply motivate the researcher to theorize. Apparently, a creative and insightful researcher who has a high level of critical thinking but a low level of self-confidence will not dare to theorize. This means that self-confidence is the driving force that leads the researcher to theorizing. Of course, self-confidence alone is not enough, but the high importance of this indicator is undeniable. In addition to individual indicators and characteristics, there are some community-based barriers. Communication index, institutional index level, management index and effect level fall into this category. The communication index has a socio-cultural aspect and its emphasis is on social and cultural aspects. The level of communication is more important than the level of institutional index and management index.

However, communication level is less important than the effect level. The effect level is more important than all social aspects. If a theory becomes popular in society and researchers interact with each other based on presented theories, it can be claimed that the level of effectiveness of the theory has been acceptable. This high level of effect of theory and theorizing encourages people to theorize more than ever. After the effect level, the communication level should be mentioned. The level of academic culture, the amount of discussion groups and the size of research teams indicate the level of communication. As the level of communication increases, the capacity and likelihood of theorizing will increase. Theorizing is an activity that needs to be cultured. Culturalization occurs when researchers' view is structured and guided from the positivist paradigm to the constructivist and interpretive paradigms through continuous training and rigorous legislation. This is more important in the humanities because the object and the subject are human. Just paying attention to the quantitative and numerical research done to improve a resume will never change theorizing. Therefore, there is a need to promote academic culture in the field of theorizing. The size of research teams is also a very important component in theorizing. Although theorizing is a coherent activity, this coherence does not mean individualism in research. Two healthy brains are more efficient than one healthy brain! Therefore, the formation of research teams in the field of theorizing is an undeniable necessity. As the size of research teams increases the likelihood of success would increase. Of course, if a research team would be formed and its size expanded, the duties of the team members must be properly defined. The amount of discussion groups is also one of the components related to theorizing. Of course, this category does not seem to be as important as the above component. After the level of effect index and the level of communication, there is the level of institutional index. In fact, the impact of the institutional index is less than the level of effect and communication index and more than the level of management index. None of the internal components of the institutional index is superior to the other, but each component of the index is important. In other words, the amount of cost and budget, the amount of non-financial support, the regulation-legal framework, and the amount of instrumental-facilities support are the components that are at the institutional index. In fact, academic and non-academic institutions

should support theorizing and provide the ground for theorizing by providing legal-regulatory and non-financial support as well as instrumental support. After the institutional index, there is the management index. The management index is the result of the degree of freedom of action of the university and the degree of proportionality of workload and time. Most researchers and faculty members are dissatisfied due to the mismatch between workload and time. When a faculty member oversees several students while engaging in teaching and research; when a faculty member is appointed to a managerial or administrative position at the same time, his or her energy will be dwindled. When his energy is depleted, he conducts superficial research rather than theorizing and valuable researches. In order for theorizing to grow, the university must have more freedom of action. Adoption of university regulations in organizations other than the university means a reduction in the university's freedom of action. University administrators should have the freedom to plan for themselves in various areas related to the university and not constantly take orders from higher authorities and organizations. In general, it can be concluded that theorizing thrives when individual and non-individual indicators are balanced and strong enough in a university and scientific center. In fact, if there are enough individual and non-individual indicators in scientific centers, the theorizing capacity of those centers will increase. Ongoing activities in progress

The aim of this study was to obtain a formula for measuring the capacity and potential of theorizing in scientific centers. According to the findings, it proposes a new branch of Theorometrics. Due to time constraints and the need for further validation, this research will continue. According to new findings, it is possible to refine the formula. In the next steps, a benchmark should be designed for each of the introduced indicators. Therefore, although the formula itself has good computational capabilities, providing an accurate picture of a research institute or university requires repeated reviews and possible corrections to the formula. In the following, on the one hand, the indicators will be completed and on the other hand, more accurate metrics for the indicators will be introduced.

It should be emphasized that the capacity for theorizing can vary in different disciplines, institutions and even in different countries. For example, indicators such as politics in different disciplines have

different functions. The definition and placement of policy-related indicators, such as political intervention in science and the toxic scientific atmosphere, are less relevant in disciplines such as computer science, literature, and so on. In the social sciences, however, presenting theories that contradict national, regional, and global beliefs can be challenging. Therefore, the intensity and weakness of political indicators are not the same in different fields, and therefore efforts to classify coefficient allocation, and refine them will continue.



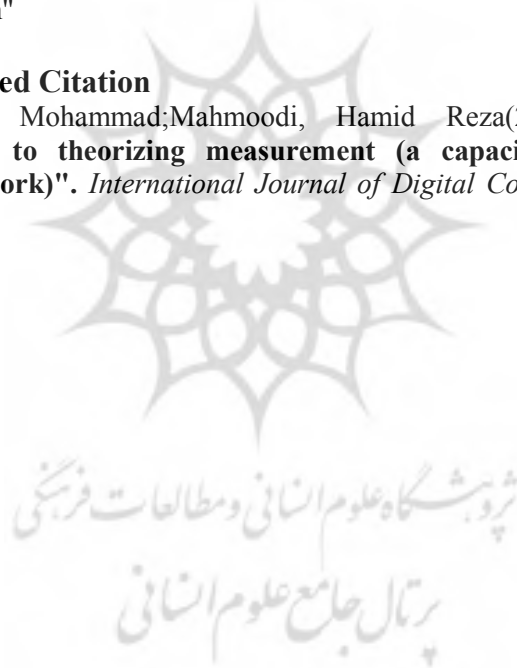
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