# Innovation or Technological Madness? A Research on the Students of Business Administration for Their Preferences of Innovation and Technology

## Mustafa ZINCIRKIRAN[1]

Dicle University, Health Care Management, Faculty of Economics and Administrative Sciences, Diyarbakır, Turkey
Email: mustafa.zincirkiran@dicle.edu.tr

## Hidayet TIFTIK

Turgut Özal University, Business Administration, Faculty of Economics and Administrative Etlik - Keçiören / Ankara, Turkey
Email: htiftik@turgutozal.edu.tr

**Abstract**

This research aims to identify the attitudes of university students, who are assumed to keep up with innovative changes and developments, towards technology. It is also aimed to test and improve the validity and reliability of the scale through methods such as factor analysis and confirmatory factor analysis. Students are asked questions about their purpose in following up the technology, the effect of innovation on their lives as well as the questions about their level of using Internet and smart phone, which have a significant place in technology.

Considering the answers of students having participated in the research, it is possible to state that their reactions to the concepts of technology and innovation are at the medium level. They also think that technology is now a lifestyle rather than a madness and they see technology as a part of their lives. It is possible to say assume that the uncertainty in their answers is the indicator of this fact.

**Keywords:** Innovation, Technology, Factor Analysis, Confirmatory Factor Analysis, Structural Equation Model

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[1] Corresponding Author: e-mail:mustafa.zincirkiran@dicle.edu.tr GSM:+90 530 831 55 52

## Introduction

In today's compelling competitive conditions, the impact of technology and the accompanying innovation on the business performance gain more and more importance. Integration of business functions with technology has made the desired innovation capability more dependent on the human factor (Çiçek 2011:45).

The concepts of technology and innovation are concepts commonly known and used in our day. Although it is difficult to define, the concept directly or indirectly has a considerable influence on the lives of societies, especially in our day.

It may be suggested that technology and innovation are the most important elements of a constantly growing economic development. They are significant signs of taking place in a global economic competition, particularly in a global world. Significance of the concepts may be better understood in consideration of the patent and innovative technology competitions in the latest approach of business administration with brand wars within the countries.

Technology also has an important role in the economic policies. It is observed that technology has had a considerable impact in the solutions for sustainable development and employment and provided a large part of long-term economic growth as a production input besides labor and capital, especially after 1950s (TMMOB 2004).

According to Freeman and Soete, technological innovation is one of the main requirements of economic development and the most critical elements of the competition between both companies and nations and economists are the main ones who cannot disregard this fact (Freeman and Soete 2003: 2).

It is possible to say that young people and especially the university students are the people who follow and use technology at the most. Based on this idea, the article involves university students. As the concept is not exactly recognized by the individuals in the society, approaches regarding the thoughts of university students on innovation and their purpose of using the technology are covered in this research. The research is also about why young people buy technological devices that have an important role in their lives, how they keep up with technology and innovation and their viewpoint on these concepts.

## 1. Innovation Concept

Innovation is derived from the Latin word "innovatus" and means "beginning to use new methods in the social, cultural and administrative environment". Webster defines innovation as a "new and different result". Although it is attempted to be expressed with the words renewal, renovation and newfangledness in Turkish, the associations of these words do not give the real meaning. On the other hand, innovation expresses an economic and social system which aims to differentiate and change not the innovation itself, but the result thereof. Innovation involves the activities of making changes in the external and internal factors, which are under the control of the business in all circumstances, and achieve the purposes of the business in a more effective manner (Müftüoğlu 1987; trs.Kılıç and Bilginoğlu 2010; Elçi 2007).

There are many definitions of the concept of "innovation" in both national and international literature. According to these definitions, innovation is an idea, application or object which is perceived to be new. For example, if a business develops a new product or service for or uses a new method or input for itself, it means that a technical change is made. The business that makes a certain technical change for the first time is the one that makes innovation and this action is called innovation. It is the implementation of an idea for the first time by one of the organizations having similar goals. Innovation is the realization of a change which is new for an organization and its circle. It is the different practices in organizations. Covering the process from the creation to the commercialization of the ideas, innovation is a series of organizational and individual behavioral patterns linked to each other with defined resource allocation decision points.   Industrial innovation involves design, production, management and commercial activities for marketing a new product or commercially using a new process or equipment for the first time. Innovation is the act of synthesizing a requirement in the market  and producing a product that meets this requirement (Schmookler 1966; Rogers 1983; Dean and Goldhar 1980; Tiftik and Zincirkıran 2013).

Drucker thinks that innovation is a certain function of entrepreneurship. Innovation means that the entrepreneur creates new resources and brings prosperity or increase the usage potential of current resources and bring prosperity (Drucker 1985).

According to OECD (Organisation for Economic Co-operation and Development), "Innovation is the application of a new or considerably changed product (goods or services) or process, marketing method or a new organizational method in business practices, workplace organization or external affairs." (OECD 2005).

## 2. Approaches and Researches on Innovation

Searches suggest a number of approaches towards the different impacts of innovation. In this extent, impacts of innovation on the social life, economy, international and national competition, progress, development levels of countries and globalization are examined.

Schumpeter is the first one to remark the importance of innovation in terms of economic growth and emphasize that "competition based on new products is more important than the marginal changes in the prices of products". According to this approach, technological innovation is the key element of economic development and fluctuations in the economy. In Schumpeter's conceptual frame, there is an evolutionary process that arises from the creative destruction of declining sectors and involves the generation of new technologies and new industries in the economy. This process is linked to the technological innovations, which is identified with economic growth and structural change (Justman and Teubal 1991).

It is now understood that, in this competitive environment created by new technologies and globalization, the capability of gaining an international competitive power in fact depends on the maturation in technological innovation. Therefore, it is generally accepted that technological innovation is one of the key indicators of rapid production and income increase as well as the achievement of an international competitive power. M. Porter examines the concept of 'competitiveness' in frame of 'enhancing the society's standards of

living/welfare' in his work 'The Competitive Advantage of Nations' and defined the concept as the ability to increase productivity. "The main economic goal of a nation is to provide its citizens with improved living standards and maintain these standards on a gradually increasing basis. The ability to achieve this goal does not depend on "competitiveness", which is an amorphous concept, but on the efficient use of national resources (labor force and capital). Productivity is the value of output per unit labor force or capital. This value depends on the qualities and properties of products (which determine the price) and on the productivity in production." The only concept having a meaning in terms of competitiveness at the national level is the national productivity. A gradually increasing standard of living depends on the company's capability of reaching high productivity levels and increasing productivity in time." (Porter 1991; trs. Ansal, 2004).

In this extent, technological innovation is not only a way of enhancing the wealth of nations, in the strict sense, the welfare; it is also important as an opportunity for people to do things that have never been done before. Innovation will determine whether the an entire quality of live will get better or worse (Freeman and Soete 2003).

Characteristics of the sectors that the businesses aiming to increase their profitability and maintain their competitive power through innovation and quality of the the opportunities that these businesses are provided with directly influence the innovation performance. No business may achieve innovation in an isolated environment. Innovation activities initiated and conducted in cooperation with external cooperation, including the competitors, provide a wide range of advantages like the reducing research, development and market penetration costs, enabling economy of scale and shortening the innovation process. It is possible to find the importance and result of innovation cooperation at regional level within this determination regarding the Silicon Valley, which is the starting point of innovation-based regional development: "[Regional] Competition has aroused the need for constant innovation and the constant innovation has entailed cooperation between companies." (Elçi et al. 2008:13).

According to the researches carried out in our country, the concept of innovation is discussed in terms of regional innovation, impact of university-industry cooperation, its relation with sustainable development, its impact on business performance, national innovation system, impact of aggregation on innovation, SMEs' innovative management approaches, R&D innovation, relation of innovation with entrepreneurship, technological innovation, impact of innovation on development and competition (Göker 2000a; Göker 2000b; Yılmaz 2003; Kiper 2004; Sungur 2007; Bozkurt and Taşçıoğlu; 2007; Durgut 2007; Baykal 2007; Çalıpınar and Baç 2007; Eraslan et al. 2008; Kalça and Atasoy 2008; Ünlükaplan 2009Korkmaz et al. 2009; Bilir 2010; Yavuz 2010; Coşkun et al. 2013).

According to our research, no research has been on the innovation and technology preferences of university students, except the work of Kılıçer and Odabaşı "Individual Innovativeness Scale (IIS) in 2010. The scale used in the research has been prepared and applied inclusively for the first time by us.

## 3. RESEARCH METHOD

### 3.1. Purpose and Significance of the Research

The research aims to reveal the approach of the university students of business administration, who are assumed to follow up innovative change and development more actively, towards technological innovation. It is further aimed to test and improve the validity and reliability of the scale prepared. Students are asked questions about their purpose in following up the technology, the effect of innovation on their lives as well as the questions about their level of using Internet and smart phone, which have a significant place in technology.

## 3.2. Limitations

The research is implemented with associate degree and undergraduate students of business administration in two universities of our country, one of which is a state university and the other is a private university. In this extent, results of the research are limited as they do not reflect all characteristics of the research population. As it is understood during the questionnaires that university students do not have sufficient information about the concept of "innovation", there is another possible limitation in terms of the answers given.

## 3.3. Data Collection Method

The research was implemented on 764 students in total in two universities, one of which is a state and the other is a private university, in 2013. The scale used in the research was prepared to be used in this study for the first time in order to determine students' understanding of following up technology, reasons behind their technology preferences and their attitude towards innovation. Validity and reliability analyses, factor analysis, confirmatory factor analysis and frequency analyses are used for analyzing the data. For each statement in the scale, there is a preference list in 5-point Likert type containing the expressions "Strongly Agree", "Agree", "Neither Agree nor Disagree", "Disagree" and "Strongly Disagree". Answers to the statements are graded with points 5-4-3-2-1 from "Strongly Agree" to "Strongly Disagree".

## 3.4. Data Analysis

After conducting the questionnaire, the data obtained were transferred to electronic environment and analyzed by means of SPSS 16.0 and SEM (Structural Equation Model) Amos 18.0 package software. Cronbach Alpha value was calculated as 0.71 in the reliability test conducted in order to determine the reliability and validity of the data, which means the data are reliable enough. The first requirement for a questionnaire to be valid is its being reliable. Therefore, the upper limit for validity is equal to the square root of the reliability coefficient. Therefore, validity value would be $\sqrt{0.71} = 0.84$. Reliability may bring an upper limit for validity; however, it never guarantees validity (Karagöz et al. 2010:10).

Firstly, the frequencies and percentages of the data obtained in the questionnaire conducted to the students were calculated. Later on, a statement was removed from the 13-item scale regarding technology preferences and innovation perception, a factor analysis was carried out and 3 prominent principal factors were determined. Furthermore, CFA (Confirmatory Factor Analysis) was applied by using structural equation model and factor structure was supported.

## 4. FINDINGS AND DISCUSSION

### 4.1. Descriptive Findings

**Table 1.** Demographic Characteristics of Samples.

| Demographic Characteristic | Value |
|---|---|
| **Description of the line item** | |
| **Month and year of survey** | January-February 2013 |
| **Sample size** | 764 |
| **The Gender** | |
| Female | 49.9% |
| Male | 50.1% |
| Age | |
| 15-20 | 53.7% |
| 21-30 | 42.4% |
| **Education** | |
| Vocational Edu. | 61.5% |
| Bachelor | 37.4% |
| **Marital Status** | |
| Single | 91% |
| **Income Level** | |
| TL 500-1000 | 53% |
| TL 1000-1500 | 16.5% |
| TL 1501-2000 | 14.6% |
| **Type Of University** | |
| Public | 48.8% |
| Private | 51.2% |

The research was conducted in January and February 2013. As seen in Table , out of 764 students having participated in the research, 383 (49%) are female and 381 (50%) are male. 410 (53.7) of the participants are in the age range of 15-20 and 324 (42%) are in the age range of 21-30. 470 (61.5% of the participants) are undergraduate students and 286 (37.4%) are associate-degree students and those remaining not shown in the table are graduate and postgraduate students. 91% of the participants are single. According to the table, more than half of the participants (53%) have an income of TL 500-1000. However, during the research, participants were asked about this situation and it was understood that they tried to show their income low on purpose as they were students and they did not want their income to be known. 373 (48.8%) of the participants study in a state university and 391 (51.2%) study in a private university.

**Table 2.** Other Informations of Samples

| Other Informations | |
|---|---|
| **Internet Usage Time** | **Value** |
| Less Than 1 Hour | 48.8% |
| 1-5 Hours | 42.7% |
| **Smart Phone Usage** | |
| Yes | 51.3% |
| No | 48.6% |

**Mobile Phone Internet Usage**

| | |
|---|---|
| Yes | 66.4% |
| No | 33.6% |
| **(How) Follow Technology** | |
| Internet | 62.2% |
| TV | 23.2% |
| Magazine | 2.9% |
| Newspaper | 9.4% |
| Others | 2.4% |

In addition to the demographic data, students were also asked different questions supporting the main purpose of the research. As an answer to the Internet-related question "How many hours do you spend on Internet a day?", 373 (48.8%) of the participants said that it was less than one hour and 326 (42.7%) said that it was 1-5 hours. The result exactly matches with the research results shown in the following graphic. As shown in the following Figure 1, according to the data declared by ComScore for the period December 2012, Turkey ranks number two in Europe in terms of the time spent on Internet. In regard of the research inluding Internet users over the age 15, Internet users in Turkey spent averagely 31 hours on Internet in December (which corresponds to approximately 1 hour a day).
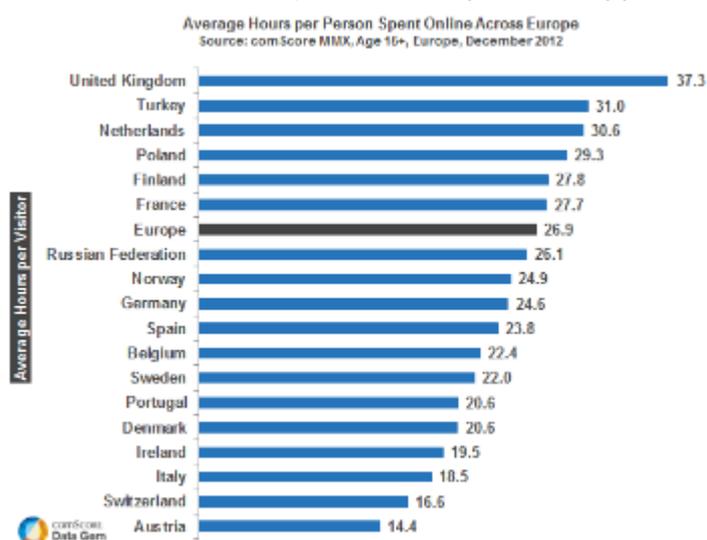


Figure 1. Monthly Average Internet Usage Hours in European Countries (Source: www.connectedvivaki.com)

Students were asked the question "*Do you use smart phone*" and 392 (51.3% of them said yes and 371 (48.6%) of them said no. This result matches with an error margin of 3.9% with the research result "According to the report on monthly telephones sales in 9 months in 2013 of a research company, IDC, (Worldwide Mobile Phone Tracker), there are 1.5 billion smart phone users in total in the world and 55.2 percent of 467.9 phone sales in the world consists of smart phone sales" (http://www.teknolojioku.com)". This shows the reliability of the research.  For the question "*Do you use Internet on your cell phone?*" which was asked in parallel with the foregoing one, 504 (66.4%) of the participants said yes and 260 (33.6%) said no. This result is in parallel with the result "According to the report on mobile devices named

'State of the Global Mobile Consumer: Connectivity is core' published by Deloitte, Turkey ranks first in terms of Internet usage on mobile phone among 15 countries, including developed western countries like USA, France, England and Canada. In the report, rate of cell phone usage to connect to Internet is 79% in the developed countries and Turkey ranks first among developing countries with a rate of 91%." (http://sosyalmedya.com).

As an answer to the question "Where do you keep up with technology, fashion, innovation and developments?", 475 (62.2%) of the participants said Internet, 175 (23.2%) television, 72 (9.4%) newspaper, 22 (2.9%) magazines and 18 (2.4%) other sources. This result proves the impact of Internet on the young people in terms of their perception of technology and innovation. In other words, today's society, especially the young people, identify the concepts of technology and innovation with Internet to a great extent.

Factor analysis contributes to making clear definitions by dividing factors into basic components in order to identify any subject better (Patır and Yıldız 2008).

As a result of the reliability analysis, a statement was removed from the 13-item scale on the technology preferences and innovation perceptions of participants in order to provide internal consistency in the item ranking. It was determined that cronbach alpha of the scale consisting of 12 states was 0.71. This value shows that the scale is reliable. Factor loads and Eigen values obtained in the factor analysis in relation to the factorial dimensions are indicated in the following table. Eigen value indicates the ratio of between-group sum of squares to the in-group sum of squares. The obtained matrix was analyzed by means of principle component analysis. Each element of matrices formed in the factor analysis are the factor weights indicating the correlation between each variable and each factor. Variables with too small correlation were eliminated and thus a less factorial dimension and a higher variance were obtained. Values equal to or below 0.4 are not included in the table.

The factor analysis conducted should also be evaluated through Kaiser-Mayer-Olkin (KMO) test. In KMO test, the values equal to or over 0.5 mean that the sample as measurement insufficiency and factors may be analyzed. Similarly, the most important degree should be lower than 0.05 in Barlett test (Hutcheson and Sofroniou 1999).

In the following Table 3, average, standard deviation and factor loads of 3 factors are given.

**Table 3.** Rotated Component Matrix.

| Component | X | S | 1 | 2 | 3 |
|---|---|---|---|---|---|
| **Fact. 1** | | | | | |
| VAR0001 | 2,1911 | 1,03927 | 0,771 | | |
| VAR0002 | 2,1545 | 1,22971 | 0,713 | | |
| VAR0003 | 2,1715 | 1,06076 | 0,667 | | |
| VAR0004 | 2,4045 | 1,13333 | 0,665 | | |
| VAR0005 | 2,7749 | 1,24847 | 0,533 | | |
| **Fact.2** | | | | | |
| VAR0006 | 3,0812 | 1,38848 | | 0,726 | |
| VAR0007 | 3,3128 | 1,37199 | | 0,719 | |

| | | | | |
|---|---|---|---|---|
| VAR0008 | 2,5341 | 1,33121 | 0,644 | |
| VAR0009 | 3,4058 | 1,24792 | 0,587 | |
| **Fact.3** | | | | |
| VAR00010 | 4,2042 | 1,19202 | | 0,673 |
| VAR00011 | 2,1414 | 1,17685 | | 0,652 |
| VAR00012 | 2,8874 | 1,35182 | | 0,609 |

Factor 1; factor loads range between 0.533 (item 1) and 0.77 (item 5). When rotation values are examined, it is seen that 21.202% of the total variance is explained. This indicates that the most successful accumulation is in the factor 1. Its eigenvalue 2.544. Considering the content of sub-items in Factor 1, this factor may be called as "Innovation Perception".
**Factor 2;** factor loads range between 0.587 (item 6) and 0.726 (item 9). When rotation values are examined, it is seen that 17.233% of the total variance is explained. Its eigenvalue 2.068. Considering the content of factor sub-items, this factor may be called as "Technology Follow-up".
**Factor 3;** factor loads range between 0.609 (item 10) and 0.673 (item 12). When rotation values are examined, it is seen that 11.449% of the total variance is explained. Its eigenvalue 1.374. Considering the content of factor sub-items, this factor may be called as "Technology Madness".

**Table 4.** Total Variance Explained.

| | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3,016 | 25,137 | 25,137 | 3,016 | 25,137 | 25,137 | 2,544 | 21,202 | 21,202 |
| 2 | 1,943 | 16,188 | 41,325 | 1,943 | 16,188 | 41,325 | 2,068 | 17,233 | 38,435 |
| 3 | 1,027 | 8,559 | 49,884 | 1,027 | 8,559 | 49,884 | 1,374 | 11,449 | 49,884 |
| 4 | 0,865 | 7,209 | 57,093 | | | | | | |
| 5 | 0,803 | 6,695 | 63,788 | | | | | | |
| 6 | 0,759 | 6,327 | 70,115 | | | | | | |
| 7 | 0,702 | 5,851 | 75,967 | | | | | | |
| 8 | 0,674 | 5,62 | 81,587 | | | | | | |
| 9 | 0,616 | 5,13 | 86,717 | | | | | | |
| 10 | 0,594 | 4,949 | 91,665 | | | | | | |
| 11 | 0,522 | 4,347 | 96,013 | | | | | | |
| 12 | 0,478 | 3,987 | 100 | | | | | | |

In the Table 4 above, the eigenvalues of items related to technology and innovation are indicated. Eigenvalues are found in three factors, which are bigger than 1. Two factors explain 21% of the variance and rotation equalizes relative importance of factors (Contribution of factor 1 decreased variance from 25% to 21%). 3 factors explain half of the total variance (49.9%).

**Table 5.** KMO and Barlett's Test.

| Kaiser-Meyer-Olkin Measure of Sample Adequacy | 0,801 |
|---|---|

| Bartlett's Test of Sphericity | | |
|---|---|---|
| | Approx. Chi-Square | 1,50603 |
| | df | 66 |
| | Sig. | **0,000** |

As seen in the foregoing table 5, result of KMO test on the sufficiency of sample size used in the research was found to be 0.801. This result proves that the date may be used in the factor analysis (The result is good if it is in the range of 0.7-0.8 , medium if in the range of 0.5-0.7 and it should be at least 0.5; if it is less than 0.5, more data should be collected). Barlett test specific correlation matrix is same with the identity matrix (all correlation coefficients are zero) and tests the null hypothesis. This test should be meaningful. Otherwise, there would be no relation between variables (Tonta 2008). Indeed, as seen in the table above, this value was found to be zero (0.000) and therefore the result is considered meaningful.

**Table 6.** Standard Fit Criteria for Confirmatory Factor Analysis on Structural Equation Model

| Fit Measures | Good Fit | Acceptable Fit |
|---|---|---|
| RMSEA | 0<RMSEA<0.05 | 0,05 ≤ RMSEA ≤ 0,10 |
| SRMR | 0 ≤ SRMR≤ 0,05 | 0,05<SRMR≤ 0,10 |
| NFI | 0,95 ≤ NFI ≤1 | 0,90≤ NFI ≤ 0,95 |
| NNFI | 0,97 ≤ NNFI ≤1 | 0,95≤ NFI ≤ 0,97 |
| CFI | 0,97 ≤ CFI ≤1 | 0,95≤ CFI ≤ 0,97 |
| GFI | 0,95 ≤ GFI ≤1 | 0,90≤ GFI ≤ 0,95 |
| AGFI | 0,90 ≤ AGFI ≤1 | 0,85≤ AGFI ≤ 0,90 |

Source:  Zincirkıran, 2013: 141

"Fit Measures and Fit Criteria for Structural Equation Model" are given in the Table 6. Certain data in the research are evaluated and interpreted in the light of these criteria. However, in Garson's view, there is no agreement on how to use these criteria in the literature. On the other hand, some of these criteria are expected to be compliant. In addition to the criteria shown in the table above, PCLOSE, TL and HOELTER criteria are the most commonly used index criteria (Uryan 2010; Kula 2010).
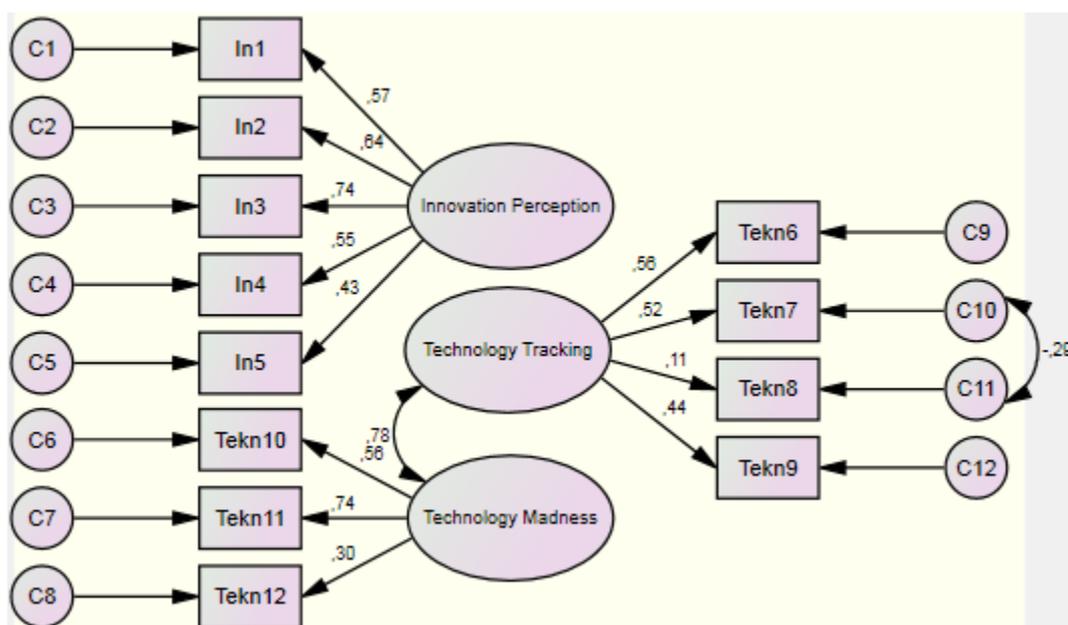
**Figure 2.** Confirmatory Factor Analysis Results.

**Table 7.** Three-Factor Technology and Innovation Fit Criteria

| Index | The required value | The Revised Model |
|---|---|---|
| Chi-square (χ2) | The smaller the better | 296 |
| Chi-square associated p-value (p) | ≥ .05 | 0.00 |
| Chi-square/Degree of Freedom (χ2/df) | ≤ 4 | 4 |
| Root Mean Square Error of Approximation (RMSEA) | .05 < value ≤ .08; acceptable ≤ .05; good | 0.78 |
| Chi-square associated p-value (p) | ≥ .05 | 0.08 |
| Tucker-Lewis Index (TLI) | .90 ≤ value < .95; acceptable ≥ .95; good | 0.91 |
| Comparative Fit Index (CFI) | .90 ≤ value < .95; acceptable ≥ .95; good | 0.90 |
| Hoelter's Critical N (Hoelter index) | .75 ≤ value < 200; acceptable ≥ .200; good | 180 |

According to the Table 7 above, chi square/sd was calculated as 4; RMSEA value as 0.78; CFI value as 0.91; TLI value as 0.91; PCLOSE value as 0.8 and Hoelter Index value as 180 in consequence of the corrections in CFA (Confirmatory Factor Analysis) path diagram. According to these values, the final model has a good fit in terms of fit criteria.

**Table 8.** The Mean of the Participants' Answers to the Expressions

**Descriptive Statistics**

|  | Mean | Std. Deviation | N |
|---|---|---|---|
| 1) I always closely follow up technology. | 2,1911 | 1,03927 | 764 |
| 2) I can't imagine a life without technology. | 2,1545 | 1,2297 | 764 |
| 3) Technological innovation and changes are important in my social life. | 2,1715 | 1,06076 | 764 |
| 4) All kinds of innovations, changes and developments in my daily life have a positive impact on my life. | 2,4045 | 1,13333 | 764 |
| 5) It makes me unhappy not to keep up with the innovations and changes in daily life. | 2,7749 | 1,24847 | 764 |
| 6) I buy a newly introduced technological product (cell phone, laptop etc.) in order to keep track of technology. | 3,0812 | 1,38848 | 764 |
| 7) I buy a newly introduced technological product (cell phone, laptop etc.) for prestige (to make a display to my friends). | 3,3128 | 1,37199 | 764 |
| 8) I buy a newly introduced technological product (cell phone, laptop etc.) to fulfill my needs in that area. | 2,5340 | 1,3312 | 764 |
| 9) I buy a newly introduced technological product (cell phone, laptop etc.) for personal satisfaction. | 3,4058 | 1,24792 | 764 |
| 10) I buy a newly introduced technological product (cell phone, laptop etc.) as a requirement of my social status. | 4,2042 | 1,19202 | 764 |
| 11) I buy a newly introduced technological product (cell phone, laptop etc.) because I am bored with the old one. | 2,1414 | 1,17685 | 764 |
| 11) I buy a newly introduced technological product (cell phone, laptop etc.) for aesthetic purposes (appearance). | 2,8874 | 1,35182 | 764 |

In the Table 8, averages of participants' answers to the statements in the scale are given. For each statement in the scale, there is a preference list in 5-point Likert type containing the expressions "Strongly Agree", "Agree", "Neither Agree nor Disagree", "Disagree" and "Strongly Disagree". Answers to the statements are graded with points 5-4-3-2-1 from "Strongly Agree" to "Strongly Disagree". As the average of participants' answers to the statements between 1-5 (Innovation Perception) is 2,3393, these statements resulted in "Disagree". As the average of participants' answers to the statements between 6-9 (Technology Follow-Up) is 3,0834, these statements resulted in "Neither Agree Nor Disagree". As the average of participants' answers to the statements between 10-12 (Technological Madness) is 3,0776, these statements resulted in "Neither Agree Nor Disagree". *However, the general average of answers to the 10th statement "I buy a newly introduced technological product (cell phone, laptop etc.) as a requirement of my social status is 4.2042 (Agree).* Accordingly, it may be suggested that the young people try to use technology and innovation for social status. In other words, young people thing that technology and innovation are important means for gaining social status.

## 5. CONCLUSIONS AND SUGGESTIONS

Considering the answers of the young people having participated in the research, it is possible to say that their reaction to the concepts of technology and innovation is at the medium level. It does not coincide with the overreaction of consumers to a new product put on the market. The reason may be that today's people have entered a normalization process in terms of technology and innovation. However, it should be noted at this point that the

participant group consists of students and they give less reaction, when compared to other individuals of the society who are in the high-income group. The result may have been influenced by the fact that the scale was used for the first time. Therefore, more clear results will be obtained if the research is implemented with other sections of the society with different income levels.

Another conclusion that may be drawn from the research is that technology is now a lifestyle rather than a madness and people see technology as a part of their lives. It is possible to say assume that the uncertainty in their answers is the indicator of this fact. Furthermore, it is empirically understood in the research that participants have a low level of awareness regarding the concept of "*innovation*".

According to the other findings of the research, people of our country uses Internet and smart phones more effectively when compared to the people of other countries. Particularly the fact that technological change, development and innovative activities are followed up on Internet reveals that different discourses and viewpoints on these concepts may come up in the near future.

In consequence of the research, the following suggestions may be made for students, academicians and researchers involved in this area;
✓ Trainings for raising awareness of the innovation concept may be given. In addition, use of the term 'yenilikçilik', which means innovation in our language, may be extended in order to prevent incomprehensibility.
✓ Different researchers may be carried out applying different scales with individuals or enterprises on this subject.
✓ Researchers may make researches with comparisons with different countries in order to obtain clearer results about the subject.
✓ Students of business administration or other departments may participate in patent, R&D and innovation activities, which have vital importance for businesses in our day, and improve themselves in this area.
✓ Activities like contests, informative public service ads, advertisements, brochures etc. may be conducted with the support of the government in order to draw society's attention to this subject.

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