

T.C.
BAHÇEŞEHİR ÜNİVERSİTESİ

QUALIFICATION PERCEPTION OF ACADEMICS
IN UNIVERSITIES FOR INNOVATION
MANAGEMENT

Master Thesis

AYÇA KURNAZ

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**GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
INFORMATION TECHNOLOGIES**

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Supervisor: Asst.Prof. Dr. Dilek KARAHOCA

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Title:Qualification perception of academics in universities for innovation management

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In this thesis as a Master's thesis the conditions required to be fulfilled approved by the institute.

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Program Coordinator

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This thesis read by us, in terms of quality and content as a Master of Science thesis was deemed sufficient, and has been adopted.

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FOREWORD AND APPRECIATION

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ÖZET

ÜNİVERSİTEDEKİ AKADEMİK PERSONELİN YENİLİK YÖNETİMİNE İLİŞKİN YETERLİK ALGISI

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Global dünyada yeniliklere ayak uydurabilmek kurumların devamlılığı ve sektörler arası rekabet için çok önemlidir. Teknolojik ve sektörel gelişmeleri takip etmek ve onlara adapte olmak kaçınılmazdır. Kurumların, sektörde öncü olabilmek için yenilikçi rekabet politikalarını benimsemeleri gerekmektedir. Bu her sektörü ilgilendirdiği gibi eğitim sektörünü de yakından ilgilendirmektedir. Eğitim sektöründe de akademisyenlerin alanlarındaki yenilikleri takip etmeleri ve yenilikçi düşünciyi benimsemeleri önemlidir. Bu sayede üniversite ortamında yenilikçi zihniyetin temelleri oluşacaktır. Bu noktadan çıkışla Türkiye'deki çeşitli üniversitelerdeki 47 adet akademik personelin yenilik yönetimine ilişkin yeterlik algısının ölçülmesi amaçlanan bu çalışma yapılmıştır. Kişisel bilgilerin belirlenmesi için 16, üniversitedeki yenilik yönetimine ilişkin algının ölçülmesi içinse 46 adet soru hazırlanmıştır. Ölçeğin, yenilik stratejisi, girdi yönetimi, yenilik izleme stratejileri, proje yönetimi, örgütsel kültür ve yapıyı içeren beş alt boyuttan ve beşli Likert tipi 46 maddeden oluştuğu belirlenmiştir. Yenilik yönetimi algısı ile cinsiyet, yayınlanmış makale sayısı ve akademik statü arasındaki ilişki incelenmiş ve bunun anlamlı olup olmadığına one-way Anova test ile karar verilmiştir.

Anahtar Kelimeler: Yenilik, Yenilik yönetimi, Yeterlik algısı

ABSTRACT

QUALIFICATION PERCEPTION OF ACADEMICS IN UNIVERSITIES FOR INNOVATION MANAGEMENT

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Keeping pace with innovation is very important for persistence of the companies and competition between them in global world. It is necessary to follow-up and adopt the technologic and sectoral developments. r. The companies should adopt the innovative competitive policies to be the leader in their sector. This concerns the educational sector as much as every sectors. It is very important that academics should adopt the innovative ideas and catch-up the innovations in their studying fields.. In this way, the innovative mentality basics will be done in university. This study has been made with 47 academics from different universities in Turkey to evaluate the perception of innovation management of academics. 16 questions are prepared to evaluate the personal information and 46 questions are prepared to evaluate the perception of innovation management. The scale consists of 46 substance of Quintet Likert type and involves 5 dimensions consisting of Innovation Strategy, Income Management, Following Innovation Strategies, Project Management, Organizational Culture and Structure. The relationship between the perception of innovation management and gender, published articles and academic status has been analyzed and decided with one-way Anova test whether the results are significant or not.

Key words: Innovation, Innovation management, Qualification perception

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ABBREVIATIONS

AHCI: Arts and Humanities Citation Index

SCI: Science Citation Index

SSCI: Social Science Citation Index

EI: Engineering Index

R&D: Research and Development

KOSGEB: Küçük ve Orta ölçekli Sanayi İşletmeleri Geliştirme Birliği

TÜBİTAK : Türkiye Bilimsel ve Teknik Araştırma Kurumu

TTGV: Türkiye Teknoloji Geliştirme Vakfı

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1. INTRODUCTION

In recent years, innovation has become one of the most important issues for all companies; just because they cannot subsist and compete unless they keep up with the swift fast changes in technology and science which is so hard to catch up. It is so important to keep up with innovation in order to compete in sectors. It is seen that the organizations, which adopts the innovator competition policies, are pioneer and leader in their sector. In this context, the importance of the innovation for the success and continuity of the organizations cannot be denied. Damanpour et al.(2006) have been shown in their research that, the organizations should be innovator in order to develop efficiently and persist under the circumstance of evolution of the technology and the ability of finding resources. That's why innovation creates a big competition area for managers and academics to research. Likewise, in a research about the importance of innovation for organizations made by Naktiyok(2007), companies should be able to predict the changes, to identify and to be the initiator instead of keeping up with the changing process. The organization should act just as the change is itself and accept the policies demonstrating compliance to outside.

To define the innovation; which has a great importance for the organizations; is as important as the ability to practice the innovation. The definition of innovation helps to identify how it is perceived by the organization. Innovation is not just limited with to create new ideas, but to put them into action and can make it a commercial product or to serve. To create a new idea and turn them into a product or serving depends on how the workers identify the innovation.

In dictionary, innovation's meaning is modernization, alternation. These two words have a little different meanings. Innovation can be interpreted as improving something that exist already. For instance, car is already exist, but a sport car is a new kind. It is understood that, an existing object or case becomes a new existing object or case with some regulations. On the other hand invention means something different. We can say

that, invention is to explore something that has never been existed. More precisely it can be interpreted as to bring something that has never been known before to a body. In a technical outlook, there is a concept called as sorting algorithms in algorithm subject. Linear sorting algorithm is the first developed sorting algorithm. However it takes so much time. It is not effective. It interprets one of the components of a sequential numbers over and over as it is not in sequent. However bubble sort algorithm knows if a serie is sequented in a transition and ends the process. Now we may have a question in our minds as: Is the bubble sort algorithm is improved by developing the linear sorting algorithm so by the innovation? So is this an innovation ? Or let's think something like that. Has the linear sorting algorithm been used for a long time and thought ineffective, instead of that a new algorithm called bubble sort algorithm improved? Which analyse is innovation? It is obvious that both of them are innovation if we look up the dictionary meaning. The examples can be multiplied. As it is understood, the aim of innovation is creating newness. It doesn't matter if we make some changes on existing system or improve new alternative systems supposed to take place of existing system. What is important here is to make innovation. Schumpeter (1934) identified the innovation as a concept for organizations' economic development and gives the advantage of sustainable competition in his/her book. In another research Tuaminen et al.(1999) described the innovation as a final of a process, in which new products and services has come out, and also to make something in a different way than the way it is used to be done.

Innovation cannot be handled just as only a description for an organization. As the definition of creativeness leads to innovation; the application of the creative ideas, provides variety. That is why Variation and creativity can be examined as they integrate the meaning of innovation. Besides, the innovation can be completed by the application.

Baregheh et al. (2009) described the innovation as “the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace.” The applications can be a new product as well as a new process or in an academic research.

Innovation should be focused on not the result but the process and all the processes executed by the organizations must be managed properly through the innovation policies. The ability of these kinds of management's applications is only possible with a high vision, a strong insistence and workers who have high perception of innovation (Bülbül, 2012). Innovation ideas come up with attendance of all employees and evaluated. This application cannot be supported unless the employers who have a high perception of innovation exist; also as well as this there won't be any contribution of them such as an idea or application to the process. The organizations ability to adapt to innovations in their environment depends on only if they organize their institution based on innovation and actualize new products' and services' designs (Öğüt et al. 2007). The employers' high perception of innovation plays an indispensable role in managing the process for the company.

The organization's culture, the high perception of innovation of the leader's and employees' are very important factor to maintain the innovation process. The organizations trying to accommodate to innovation are going to be successful if they have the leader and employees that adopts the innovation culture at the very beginning. The leaders should be in favor of innovation, encourage the employees to innovation, listen to their ideas, appreciate them for their innovator thoughts and acts, explain in a clear and certain way, strengthen the communication, observe them and control and improve the process with them.

It is also so important for a leader of an organization to manage the innovation as much as to be an innovator. The leader must be capable in some dimensions in order to success. In this thesis, the five dimensions are discussed. These dimensions are: input management, innovation strategy, organizational culture and structure, Project management and innovation follow-up strategies.

As we discussed before, it is very important to be able to explain freely the innovator ideas for the employees in the company. There won't be any new ideas unless this freedom exists. The academics' must be encouraged to develop new applications and methods, by using their skills and knowledge they had before in their past academic experiments, and effort to adapt to the university they are working for. The important thing is to decide the area of a subject in which the innovation process will be started.

Agreement must be provided in the meetings which everyone can freely explain their own ideas.

According to Scott et al.(2006);

“Before deciding how to play the innovation game, companies have to decide where to play. The good news is that, unlike professional sports teams that go where the schedule makers dictate, companies can choose to play in many different markets. But that is also the bad news. Too much choice can be overwhelming. And the innovation process can slow to a crawl if managers pursue opportunities that don’t have a realistic chance of seeing the light of day.”

Innovation is so important for companies to develop and persists. This importance is valid not only for the commercial companies but also educational institution. All the stratum and parts that community consists of are supposed to get education from these institutions. For this reason the functioning and serving of the education affects all community (Kabakçı 2008). This helps to educate people with a high perception of innovation. Entrepreneurship has achieved a great importance in the world recently. Some kinds of studies are being made in order to spread the entrepreneurship among the youth. The culture of entrepreneurship can be primarily thought to the youth in universities. Furthermore the education institutions have a key role in growing up people who have high perception of innovation.

Innovation in education means to create a high quality education, to arise children who can catch up recent events and think creatively, to make process of education more effective and target oriented (Musluoğlu, 2008). Innovation perception in educational institutions is possible in the universities as same as in other companies with the academics and workers who are entrepreneur, open minded and with a high perception of innovation. As well as this, the academics should contribute and support the innovation in educational area and inside the company, with publishing and projects and classes they managed.

For instance, the academics; working with the companies such as KOSGEB and TÜB İTAK that gathers the commercial projects with academy, will turn theory into practice

and encourage their students to be involved in these projects. Furthermore they will take the initiative for the acceptance of students' innovator ideas to these companies. That's why it has been asked in the beginning of the questionnaire that if they have ever undertaken any TÜBİTAK, KOSGEB or European Union Project. This is a very valid criterion to evaluate the innovation in academy.

The vision of TÜBİTAK has been described as "TÜBİTAK; has the vision of being an institution that is serving the sustainable development of our society and our country to improve the quality of life, innovator in science and technology, router, participatory and collaborative; has the function in supporting the academic and industrial R&D activities (research and development) and innovations, running R&D institutions which are managing research and technological development programmes in terms of national priorities, and as well as determines the policies of our country's in science and technology and publishes books and journals to increase the awareness of all segments of society." in their official site. The vision of KOSGEB is described in their official site as : " To be an organization that provides SMEs of our country to have a say in the global market, effects in policy-making in entrepreneurship for SMEs, to be a model organization around the world"

Patents and utility model are also an important criterion for evaluating innovation at the academy. Patent and utility model can be described according to the definition of the Turkish Patent Institute as " The rights granted to the owner by preventing to produce, to sell or to use the invention by the third parties without permission for a limited period of time" The utility model ; compared to patent, is irrespective of the inventive step, procedures and products and chemicals as a result of procedures are not protected, there is no research report and the duration of the protection is 10 years.

Articles of international publications and classes of journals are also an important criterion. The academic who work for national and international publishing, always have to follow up and reproduce the innovations. For this reason, the number of articles published in the most comprehensive journals was asked in the introduction of the questionnaire. We chose the international journals of Arts and Humanities Citation Index (AHCI), Science Citation Index (SCI), Social Science Citation Index (SSCI) and Engineering Index (EI) in this questionnaire.

As it is known, there have been studies about how to measure the perception of innovation in different ways for different sectors. For instance; in our country, innovation and entrepreneurship in university is measured with data collected from institutions and organizations such as IHE, TPE, Ministry of Development, KOSGEB, Ministry of Science-Industry and Technology, TÜBİTAK, TTGV, TÜBA. These data defined as competence in science and technological research, intellectual property pool, cooperation and interaction, culture of entrepreneurship and innovation.

Studies that measure the perception of innovation in educational institutions are not very much. Therefore, in this study, it is tried to measure the perception of the academics in universities because of their key role in maintaining and developing innovation in educational institutions as well as developing innovative people. As well as the universities educate persons for all sectors, the lack of such studies also provides the need for this study. In this study, we aimed to measure the perceptions of innovation primarily academics working in educational institutions. We focused on five key areas as measurement is in progress. These areas are input management, innovation strategy, project management, organizational culture and structure, innovation follow-up strategies.

The academics' perception of innovation plays a very important role to sustain the innovative culture and transfer to the students. Innovation is not just a thought or concept but it also has to be put in practice in order to increase the effectiveness (Bülbül, 2012). The perception of innovation, the ability of the academics transfer this element into the new members of the faculty and students and go between sustainable innovation culture at the university will positively affect the process of innovation.

2. LITERATURE REVIEW

As we mentioned before in this study, innovation is an important issue about all firms and sectors. Through this point there are a lot of studies taken about innovation in literature. Most of the studies are about innovation management characteristics. There is not too much study similar to our study which is about the innovation in universities.

When we analyse the literature, we categorized the studies according to methods of studies. These methods are; case studies, survey, review studies and models developed about this issue.

As in all studies in research areas review studies have a significant importance. Review studies help us to clarify the characteristics about different issues. Most of review studies about innovation is not close to our focus point in this study, but they can help us to clarify the innovation management characteristics and principles. Also we know that there are a lot of different innovation management principles which are implemented by managers in different sectors. Through this point of view Tuominen et al.(1999) tried to analyze the characteristics of product innovation management systems. They proposed an approach and a questionnaire to clarify the issue. They created a basic model to show the steps of concept. They made an interview with three different Finnish companies with the help of their questionnaire. As an acknowledgement they told that their study will end when they make an interview with Japanese companies. At the end of study they decided that there need to be a customer needs assessment phase to be sure about what customers need as a new product. Also they decided another critical factor is integrating the goals of product development projects with innovative processes. Another review

study has been made by Archibugi & Pianta (1996) about the studies about how to measure technological changes through innovation surveys. They researched how we can use the patents and innovation principles when we are measuring the technological changes. They made reviews about recent developments which are developed to measure technological changes. They used patent data and indicators which are created by using innovation surveys. They classified innovation into 4 categories such as technology, product, sector of production and sector of use. They created a framework which tries to clarify how firms use innovation surveys and patent data. They defined some indicators which are being used to measure technological changes and innovations such as evidence at firm level, analysis of industrial structure. As a result, they showed a rich and important evidence about technological activities of firms which are defined via using the indicators that they mentioned.

In literature there are not too much studies done with developing models. One of the studies which have been done by developing a model is done by Haelremans & De Witte (2012). They aimed to analyze the effect of innovation in education via using a mathematical model. Focus point of study was about the effect on innovation on school performances. To reach some results according to this aim they used a tailored fully non-parametric conditional efficiency model and applied this model in Netherlands at secondary schools. The application data has been taken from Ministry of Education in Netherlands. They applied the model in 119 Dutch secondary school, these schools have 20400 students which is equal to 22 percent of total secondary school student in Netherland. They used the expenses per student as an input and major parameters. These parameters are directly effective on educational innovation. These are; profiling and pedagogic process and education chain innovation. At the end they reached that these major parameters are significantly related with school efficiency. The most important result is that the innovations are positively related to education efficiency. Again about measuring innovation issue, Tohidi & Jabbari (2012) made a brief study. They used survey as the method of study. They tried to provide a framework to measure innovation in companies. They created a questionnaire and applied it in some companies. At the end they created a framework.

In innovation measurement another important key factor is defining a measurement scale. Through this Bülbül(2012) tried to develop a scale which can be used for measuring innovation and innovation perceptions, capabilities. He developed this scale for school managers. He applied this study on 216 school managers. To realize the effectiveness of this study he used factor analysis. He decided that there have to be 4 sub-levels, such as input management, project management. After the analysis, he decided that the scale created in this study can be used for defining and measuring the innovation perceptions and capabilities of school managers in education sector. Also we used the scale which is developed in this study. In another study via using same scale have been maken by Göl & Bülbül(2012). They aimed to find how teachers perceive the innovation management principles in education sector. The study applied in 68 primary schools with 396 teachers in Kırklareli. They used gender, age and professional seniority as factors which effect teachers' perceptions. As a result gender is not creating a direct difference about perceptions, but in some situations age and professional seniority levels could create a difference. As a kind of measurement study about innovation, Çuhadar et al.(2013) tried to define the relationship between individual innovatives and technopedagogical education compencies of pre-service teachers. They made a survey for the issue. They applied this survey in Trakya University. The participants are pre-service teachers which are senior students in 10 different teacher education programs. They used one-paired t –test and one way anova test to make analysis. As a result they found gender variable so not significantly effect the issue. It can not create a significant difference. Also they defined pre-service teachers' innovative education capabilities are questionaining level.

As we mentioned in our study before, innovation is an effective tool in eery sector and firm. Also the place of firms are important to target the firm to the innovation policies. From this point of view Tutar et al.(2007) try to realize how the conditions of firm area effect the creation of innovation and usage of innovative management policies. This study applied in Kayser Free Zone as a case study. They used the survey data which are created from Kayseri free zone companies. As a result there are a lot of adventages gained from being in free zone. But only the firms which have R&D departments can apply innovation policies. The most innovative work is producing different and new

products. Through these results, they decided that the firms located in Kayseri free zone do not have creative and innovative strategies and policies which can be applied in long-term. As an advice to these firms, there have to create a communication link between Technopark which is developed in Erciyes University and firms in Kayseri free zone. Another case study about innovation issue, made by Kirkgoz(2008). She applied her case in education sector. She assumed Communicative Oriented Curriculum (COC) as an innovation in education. She tried to realize the effect of implementing COC while teaching English to young learners in Turkish state schools. She used 32 Turkish teachers of English. These teachers are giving lecture to 4 and 5 class students. The number of school she analyzed is 22. She used two ethnographic data collection tools. The aim of study was to realize the effect of COC as an innovation on the English teachers. At the end she realized that there is a strong variation among the instructional practices of teachers involved in TEYL's (Teaching English to Young Learners). Also she suggest that to implement COC better teachers used to have more training to increase their awareness about innovation to maximize the good effects of new implementations such as COC.

As we can see from the studies in literature, there are different types of studies. Most of these studies are about industries. There is not too much study about innovation in education sector. We tried to find studies which are focusing on education sector's innovation policies and perceptions. We think that our study will be a new and good study about innovation perceptions in education sector in literature.

3. DATA AND METHOD

3.1. PURPOSE

Universities will support the development of the national economy with innovative educational design. Intellectual power of the people educated by universit should be open to innovation. Academic staff's efficacy of innovative provides the basis of innovative mindset. For this reason, the perception of academic staff for the management of innovation is important. The perception may vary from person to person. It makes a difference in the management of the innovation. In this study, we aimed to determine the academics' perceptions of efficacy for the management of innovation in universities and reveal the differences by using the scale which is developed by Tuncer Bülbül (2012). In this questionnaire prepared for the purpose of this research, answers will be searched in the following sub-questions:

- 1) Is the perception of faculty members' for the management of innovation enough?
- 2) Does the perception of faculty members' for the the management of innovation qualifications changes according to :
 - a. Gender?

- b. Academic degree?
- c. Number of published paper?

3.2. GROUPING OF THE SURVEY AND EXPLANATION PART

This study which aims to reveal the competency perception of innovation management is in survey model. The questions are grouped under the five dimensions which the academics should be sufficient in order to manage the innovation. The following will explain five dimensions.

3.2.1. Input Management

Input management means to provide the necessary sources to the company in process of innovation management. These sources are labeled by the needs of the company. 9 questions are prepared to evaluate if the inputs can be provided by the academics or not when it has to be done, in the input management chapter. For instance, we aimed to evaluate if the academics will support the process of innovation with financial sources when the company needs, with the questions such as “I will try to find support for the innovation studies in the university from the private enterprises around the university such as professional chambers, non-governmental organizations etc...” and “I will try to find support from the utilities around the university for the studies of innovation.”. Sometimes it is necessary to find sponsor to support or undertake the financial expense for the preparation of an organization and buying the materials needed in a Project, conference or competition at universities. The financial resources for these studies sometimes need to be found from out of academy according to the size of the project. The effort of the academics’ working in the innovation studies, to achieve the contracts is so important to support these kinds of innovation studies. In this question we aimed to evaluate if they would feel responsibility to provide financial resource or not when it is needed.

The physical resources should be provided in the process of innovation as well as the financial resources. It is important to supply physical resources for continuity of the process of the innovation in the lack of the physical resources them with the attempt of the academics. It is important to take the advantage of the presence of physical resources

by using them to carry on the process of the innovation. We aim to learn whether or not the academics staff takes the advantage of physical resources that the university has, in the process of innovation when it is needed by the question as: “I use the areas such as meeting room, studying room at the university to contribute to the studies of innovation.”

We aim to expose the attitude of academics when the resources have to be supplied from out in the process of innovation with the questions as: “I often use the private and public labs to carry out my innovation studies.”, “I provide the equipments might be used in the process of innovation.” And “I use private companies’ certificated technical education programs for my innovation studies.”

Besides the financial and physical resources, the human resources are also in the inputs of the process of the innovation. As well as financial support and material supply, the support of provision of information carries a big importance for the progress of the studies. In some topics, it is better to use the knowledge of experts. The question of “I take expert consultant out of university about innovation” is being asked to determine the aim of the academics in usage of the human resources. That support supposed to get information about a project management, program usage or likewise topics. The amount of people supporting the innovation and getting involved in the process also shows how much the human resources are being used.

The questions of: “I inform the academics about the national and international financial support funds to join the activities like conference and workshop.” And “I follow up the recent activities (in-service training, seminar etc.) available for instructors to reach the external information for innovation.” Are being asked to evaluate how much the academics devote themselves to the innovation.

The innovation thought of the academics that follow up the innovation studies and encourages other academics to join these studies, will create the process. The academics having that kind of thoughts will encourage their colleagues and support their studies.

As a result, the academics’ awareness of the necessity and importance of those 3 resources will show that they support the innovation in the university. We aim to expose

that support with the 9 questions asked in the chapter of input management.

3.2.2. Innovation Strategy

Another important topic in the process of the innovation is to have whole company to get involved in this process. The studies about this topic and the positive look at the process of innovation and encourage other university academics is very important. The things have to be done in this process should be determined. Innovation strategy means that to apply the plan that has been made as same as in any area to evaluate the development totally, to improve if necessary according to these evaluations and to comment on outputs.

The studies which are always valid on the management of processes are also here. There can be some disruptions when it is time to implement the plan, which has made at the very beginning. The decisions has to be made in order to fix these disruptions. It is known that; everybody has to be involved in this process, explain everything clearly to everyone that how they are going to make it and an effective network has to be built in order to manage the process well. The technology, programs and informations owned by the company has to be used properly by everyone. The 7 questions, which aim to evaluate all these, are positioned under the innovation strategy heading.

The knowledge is the most powerful weapon in present era. Duplication the knowledge that human resources have, is the hardest thing to do. It has to be known how to get the information and how to use it effectively in order to turn the knowledge into the advantage. The resources should be appropriate for innovation stragey and should be used for the common purpose of the company in the process of innovation. We aimed to determine how academics reach the information and think of sharing it with other academics with the questions as: “I try to supply the books, journals and resources to university library about my research topic to reach the information for innovation.” “I strain to explain the latest inventions about my field of experience by other academics.” And “I always scan new inventions in my field.” By this way the knowledge will be reached and more effective by sharing with the other.

We have mentioned that, to follow the strategy running is as important as to determine it

in a right way. The elimination of useless steps which doesn't serve to innovation process after following-ups is important as well as to determine the right strategy. We try to evaluate how academics behave after determining the steps effect the process negatively and misses the target with the question of: "I immediately end the projects that give me the feeling as they won't give a positive contribution to the university and its environment."

The studies must be done to serve the purpose in the innovation strategy as we've mentioned. New projects and researches can get started and new inventions can be done. We identified the Outlook of producing new items with: "My goal in my researches is to produce studies worthy intellectual property rights." We asked the question of "I always write articles in my study field." to evaluate the knowledge production of academics for innovation.

We will mention the importance of producing a common innovation strategy and making it understood by anybody. The common target of everybody and the same things to do to reach the target will directly affect the success of the result. In order to evaluate the awareness of that we asked the question of: "I work to create an innovation vision that is shared by whole academic staff of our university."

3.2.3. Organizational Culture and Structure

The high perception of innovation of all instructors and support for the common plan carries a big importance for the success of the innovation studies. If this is provided, the process will progress positively and fastly. The groups, consist of the people adopted the same culture, can easily be on the target together. By this way the process can be managed effectively all together. The decisions can be made quickly and applicable in the meetings where sharing is too much.

The academics should have a positive Outlook and be able to make common decisions in order to manage the innovation right and apply it. They should be encouraged to declare their ideas clearly without hesitating to share with the others in the company.

The working atmosphere and attitude within the organization is shared in the internet and read by everyone in the innovation companies. The companies encourage their employee to produce and share their ideas with others, become worldwide organizations

and head especially technological developments. When the recruitment process and interviews of these companies are analyzed, it is possible to evaluate that there are people from every kind of ages and statuses which work actively, think new and differently and share it bravely in the groups. These kinds of companies adopt the same common innovation culture and pay attention to get compatible people involved in the group. We asked one of the 6 questions: "I support and try to keep the academic staff that adopts and defends the innovation ideas in the university." to evaluate how much academics are aware of the importance of keeping compatible people in the academy.

We asked the question: "I emphasize the importance of innovative understanding to all the staff in the university." That points the encouragement to innovative culture. Another step to create this culture is to make the process to be understood by everyone in the group. "I clearly explain to anyone what benefits the innovation brings to the university and around." question is asked to determine this. It is important to share all innovative ideas easily in the company. To determine how much the academics will support this sharing, we asked the question of: "I respect to all creative and innovative ideas of all staff in the university." The next step is to appreciate the activities of employee's who has this culture which means to encourage them. "I show my satisfaction about the success of the innovative people in the university." And "I support all efforts and researches through innovation of all academic staff." questions are planned to evaluate the thoughts about supporting and showing satisfaction for contributions of the academics who adopt innovation and start to study about that. As a result, it is necessary for the academics to join the process, to explain the ideas easily, to respect others' ideas and look positively to practicing, to provide the knowledge sharing in all hierarchy.

3.2.4. Project Management

The project must be decided in planning phase of innovation process. The resource, income and timing plans of the project, which will be chosen from other projects, must be done. Initiation of a new process will create a risk factor in every field. The risk management in a good way is very important. In this way, the project results can be obtained efficiently. We asked to the academics the questions of: "I believe in earnings

of the risk of innovative academic process will return.” and “I’ll be prepared for the unpredictable results of the innovation process at the university.” Performance can be improved by managing the risk of the project.

Selection of the right project is also important. We found it proper to ask to academics “I try to improve the rating scale to measure the effectiveness of innovation projects.” In order to question the awareness of the importance of choosing the innovative project that will serve the purpose of and the studies for this.

“I support the cooperation of all the staff with each other to improve the innovative projects.”, “I always observe the contributions of academics involved in the Project management” and “I believe the innovation will come from every grade of academics.” questions will help us to understand the outlook of all academics through the importance of the innovation studies, that need the joint working in the universities. The perception of the academic about this issue carries a great importance because to create that common culture is important for outgrowth of the project. So the question of “I effort to have the sence of ownership for innovation all over the university by creating strong links between staff.” is also needed to be asked. Furthermore, the attitudes which encourage everybody to share the ideas are very important. “I set up open communication with all academic staff and students in innovation process.” And “I pay attention to academics speeches in all innovations.” questions are prepared to identify the attitude with that encouragement. The contribution is undeniable as much as the idea, therefore the applications in the process are important contributions. The question of “I always observe the contributions of academics involved in the Project management” is prepared to measure how much academics contribute to the process by working in as well as creating an idea. Academics are also observers. Therefore they will be the best observers in the process. The agreement should be done on a common subject after obtaining the promotion of innovation and the participation of all members. If a desicion is taken, there will be an aim and a real process will start to practice it. The “ I internalize consensus and common approach while making a decision.” Question is made for this purpose. While making a decision, another thing should be careful about is the decision technic, which can be effected by the limited budget. Whether the

earnings are sufficient for the expenditures is important. “I analyze the incomes of innovation to the university.” The right planning of resources is as important as the budget, so we asked the questions as: “I take extra care of choosing right equipment and resources in innovation process.” And “I pay attention to use university’s resources effectively in innovation process.”

The academics are supposed to follow-up the contemporary developments closely because they observe and teach. For this reason they should keep up with the time and innovation. The question of “I try to make the innovation, adaptation to the environment and environmental integration seen as mediators” is important in this respect.

3.2.5. Innovation Following Strategies

It is important for innovation process to be in interaction with companies and webs working in this subject. In Turkey, TÜBİTAK and KOSGEB organizations contribute to the projects produced by innovative thoughts with their budgets. It gives many advantages to be in interaction with these kinds of organizations, which gather academic knowledge, innovative thought and commercial environment and also provide financial resource to the owner of the idea which is the biggest obstacle for the start of a Project. “I support the process of co-operation between university-industry for commercialization of innovation.” Question helps to explain that. The academics can support the innovation by involving their students in these projects or directing them to get the support from of these organizations for their own individual innovative projects. “I support the entrepreneur applications of the students to the open support programs of the organizations like TÜBİTAK, KOSGEB etc.”, “I interact to transfer new technologies to the students in academic business partnership.” And “I search for webs in academic business partnerships.” questions are prepared for that.

Social and electronic-business webs are another effective way to follow-up the innovation. Social and electronic-business webs are popular ways to share ideas in international arenas nowadays. “I follow-up the projects on social and electronic-business webs like (LinkedIn, Facebook etc) for innovation.” , “In order to catch up with the innovation, I follow-up the online web lectures of international universities available for academics from all over the world.”, “I try to join in international academic

co-operation webs.” And “I join to international academic exchange programs for education.” Questions are asked to evaluate the perception of academics about this.

3.3. ASSUMPTIONS

In this study,

1. When responding to academics surveyed sincere act,
2. The experimental and control group in terms of academics, academic achievements there is no significant difference,
3. Content validity of the questionnaire for the expert conviction is assumed to be sufficient.

3.4. LIMITATIONS

1. The study includes academics from various universities involved in Turkey. 47 scholars participated in the survey.
2. This study is limited by this survey's questions.

4. CALCULATION AND RESULT OF STATISTICS

Twenty-three of forty-seven men and twenty-four of forty-seven women contribute this questionnaire. The number of ongoing PhD is 17, PhD is 2, assistant professor is 16, associate professor is 6 and professor is 6. Also you can see these results at appendix 1 for gender factor, appendix 2 for academic position factor and appendix 3 for number of articles published.

For question 1:

Four of twenty-three men and eight of twenty-four women disagree this statement. Six men and three women less agree, six men and eight women moderately agree, five men and three women very agree, two men and two women totally agree this statement. Women's and men's answers mean is 2,46 and 2,78 that means most women and men academics moderately agree with idea for finding support from public organizations for innovation works. According to the one-way Anova, p value is equal to 0,390 which is bigger than 0,05 and that means we accept the main hypothesis which is "There is not a meaningful relationship between gender and trying to find support for university's innovation research from public institutions around the university."

After the gender comparison, the control is continuous with academic position. It can be seen by looking the answers's mean that while ongoing PhD assistants, assistant professors and professors moderately agree this statement, PhD assistants disagree and associate professors less agree this statement. One-way Anova test calculates a significance level which is equal to 0,251 is more than 0,05 and the p value shows that there is not significant relation between academic status and statement 1.

In this statement, we tried to realize if there is significant relation between number of published article of academics and our questions. We categorized number of articles into 5 different groups. Group one is formed with the academics who have no published articles, group 2 is formed with the academics who have one published article, group 3 is formed with 2 published articles, 4 is formed with 3 published articles and 5 is formed with the academics who have 4 and more published articles. We calculate the number of articles via using our survey data. We asked our participants to number of their published articles which are published in 4 different citation indexes. These indexes are; Arts and Humanities Index, Science Citation Index, Social science Citation Index and Engineering Index. We analyze these groups by using SPSS one-way anova test.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. So we can say that group number 1 and 5 moderately agree with question 1. Group 2, 3 and 4 less agree with it. Through this result we

cannot say that there is relationship between the number of articles and question 1. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,887 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 1.

For question 2:

In the survey, statement 2 differs from statement 1 by the corporation type. Private organizations are more preferable than public institutions and men are more prone than women trying to find support for innovation. Women and men academics's results mean is nearly same and equal to 2,38 and 2,78 respectively. According to the one-way Anova test, the p value is equal to 0,280 which is more than 0,05 and it shows that null hypothesis is accepted to be true. There is not a meaningful relationship between gender and predisposition of finding support from private institutions.

It can be seen by looking the answers's mean that while ongoing Phd assistants, assistant professors and associate professor modaretly agree this statement, PhD assistants disagree and professors less agree this statement. One-way Anova test calculates a significancy level which is equal to 0,300 is more than 0,05 and the p value shows that there is not significant relation between academic status and statement 2.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Through this result we cannot say that there is relationship between the number of articles and question 2. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 1,000 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 2.

For question 3:

There is almost the same number of academics who disagree with statement 3. The statement 3 is about getting expert support from outside the university for innovation. One-way Anova test result "p" is equal to 0,773 and it is more than 0,05. By looking the

one-way Anova test result, null hypothesis is accepted to be true, that means there is no meaningful relation between gender and getting expert support from the outside the university for innovation.

It can be seen by looking the answers's mean that while ongoing Phd assistants and associate professor modaretly agree this statement, PhD assistants, assistant professors and professors less agree this statement. One-way Anova test calculates a significancy level which is equal to 0,839 is more than 0,05 and the p value shows that there is not significant relation between academic status and statement 3.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 5 are which is closer to 2. As we mentioned 2 means less agreeing with statement. So we can say that group number 1 and 5 less agree with question 3. Group 2, 3 and 4 modaretly agree with it. Through this result we cannot say that there is relationship between the number of articles and question 3. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,725 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 3.

For question 4:

Academics tend to take advantage of the university's facilities like assembly hall, study room to use the advantage of innovation in the university studies. It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and benefit from the positive point of view of physical facilities. P value is equal to 0,082 which is larger than 0,05. Null hypothesis is accepted to be true that means there is not a significant relation between gender and statement 4.

It can be seen by looking the answers's mean that while ongoing Phd assistants, assistant professors and associate professors agree with a lot, professors modaretly agree, PhD assistants less agree this statement. One-way Anova test calculates a significancy level which is equal to 0,497 is more than 0,05 and the p value shows that there is not significant relation between academic status and statement 4.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 2, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. So we can say that group number 1 agrees with question 4 a lot. Through this result we cannot say that there is relationship between the number of articles and question 4. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,873 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 4.

For question 5:

Academics mostly do not benefit from private institutions for technical certification training, but some of academics do. Also, the p value which is equal to 0,138 is bigger than 0,05; therefore, null hypothesis is approved to be true which means that there is not significant relation between gender and tendency of participation to technical training.

It can be seen by looking the answers's mean that while ongoing Phd assistants and assistant professors moderately agree with, PhD assistants, associate professors and professors less agree this statement. One-way Anova test calculates a significance level which is equal to 0,718 is more than 0,05 and the p value shows that there is not significant relation between academic status and statement 5.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 2 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group 3 agree with statement 5 a lot. Group 4 and 5 less agree with it. Through this result we cannot say that there is relationship between the number of articles and question 5. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,464 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 5.

For question 6:

According to the survey result, many scholars do not use the private institutions' labs mostly for university's innovation work. A thumping majority choice the 1 option which represents strongly disagree this statement. Base of the result of the test which is p value 0,554 is more than 0,05, there is no significant relation between gender and statement.

It can be seen by looking the answers's mean that while ongoing Phd assistants disagree, PhD assistants, assistant professors, associate professors and professorsless agree with this statement. One-way Anova test calculates a significancy level which is equal to 0,762 is more than 0,05 and the p value shows that there is not significant relation between academic status and statement 6.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 2. As we mentioned 2 means less agreeing with statement. Through this result we cannot say that there is relationship between the number of articles and question 6. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,882 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 6.

For question 7:

Academics tend to supply of tools and equipment for innovation regardless of gender. P value is equal to 0,824 is bigger that 0,05; that means null hypothesis is accepted to be true.

It can be seen by looking the answers's mean that while Phd assistants and professors less agree, ongoing PhD assistants and associate professors modaretly agree, assistant professors agree with a lot this statement. One-way Anova test calculates a significancy level which is equal to 0,035 is less than 0,05 and the p value shows that there is significant relation between academic status and statement 7.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Through this result we cannot say that there is relationship between the number of articles and question 7. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,957 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 7.

For question 8:

The most academics give information about the financial support for the participation of

national and international funds. Every academics attend except six of forty-eight people, the null hypothesis is accepted which is there is no significant relation between this statement and gender. P value is equal to 0,256 which is bigger than 0,05.

It can be seen by examining the mean of answers that ongoing PhD Assistants and assistant professors moderately agree with our statement, PhD degree assistants and professors less agree with it. Also associate professors agree with a lot the statement 8. Through this result we can not say that there is relationship between academic status and the statement 8. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,186 which is bigger than our significance level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 8.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Group 2 agree with it a lot. Through this result we cannot say that there is relationship between the number of articles and question 8. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,852 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 8.

For question 9:

The null hypothesis is that there is not a significant relation between gender and statement 9 which is "In order to achieve the necessary external knowledge for innovation,I do not would keep track of events that are open to faculty.". According to one-way Anova, the p value is equal to 0,386 is bigger than 0,05; therefore the null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants and professors moderately agree with our statement, PhD assistants less agree with statement 9. Assistant professors and associate professors agree with it a lot. Through this result we can say that there is relationship between academic status and the statement 9. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,033 which is less than our significancy level 0,05. This result shows

that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 9.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Through this result we cannot say that there is relationship between the number of articles and question 9. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,981 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 9.

For question 10:

Although there is any expressive relation between gender and statement 10, result mean shows that most academics moderately agree with seeking to investigate the supply of the university library in order to achieve the necessary knowledge for innovation on their research books, magazines and resources. Significance level is 0,111 which is less than 0,05; null hypothesis is acknowledged to be true. The null hypothesis says that "There is not a substantial relation between gender and statement 10."

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants and professors moderately agree with our statement, assistant professors and associate professors agree with it a lot. Through this result we can not say that there is relationship between academic status and the statement 10. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,247 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 10.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2 and 3 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 4 and 5 moderately agree with question 10. Through this result we cannot say that there is relationship between the number of articles and question 10. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,494 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 10.

For question 11:

Academicians tend to scan in their own new knowledge, faculty members nearly give the same answer, they agree with a lot this statement and women and men scholars' answers mean is 4,00 and 4,22 orderly. One-way Anova test significance level is 0,507 which is bigger than 0,05. Thence, null hypothesis is certified. There is not meaningful relation between gender and preferring scan in academics's new subject.

It can be seen by examining the mean of answers that ongoing PhD Assistants, associate professors and professors agree with our statement a lot, PhD assistants moderately agree with statement 11, assistant professors totally agree with it. Through this result we can not say that there is relationship between academic status and the statement 11. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,122 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 11.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. So we can say that all group numbers agree with question 11 a lot. Through this result we cannot say that there is relationship between the number of articles and question 11. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,820 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 11.

For question 12:

According to the one-way Anova test result, the significance level is 0,706 which is more than 0,05, that means there is not significant relation between gender and academics's effort which they spend to be understood the innovations in their by all faculty members. But most of them moderately agree with this statement.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professor and professors moderately agree with our statement, PhD assistants less agree with statement 12. Through this result we can not say that there is relationship between academic status and the statement 12. As an evidence to this result, we can show our

one way Anova test. Our p-value is equal to 0,438 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 12.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. So we can say that all group numbers agree with question 12 a lot. Through this result we cannot say that there is relationship between the number of articles and question 12. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,914 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 12.

For question 13:

According to one-way Anova test, the p vlaue is 0,133 larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 13 which is "I try to have a clear vision of innovation which is known and shared by all the academic staff in university.". Regardless of gender most academics modaretly agree with statement 13.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professor moderately agree with our statement, PhD assistants and professors less agree with statement 13. Through this result we can not say that there is relationship between academic status and the statement 13. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,417 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 13.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. So we can say that all group numbers agree with question 13 a lot. Through this result we cannot say that there is relationship between the number of articles and question 13. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,958 which is bigger than our

significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 13.

For question 14:

The null hypothesis is that there is not a important relation between gender and statement 14 which is “In my research, it is my goal to produce a candidate to intellectual property rights.”. According to one-way Anova, the p value is equal to 0,591 is bigger than 0,05; therefore the null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors, associate professors and professors moderately agree with our statement, PhD assistants less agree with statement 14. Through this result we can not say that there is relationship between academic status and the statement 14. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,555 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 14.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Through this result we cannot say that there is relationship between the number of articles and question 14. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,965 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 14.

For question 15:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and frequency and number of article published by academicians. P value is equal to 0,627 which is quite larger than 0,05. Null hypothesis is accepted to be true that means there is not a significant relation between gender and statement 15.

Generally academics moderately agree with publishing article about their topics constantly.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant

professors and professors moderately agree with our statement, PhD assistants disagree with statement 15. Associate professors agree with it a lot. Through this result we can not say that there is relationship between academic status and the statement 15. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,084 which is bigger than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 15.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3 and 4 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Group number 5 agrees with question 15 a lot. Through this result we cannot say that there is relationship between the number of articles and question 15. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,105 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 15.

For question 16:

According to one-way Anova test, the p vlaue is 0,831 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 16 which is "I will end immediately innovation projects which i do not feel bringing a positive contribution to university and the surrounding.". Regardless of gender most academics modaretly agree with statement 16.

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants, asociate professors and professors moderately agree with our statement, asisstant professors agree with statement 16 a lot. Through this result we can not say that there is relationship between academic status and the statement 16. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,163 which is bigger than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 16.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 3 and 5 are which is closer to 3. As we mentioned 3

means moderately agreeing with statement. Group number 2 agrees with question 16 a lot. Group number 4 less agree with it. Through this result we cannot say that there is relationship between the number of articles and question 16. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,347 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 16.

For question 17:

The null hypothesis is that there is not a important relation between gender and statement 17 which is "I emphasize the importance of an innovative approach to all staff at the university.". According to one-way Anova, the p value is equal to 0,543 is bigger than 0,05; therefore the null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants and professors moderately agree with our statement, PhD assistants less agree with statement 17. Assistant professors and associate professors agree with it a lot. Through this result we can not say that there is relationship between academic status and the statement 17. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,020 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 17.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 4 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 3 agrees with question 17 a lot. Through this result we cannot say that there is relationship between the number of articles and question 17. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,359 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 17.

For question 18:

According to one-way Anova test, the p value is 1,000 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 18 which is "I explain clearly the contribution to bring

innovation to the university and all the school staff.”. The women and men academics’s answers mean is same and equal to 3,00, that mean shows moderately agreement.

It can be seen by examining the mean of answers that ongoing PhD Assistants and associate professors moderately agree with our statement, PhD assistants and professors less agree with statement 18. Assistant professors agree with it a lot. Through this result we can not say that there is relationship between academic status and the statement 18. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,112 which is more than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 18.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 4 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Group number 3 agrees with question 18 a lot. Through this result we cannot say that there is relationship between the number of articles and question 18. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,521 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 18.

For question 19:

Academics tend to state their satisfaction with the achievements of innovative individuals in the university. P value is equal to 0,224 is bigger that 0,05; that means null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants and associate professors agree with our statement a lot, professors less agree with statement 19. Assistant professors totally agree with it. Through this result we can not say that there is relationship between academic status and the statement 19. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,021 which is less than our significancy level 0,05. This result shows that our alternative hypotesis is acceptable which is there is significant relationship between academic status and statement 19.

It can be seen by examining the mean of answers that the mean of answers which are

given by the group number 1, 2, 3 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 4 moderately agree with it. Through this result we cannot say that there is relationship between the number of articles and question 19. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,655 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 19.

For question 20:

One-way Anova test calculates the p value is 0,387 bigger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 20 which is "I show respect for the creative and innovative ideas of all university staff.". Regardless of gender most academics moderately agree with statement 20.

It can be seen by examining the mean of answers that ongoing PhD Assistants agree with our statement a lot, professors less agree with statement 20. PhD assistants, assistant professors and associate professors totally agree with it. Through this result we can not say that there is relationship between academic status and the statement 20. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,05 which is equal to our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 20.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 3, 4 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 1 moderately agrees with question 20 a lot. Group 2 totally agree with it. Through this result we cannot say that there is relationship between the number of articles and question 20. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,058 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 20.

For question 21:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and statement 21 which is “I support innovative research and effort of all academic staff”. P value is equal to 0,649 which is quite larger than 0,05. Null hypothesis is accepted to be true that means there is not a significant relation between gender and statement 21. Generally academics moderately agree with publishing article about their topics constantly.

It can be seen by examining the mean of answers that PhD Assistants and professors moderately agree with our statement, ongoing PhD assistants, assistant professors and associate professors agree with statement 21 a lot. Through this result we can not say that there is relationship between academic status and the statement 21. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,175 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 21.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 2, 3, 4 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 1 moderately agrees with question 21. Through this result we cannot say that there is relationship between the number of articles and question 21. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,539 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 21.

For question 22:

There is almost the same number of academics who disagree with statement 22. The statement 22 is about to support and keep defending the academic staff of the university who advocates innovative ideas. One-way Anova test result “p” is equal to 0,442 and it is more than 0,05. By looking the one-way Anova test result, null hypothesis is accepted to be true, that means there is no meaningful relation between gender and statement 22.

It can be seen by examining the mean of answers that ongoing PhD Assistants and associate professors agree with our statement a lot, professors moderately agree with it,

PhD assistants and assistant professors totally agree with statement 22. Through this result we can not say that there is relationship between academic status and the statement 22. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,078 which is bigger than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 22.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 3, 4 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 1 modaretly agrees with question 22. Group 2 totally agree with it. Through this result we cannot say that there is relationship between the number of articles and question 22. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,099 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 22.

For question 23:

According to one-way Anova test, the p vlaue is 0,455 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 23 which is “when deciding, I adopt a common approach and consensus.”. Regardless of gender most academics modaretly agree with statement 23.

It can be seen by examining the mean of answers that ongoing PhD Assistants, associate professors and assistant professors agree with our statement a lot, professors modaretly agree with it, PhD assistants totally agree with statement 23. Through this result we can not say that there is relationship between academic status and the statement 23. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,173 which is bigger than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 23.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 4modaretly agrees with question 23.

Through this result we cannot say that there is relationship between the number of articles and question 23. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,566 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 23.

For question 24:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and statement 24 which is “I ensure that university innovation hear as a means of enviromental integration and to adapt to the environment”.P value is equal to 0,528 which is larger than 0,05. Null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants and professors modaretly agree with our statement, assistant professors and associate professors agree with statement 24 a lot. Through this result we can not say that there is relationship between academic status and the statement 24. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,158 which is bigger than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 24.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2 and 3 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 4 and 5 modaretly agree with question 24. Through this result we cannot say that there is relationship between the number of articles and question 24. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,770 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 24.

For question 25:

The null hypothesis is that there is not a important relation between gender and statement 25 which is “I set up the process of innovation in open communication with all the academic staff and students.”. According to one-way Anova, the p value is equal to 0,601 is bigger than 0,05; therefore the null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that PhD Assistants and professors moderately agree with our statement, associate professors and ongoing PhD assistants agree with it a lot, assistant professors totally agree with statement 25. Through this result we can not say that there is relationship between academic status and the statement 25. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,008 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 25.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 4 moderately agrees with question 25. Through this result we cannot say that there is relationship between the number of articles and question 25. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,328 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 25.

For question 26:

According to one-way Anova test, the p value is 0,845 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 26 which is "Creating strong bonds between all university staff I effort that innovation in the sense of ownership is dominant.". Regardless of gender most academics moderately agree with statement 26.

It can be seen by examining the mean of answers that ongoing PhD Assistants and PhD assistants moderately agree with our statement, associate professors and assistant professors agree with statement 26 a lot, professors less agree with it. Through this result we can not say that there is relationship between academic status and the statement 26. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,008 which is less than our significance level 0,013. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 26.

It can be seen by examining the mean of answers that the mean of answers which are

given by the group number 2 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 1, 3 and 4 moderately agrees with question 26. Through this result we cannot say that there is relationship between the number of articles and question 26. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,629 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 26.

For question 27:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and statement 27 that is "I listen to all the innovations of academic staff at the university.". P value is equal to 0,301 which is quite larger than 0,05. Null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants and professors moderately agree with our statement, associate professors, PhD assistants and assistant professors agree with statement 27 a lot. Through this result we can not say that there is relationship between academic status and the statement 27. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,020 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 27.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2, 3 and 5 agree with question 27 a lot. Through this result we cannot say that there is relationship between the number of articles and question 27. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,245 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 27.

For question 28:

According to one-way Anova test, the p value is 0,728 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation

between gender and statement 28 which is “I believe the innovation can come from all academic staff at all levels.”. Regardless of gender most academics moderately agree with statement 28.

It can be seen by examining the mean of answers that ongoing PhD Assistants and professors moderately agree with our statement, associate professors, PhD assistants and assistant professors agree with statement 28 a lot. Through this result we can not say that there is a relationship between academic status and the statement 28. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,002 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is a significant relationship between academic status and statement 28.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. Group number 4 moderately agrees with question 28. Through this result we cannot say that there is a relationship between the number of articles and question 28. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,378 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 28.

For question 29:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and statement 29 that is “The risk of innovative academic projects, I always believe in taking a flier will return as earnings.”. P value is equal to 0,085 which is slightly bigger than 0,05. Null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants and professors moderately agree with our statement, assistant professors and associate professors agree with statement 29 a lot. Through this result we can not say that there is a relationship between academic status and the statement 29. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,098 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and

statement 29.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 4 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2 and 3 agrees with question 29 a lot. Through this result we cannot say that there is relationship between the number of articles and question 29. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,486 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 29.

For question 30:

Academicians mostly agree with the idea which is paying attention to the process of innovation in the use of university resources in an efficient manner, and faculty members nearly give the same answer, they moderately agree with this statement and women and men scholars' answers mean is 3,71 and 3,91 orderly. One-way Anova test significance level is 0,562 which is more than 0,05. That is why null hypothesis is accepted. There is not significant relationship between gender and paying attention to the use of resources.

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants, assistant professors and associate professors agree with our statement a lot, professors moderately agree with statement 30. Through this result we can not say that there is relationship between academic status and the statement 30. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,178 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 30.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3 and 5 are which is closer to 4. As we mentioned 4 means agreeing with statement a lot. So we can say that group number 4 moderately agrees with question 30 a lot. Through this result we cannot say that there is relationship between the number of articles and question 30. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,877 which is bigger than our

significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 30.

For question 31:

According to one-way Anova test, the p value is 0,960 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 31 which is "I give priority to innovation that will contribute to the development of the university.". Regardless of gender most academics moderately agree with statement 31.

It can be seen by examining the mean of answers that ongoing PhD Assistants moderately agree with statement 31, PhD assistants, assistant professors and associate professors and professors agree with our statement a lot. Through this result we can not say that there is relationship between academic status and the statement 31. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,152 which is bigger than our significance level 0,05. This shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 31.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 3 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 1, 2 and 5 agrees with question 31 a lot. Through this result we cannot say that there is relationship between the number of articles and question 31. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,363 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 31.

For question 32:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and frequency and statement 32 which is taking care of the selection of resources and tools to be used in the process of innovation show. P value is equal to 0,315 which is bigger than 0,05. Null hypothesis is accepted to be true that means there is not a significant relation between gender and statement 32.

It can be seen by examining the mean of answers that ongoing PhD Assistantsa,

assistant professors and associate professors agree with our statement a lot, PhD assistants and professors moderately agree with statement 32. Through this result we can not say that there is relationship between academic status and the statement 32. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,008 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 32.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2, 3 and 5 agrees with question 32 a lot. Through this result we cannot say that there is relationship between the number of articles and question 32. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,666 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 32.

For question 33:

According to one-way Anova test, the p value is 0,658 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 33 which is "I will be prepared for the unpredictable results of the innovation process at the university.". Regardless of gender most academics moderately agree with statement 33.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professors agree with our statement a lot, PhD assistants and professors moderately agree with statement 33. Through this result we can not say that there is relationship between academic status and the statement 33. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,296 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 33.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 4 are which is closer to 3. As we mentioned 3 means

moderately agreeing with statement. Group number 2, 3 and 5 agrees with question 33 a lot. Through this result we cannot say that there is relationship between the number of articles and question 33. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,622 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 33.

For question 34:

The null hypothesis is that there is not a important relation between gender and statement 34 which is "I will cost-benefit analysis of the benefits of innovation to the university.". According to one-way Anova, the p value is equal to 0,935 is bigger than 0,05; therefore the null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants and associate professors moderately agree with our statement, assistant professors agree with statement 34 a lot. Professors less agree with it. Through this result we can not say that there is relationship between academic status and the statement 34. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,089 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 34.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 3 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2 and 5 agrees with question 34 a lot. Through this result we cannot say that there is relationship between the number of articles and question 34. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,236 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 34.

For question 35:

It can be said by looking at the one-way Anova test result that there is not a significant

relation between gender and frequency and number of article published by academicians. Statement 35 is "I continually observe the contributions to the academic staff in project management.". P value is equal to 0,783 which is quite larger than 0,05. Null hypothesis is accepted to be true that means there is not a significant relation between gender and statement 35.

It can be seen by examining the mean of answers that ongoing PhD Assistants professors moderately agree with our statement, assistant professors and associate professors agree with statement 35 a lot. PhD professors less agree with it. Through this result we can not say that there is relationship between academic status and the statement 35. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,095 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 35.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2 and 3 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 4 less agrees with question 36 a lot. Group number 5 agrees with a lot. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,047 which is less than our significancy level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and question 4.

For question 36:

Statement 36 is "I support innovative projects to improve the co-operation of all the staff with each other.". Women and men scholars's answer mean is equal to orderly 3,87 and 4,00. P value is equal to 0,702 is bigger than 0,05; that means null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors, associate professors and professors agree with statement 36 a lot. PhD assistants totally agree with our statement. Through this result we can not say that there is relationship between academic status and the statement 36. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,121 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is

acceptable which is there is no significant relationship between academic status and statement 36.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2, 3 and 5 agrees with question 36 a lot. Through this result we cannot say that there is relationship between the number of articles and question 36. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,065 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 36.

For question 37:

According to one-way Anova test, the p value is 0,185 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 37 which is "I direct students to innovative projects for academic year-end finishing projects.". Regardless of gender most academics moderately agree with statement 37.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professors agree with our statement a lot, professors and PhD assistants moderately agree with statement 37. Through this result we can not say that there is relationship between academic status and the statement 37. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,074 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 37.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2, 3 and 5 agrees with question 37 a lot. Through this result we cannot say that there is relationship between the number of articles and question 37. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,781 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant

relationship between academic status and question 37.

For question 38:

Statement 38 is “I try to improve the rating scale to measure the effectiveness of innovation projects.”. P value is equal to 0,715 is bigger than 0,05; that means null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, associate professors and professors moderately agree with our statement, PhD assistants less agree with statement 38, assistant professors agree with it a lot. Through this result we can not say that there is relationship between academic status and the statement 38. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,090 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 38.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 2, 3 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 4 less agrees with question 38. Through this result we cannot say that there is relationship between the number of articles and question 38. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,431 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 38.

For question 39:

According to one-way Anova test, the p value is 0,576 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 39 which is “I investigate academic networks of business partners.”. Regardless of gender most academics moderately agree with statement 39.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professors agree with our statement a lot, professors moderately agree with statement 39, PhD assistants less agree with it. Through this result we can not say that there is relationship between academic status and the statement 39. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to

0,011 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 39.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 2 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 1, 3 and 5 agree with question 39 a lot. Through this result we cannot say that there is relationship between the number of articles and question 39. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,976 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 39.

For question 40:

The null hypothesis is that there is not a important relation between gender and statement 40 which is "I would intermediary in university academic joint ventures the transfer of new technologies to students.". According to one-way Anova, the p value is equal to 0,094 is bigger than 0,05; therefore the null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, PhD assistants and professors moderately agree with our statement, assistant professors and associate professors agree with statement 40 a lot. Through this result we can not say that there is relationship between academic status and the statement 40. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,054 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 40.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 4 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2 and 3 agrees with question 40 a lot. Through this result we cannot say that there is relationship between the number of articles and question 40. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,717 which is bigger than our significance level 0,05. This

result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 40.

For question 41:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and statement 41 which is "I support students' entrepreneurial applications in TUBITAK, Kosgeb support programs open to students from institutions.". P value is equal to 0,938 which is quite larger than 0,05. Null hypothesis is accepted to be true that means there is not a significant relation between gender and statement 41.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professors agree with our statement a lot, PhD assistants and professors modaretly agree with statement 41. Through this result we can not say that there is relationship between academic status and the statement 41. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,013 which is less than our significancy level 0,05. This result shows that our alternative hypotesis is acceptable which is there is significant relationship between academic status and statement 41.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 4 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Group number 2, 3 and 5 agrees with question 41 a lot. Through this result we cannot say that there is relationship between the number of articles and question 41. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,611 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 41.

For question 42:

Statement 42 is "I will support the process of cooperation studies of university-industry collaboration towards the commercialization of innovation.". Women and men scholars's answer mean is equal to orderly 3,42and 3,26. P value is equal to 0,695 is bigger that 0,05; that means null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants and

professors moderately agree with our statement, associate professors and assistant professors agree with statement 42 a lot. Through this result we can not say that there is relationship between academic status and the statement 42. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,063 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and statement 42.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 2 agrees with question 42 a lot. Through this result we cannot say that there is relationship between the number of articles and question 42. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,873 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 42.

For question 43:

According to one-way Anova test, the p value is 0,871 a quite larger than 0,05; therefore, the null hypothesis is accepted to be true and there is not significant relation between gender and statement 43 which is "I spend the effort to participate in international academic co-operation networks.". Regardless of gender most academics moderately agree with statement 43.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professors agree with our statement a lot, professors moderately agree with statement 43, PhD assistants less agree with it. Through this result we can not say that there is relationship between academic status and the statement 43. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,017 which is less than our significance level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and statement 43.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 3 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 1, 2 and 5 agrees with question 43 a

lot. Through this result we cannot say that there is relationship between the number of articles and question 43. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,945 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 43.

For question 44:

The null hypothesis is that there is not a important relation between gender and statement 40 which is "I would follow e-business networks and social networks for innovation projects (LinkedIn, Facebook, etc.)". According to one-way Anova, the p value is equal to 0,307 is bigger than 0,05; therefore the null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professors modaretly agree with our statement, professors and PhD assistants less agree with statement 44. Through this result we can not say that there is relationship between academic status and the statement 44. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,020 which is less than our significancy level 0,05. This result shows that our alternative hypotesis is acceptable which is there is significant relationship between academic status and statement 44.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1, 3, 4 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Group number 2 agrees with question 44 a lot. Through this result we cannot say that there is relationship between the number of articles and question 44. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,436 which is bigger than our significancy level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 44.

For question 45:

It can be said by looking at the one-way Anova test result that there is not a significant relation between gender and statement 45 is "I would follow academics in the world of open online courses of international universities in order to follow innovation.". P value

is equal to 0,533 which is quite larger than 0,05. Null hypothesis is accepted to be true that means there is not a significant relation between gender and statement 45.

It can be seen by examining the mean of answers that ongoing PhD Assistants, assistant professors and associate professors modaretly agree with our statement, professors less agree with statement 45, PhD assistants agree with it a lot. Through this result we can not say that there is relationship between academic status and the statement 45. As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,716 which is bigger than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic status and statement 45.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 1 and 5 are which is closer to 3. As we mentioned 3 means modaretly agreeing with statement. Group number 3 and 4 less agree with question 45. Group number 2 totally agrees with it. Through this result we cannot say that there is relationship between the number of articles and question 45. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,054 which is equal to our significancy level 0,05. This result shows that our alternative hypothesis is acceptable which is there is significant relationship between academic status and question 45.

For question46:

Statement 46 is "I attend international academic exchange programs for educational purposes only." Women and men scholars's answer mean is equal to orderly 2,54 and 2,70. P value is equal to 0,706 is bigger that 0,05; that means null hypothesis is accepted to be true.

It can be seen by examining the mean of answers that ongoing PhD Assistants and professors less agree with statement 46, assistant professors and associate professors modaretly agree with our statement, PhD assistant disagree with it. Through this result we can not say that there is relationship between academic status and the statement 30.

As an evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,137 which is bigger than our significancy level 0,05. This result shows that our null hypotesis is acceptable which is there is no significant relationship between academic

status and statement 46.

It can be seen by examining the mean of answers that the mean of answers which are given by the group number 2, 3 and 4 are which is closer to 3. As we mentioned 3 means moderately agreeing with statement. Group number 1 and 5 less agree with question 46. Through this result we cannot say that there is relationship between the number of articles and question 46. As evidence to this result, we can show our one way Anova test. Our p-value is equal to 0,766 which is bigger than our significance level 0,05. This result shows that our null hypothesis is acceptable which is there is no significant relationship between academic status and question 46.

5. CONCLUSION

In this master thesis, we tried to measure and define the perceptions of academics about innovation. We have used the measurement scale which is developed by Bülbül(2012). We created a questionnaire which includes 62 questions in total. It has 2 categories. The first part includes 16 questions about demographic data about participants. Second part includes 46 questions about 5 different categories. These are; innovation strategy, input management, project management, organizational culture and structure and innovation follow-up strategies. We used one-way anova test to get results from our data.

We used gender, academic status and number of published paper as key factors in our one way anova test. We wonder that these factors are effective or not in the innovation perceptions of academic staff in universities.

As a result we found that these factors show different effects on our issue. Through the results, we can say that in all categories our participants generally agreed with our questions. In input management part the participants agreement degree is between less and normal. In innovation strategy and innovation follow-up strategies degree is between normal and much agreement degree. In organizational culture and structure and project management categories, degree is between much and definitely agreement degree. Generally our factors did not create a significant difference and generally there is no significant relationship between our categories and factors.

At the end of study we get that the perception of academics is in normal levels, not less but not much. In this manner, as a heuristic; actually the academics in Turkey have a higher level of innovation perception but they do not recognize it. Also our aim was to measure this perception level. Another issue about our study is the distribution of different academic status of participants. The number of participants who are still making PhD are more than number of professors. Through that innovation perception of our participants are in moderate level. Maybe we can conclude higher level of perception when we apply our questionnaire to more professors.

As an acknowledgement we can apply this questionnaire more academics in different universities in Turkey and all over the world. Also we can change our factors that may affect the issue.

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Girişimci ve Yenilikçi Üniversite

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APPENDIX-1

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DQ7	Between Groups	2,409	1	2,409	,844	,363
	Within Groups	128,442	45	2,854		
	Total	130,851	46			
DQ8	Between Groups	,024	1	,024	,006	,941
	Within Groups	196,784	45	4,373		
	Total	196,809	46			
DQ9	Between Groups	2,039	1	2,039	3,850	,056
	Within Groups	23,833	45	,530		
	Total	25,872	46			
DQ10	Between Groups	,200	1	,200	,066	,799
	Within Groups	136,609	45	3,036		
	Total	136,809	46			
DQ11	Between Groups	3,562	1	3,562	1,837	,182
	Within Groups	87,246	45	1,939		
	Total	90,809	46			
DQ12	Between Groups	1,406	1	1,406	,647	,425
	Within Groups	97,828	45	2,174		
	Total	99,234	46			
DQ13	Between Groups	9,406	1	9,406	10,182	,003
	Within Groups	41,572	45	,924		
	Total	50,979	46			
DQ14	Between Groups	,121	1	,121	,147	,703
	Within Groups	36,986	45	,822		
	Total	37,106	46			
DQ15	Between Groups	1,900	1	1,900	1,481	,230
	Within Groups	57,717	45	1,283		
	Total	59,617	46			
DQ16	Between Groups	,134	1	,134	,105	,748
	Within Groups	57,611	45	1,280		
	Total	57,745	46			
GQ1	Between Groups	1,235	1	1,235	,752	,390
	Within Groups	73,871	45	1,642		
	Total	75,106	46			
GQ2	Between Groups	1,951	1	1,951	1,194	,280
	Within Groups	73,538	45	1,634		
	Total	75,489	46			

GQ3	Between Groups	,134	1	,134	,084	,773
	Within Groups	71,611	45	1,591		
	Total	71,745	46			
GQ4	Between Groups	4,995	1	4,995	3,156	,082
	Within Groups	71,217	45	1,583		
	Total	76,213	46			
GQ5	Between Groups	4,508	1	4,508	2,277	,138
	Within Groups	89,109	45	1,980		
	Total	93,617	46			
GQ6	Between Groups	,501	1	,501	,355	,554
	Within Groups	63,457	45	1,410		
	Total	63,957	46			
GQ8	Between Groups	,089	1	,089	,050	,824
	Within Groups	79,826	45	1,774		
	Total	79,915	46			
GQ7	Between Groups	2,165	1	2,165	1,326	,256
	Within Groups	73,495	45	1,633		
	Total	75,660	46			
GQ9	Between Groups	1,127	1	1,127	,765	,386
	Within Groups	66,277	45	1,473		
	Total	67,404	46			
YQ1	Between Groups	3,873	1	3,873	2,646	,111
	Within Groups	65,871	45	1,464		
	Total	69,745	46			
YQ2	Between Groups	,555	1	,555	,447	,507
	Within Groups	55,913	45	1,243		
	Total	56,468	46			
YQ3	Between Groups	,200	1	,200	,144	,706
	Within Groups	62,609	45	1,391		
	Total	62,809	46			
YQ4	Between Groups	4,147	1	4,147	2,339	,133
	Within Groups	79,768	45	1,773		
	Total	83,915	46			
YQ5	Between Groups	,537	1	,537	,293	,591
	Within Groups	82,442	45	1,832		
	Total	82,979	46			
YQ6	Between Groups	,326	1	,326	,239	,627
	Within Groups	61,333	45	1,363		
	Total	61,660	46			
YQ7	Between Groups	,082	1	,082	,046	,831
	Within Groups	79,833	45	1,774		
	Total	79,915	46			

QQ1	Between Groups	,583	1	,583	,376	,543
	Within Groups	69,842	45	1,552		
	Total	70,426	46			
QQ2	Between Groups	,000	1	,000	,000	1,000
	Within Groups	78,000	45	1,733		
	Total	78,000	46			
QQ3	Between Groups	2,428	1	2,428	1,522	,224
	Within Groups	71,784	45	1,595		
	Total	74,213	46			
QQ4	Between Groups	1,049	1	1,049	,763	,387
	Within Groups	61,929	45	1,376		
	Total	62,979	46			
QQ5	Between Groups	,305	1	,305	,210	,649
	Within Groups	65,567	45	1,457		
	Total	65,872	46			
QQ6	Between Groups	,766	1	,766	,603	,442
	Within Groups	57,234	45	1,272		
	Total	58,000	46			
PQ1	Between Groups	,745	1	,745	,569	,455
	Within Groups	58,915	45	1,309		
	Total	59,660	46			
PQ2	Between Groups	,441	1	,441	,404	,528
	Within Groups	49,176	45	1,093		
	Total	49,617	46			
PQ3	Between Groups	,363	1	,363	,277	,601
	Within Groups	58,871	45	1,308		
	Total	59,234	46			
PQ4	Between Groups	,062	1	,062	,039	,845
	Within Groups	71,768	45	1,595		
	Total	71,830	46			
PQ5	Between Groups	1,557	1	1,557	1,094	,301
	Within Groups	64,060	45	1,424		
	Total	65,617	46			
PQ6	Between Groups	,173	1	,173	,122	,728
	Within Groups	63,784	45	1,417		
	Total	63,957	46			
PQ7	Between Groups	3,219	1	3,219	3,108	,085
	Within Groups	46,611	45	1,036		
	Total	49,830	46			
PQ8	Between Groups	,492	1	,492	,342	,562
	Within Groups	64,784	45	1,440		
	Total	65,277	46			

PQ9	Between Groups	,003	1	,003	,003	,960
	Within Groups	55,103	45	1,225		
	Total	55,106	46			
PQ10	Between Groups	1,235	1	1,235	1,032	,315
	Within Groups	53,871	45	1,197		
	Total	55,106	46			
PQ11	Between Groups	,253	1	,253	,198	,658
	Within Groups	57,364	45	1,275		
	Total	57,617	46			
PQ12	Between Groups	,010	1	,010	,007	,935
	Within Groups	66,203	45	1,471		
	Total	66,213	46			
PQ13	Between Groups	,112	1	,112	,077	,783
	Within Groups	65,717	45	1,460		
	Total	65,830	46			
PQ14	Between Groups	,200	1	,200	,148	,702
	Within Groups	60,609	45	1,347		
	Total	60,809	46			
PQ15	Between Groups	2,004	1	2,004	1,810	,185
	Within Groups	49,826	45	1,107		
	Total	51,830	46			
PQ16	Between Groups	,189	1	,189	,135	,715
	Within Groups	62,790	45	1,395		
	Total	62,979	46			
IQ1	Between Groups	,433	1	,433	,318	,576
	Within Groups	61,312	45	1,362		
	Total	61,745	46			
IQ2	Between Groups	3,898	1	3,898	2,933	,094
	Within Groups	59,804	45	1,329		
	Total	63,702	46			
IQ3	Between Groups	,010	1	,010	,006	,938
	Within Groups	72,203	45	1,605		
	Total	72,213	46			
IQ4	Between Groups	,285	1	,285	,156	,695
	Within Groups	82,268	45	1,828		
	Total	82,553	46			
IQ5	Between Groups	,045	1	,045	,027	,871
	Within Groups	75,572	45	1,679		
	Total	75,617	46			
IQ6	Between Groups	2,129	1	2,129	1,066	,307
	Within Groups	89,871	45	1,997		
	Total	92,000	46			

IQ7	Between Groups	,713	1	,713	,395	,533
	Within Groups	81,159	45	1,804		
	Total	81,872	46			
IQ8	Between Groups	,278	1	,278	,144	,706
	Within Groups	86,828	45	1,930		
	Total	87,106	46			

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APPENDIX-2

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DQ7	Between Groups	14,920	4	3,730	1,351	,267
	Within Groups	115,931	42	2,760		
	Total	130,851	46			
DQ8	Between Groups	12,005	4	3,001	,682	,608
	Within Groups	184,804	42	4,400		
	Total	196,809	46			
DQ9	Between Groups	3,755	4	,939	1,782	,150
	Within Groups	22,118	42	,527		
	Total	25,872	46			
DQ10	Between Groups	14,008	4	3,502	1,198	,326
	Within Groups	122,800	42	2,924		
	Total	136,809	46			
DQ11	Between Groups	6,097	4	1,524	,756	,560
	Within Groups	84,712	42	2,017		
	Total	90,809	46			
DQ12	Between Groups	7,847	4	1,962	,902	,472
	Within Groups	91,387	42	2,176		
	Total	99,234	46			
DQ13	Between Groups	,375	4	,094	,078	,989
	Within Groups	50,604	42	1,205		
	Total	50,979	46			
DQ14	Between Groups	2,267	4	,567	,683	,608
	Within Groups	34,839	42	,830		
	Total	37,106	46			
DQ15	Between Groups	1,464	4	,366	,264	,899
	Within Groups	58,153	42	1,385		
	Total	59,617	46			
DQ16	Between Groups	4,709	4	1,177	,932	,455
	Within Groups	53,036	42	1,263		
	Total	57,745	46			
GQ1	Between Groups	8,822	4	2,206	1,397	,251
	Within Groups	66,284	42	1,578		
	Total	75,106	46			
GQ2	Between Groups	8,101	4	2,025	1,262	,300
	Within Groups	67,388	42	1,604		
	Total	75,489	46			

GQ3	Between Groups	2,343	4	,586	,354	,839
	Within Groups	69,402	42	1,652		
	Total	71,745	46			
GQ4	Between Groups	5,762	4	1,440	,859	,497
	Within Groups	70,451	42	1,677		
	Total	76,213	46			
GQ5	Between Groups	4,454	4	1,114	,525	,718
	Within Groups	89,163	42	2,123		
	Total	93,617	46			
GQ6	Between Groups	2,707	4	,677	,464	,762
	Within Groups	61,250	42	1,458		
	Total	63,957	46			
GQ7	Between Groups	16,228	4	4,057	2,867	,035
	Within Groups	59,431	42	1,415		
	Total	75,660	46			
GQ8	Between Groups	10,703	4	2,676	1,624	,186
	Within Groups	69,212	42	1,648		
	Total	79,915	46			
GQ9	Between Groups	14,600	4	3,650	2,903	,033
	Within Groups	52,804	42	1,257		
	Total	67,404	46			
YQ1	Between Groups	8,258	4	2,065	1,410	,247
	Within Groups	61,487	42	1,464		
	Total	69,745	46			
YQ2	Between Groups	8,787	4	2,197	1,935	,122
	Within Groups	47,681	42	1,135		
	Total	56,468	46			
YQ3	Between Groups	5,273	4	1,318	,962	,438
	Within Groups	57,536	42	1,370		
	Total	62,809	46			
YQ4	Between Groups	7,311	4	1,828	1,002	,417
	Within Groups	76,604	42	1,824		
	Total	83,915	46			
YQ5	Between Groups	5,621	4	1,405	,763	,555
	Within Groups	77,358	42	1,842		
	Total	82,979	46			
YQ6	Between Groups	10,722	4	2,681	2,210	,084
	Within Groups	50,938	42	1,213		
	Total	61,660	46			
YQ7	Between Groups	11,263	4	2,816	1,723	,163
	Within Groups	68,652	42	1,635		
	Total	79,915	46			

QQ1	Between Groups	16,723	4	4,181	3,270	,020
	Within Groups	53,702	42	1,279		
	Total	70,426	46			
QQ2	Between Groups	12,464	4	3,116	1,997	,112
	Within Groups	65,536	42	1,560		
	Total	78,000	46			
QQ3	Between Groups	17,491	4	4,373	3,238	,021
	Within Groups	56,722	42	1,351		
	Total	74,213	46			
QQ4	Between Groups	18,473	4	4,618	4,358	,005
	Within Groups	44,506	42	1,060		
	Total	62,979	46			
QQ5	Between Groups	9,033	4	2,258	1,669	,175
	Within Groups	56,839	42	1,353		
	Total	65,872	46			
QQ6	Between Groups	10,304	4	2,576	2,268	,078
	Within Groups	47,696	42	1,136		
	Total	58,000	46			
PQ1	Between Groups	8,213	4	2,053	1,676	,173
	Within Groups	51,446	42	1,225		
	Total	59,660	46			
PQ2	Between Groups	7,068	4	1,767	1,744	,158
	Within Groups	42,549	42	1,013		
	Total	49,617	46			
PQ3	Between Groups	16,228	4	4,057	3,962	,008
	Within Groups	43,006	42	1,024		
	Total	59,234	46			
PQ4	Between Groups	18,305	4	4,576	3,591	,013
	Within Groups	53,525	42	1,274		
	Total	71,830	46			
PQ5	Between Groups	15,581	4	3,895	3,270	,020
	Within Groups	50,036	42	1,191		
	Total	65,617	46			
PQ6	Between Groups	20,889	4	5,222	5,093	,002
	Within Groups	43,069	42	1,025		
	Total	63,957	46			
PQ7	Between Groups	8,294	4	2,074	2,097	,098
	Within Groups	41,536	42	,989		
	Total	49,830	46			
PQ8	Between Groups	8,888	4	2,222	1,655	,178
	Within Groups	56,388	42	1,343		
	Total	65,277	46			

PQ9	Between Groups	7,974	4	1,994	1,776	,152
	Within Groups	47,132	42	1,122		
	Total	55,106	46			
PQ10	Between Groups	15,051	4	3,763	3,946	,008
	Within Groups	40,055	42	,954		
	Total	55,106	46			
PQ11	Between Groups	6,229	4	1,557	1,273	,296
	Within Groups	51,388	42	1,224		
	Total	57,617	46			
PQ12	Between Groups	11,326	4	2,831	2,167	,089
	Within Groups	54,887	42	1,307		
	Total	66,213	46			
PQ13	Between Groups	11,055	4	2,764	2,119	,095
	Within Groups	54,775	42	1,304		
	Total	65,830	46			
PQ14	Between Groups	9,490	4	2,372	1,942	,121
	Within Groups	51,319	42	1,222		
	Total	60,809	46			
PQ15	Between Groups	9,324	4	2,331	2,303	,074
	Within Groups	42,506	42	1,012		
	Total	51,830	46			
PQ16	Between Groups	10,737	4	2,684	2,158	,090
	Within Groups	52,241	42	1,244		
	Total	62,979	46			
IQ1	Between Groups	16,127	4	4,032	3,712	,011
	Within Groups	45,618	42	1,086		
	Total	61,745	46			
IQ2	Between Groups	12,372	4	3,093	2,531	,054
	Within Groups	51,330	42	1,222		
	Total	63,702	46			
IQ3	Between Groups	18,540	4	4,635	3,627	,013
	Within Groups	53,673	42	1,278		
	Total	72,213	46			
IQ4	Between Groups	15,470	4	3,867	2,421	,063
	Within Groups	67,083	42	1,597		
	Total	82,553	46			
IQ5	Between Groups	18,465	4	4,616	3,392	,017
	Within Groups	57,152	42	1,361		
	Total	75,617	46			
IQ6	Between Groups	21,858	4	5,464	3,272	,020
	Within Groups	70,142	42	1,670		
	Total	92,000	46			

IQ7	Between Groups	3,921	4	,980	,528	,716
	Within Groups	77,951	42	1,856		
	Total	81,872	46			
IQ8	Between Groups	13,057	4	3,264	1,852	,137
	Within Groups	74,049	42	1,763		
	Total	87,106	46			

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APPENDIX-3

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DQ7	Between Groups	7,518	4	1,879	,640	,637
	Within Groups	123,333	42	2,937		
	Total	130,851	46			
DQ8	Between Groups	18,667	4	4,667	1,100	,369
	Within Groups	178,141	42	4,241		
	Total	196,809	46			
DQ9	Between Groups	1,708	4	,427	,742	,569
	Within Groups	24,164	42	,575		
	Total	25,872	46			
DQ10	Between Groups	49,375	4	12,344	5,930	,001
	Within Groups	87,433	42	2,082		
	Total	136,809	46			
DQ11	Between Groups	25,183	4	6,296	4,029	,007
	Within Groups	65,626	42	1,563		
	Total	90,809	46			
DQ12	Between Groups	28,443	4	7,111	4,219	,006
	Within Groups	70,791	42	1,686		
	Total	99,234	46			
DQ13	Between Groups	5,449	4	1,362	1,257	,302
	Within Groups	45,529	42	1,084		
	Total	50,979	46			
DQ14	Between Groups	3,735	4	,934	1,175	,336
	Within Groups	33,372	42	,795		
	Total	37,106	46			
DQ15	Between Groups	10,594	4	2,648	2,269	,078
	Within Groups	49,023	42	1,167		
	Total	59,617	46			
DQ16	Between Groups	3,068	4	,767	,589	,672
	Within Groups	54,677	42	1,302		
	Total	57,745	46			
GQ1	Between Groups	10,654	4	2,663	1,736	,160
	Within Groups	64,453	42	1,535		
	Total	75,106	46			
GQ2	Between Groups	2,294	4	,574	,329	,857
	Within Groups	73,195	42	1,743		
	Total	75,489	46			

GQ3	Between Groups	2,011	4	,503	,303	,874
	Within Groups	69,733	42	1,660		
	Total	71,745	46			
GQ4	Between Groups	7,383	4	1,846	1,126	,357
	Within Groups	68,829	42	1,639		
	Total	76,213	46			
GQ5	Between Groups	4,980	4	1,245	,590	,672
	Within Groups	88,637	42	2,110		
	Total	93,617	46			
GQ6	Between Groups	1,265	4	,316	,212	,930
	Within Groups	62,692	42	1,493		
	Total	63,957	46			
GQ7	Between Groups	3,388	4	,847	,492	,741
	Within Groups	72,272	42	1,721		
	Total	75,660	46			
GQ8	Between Groups	3,482	4	,870	,478	,751
	Within Groups	76,433	42	1,820		
	Total	79,915	46			
GQ9	Between Groups	5,721	4	1,430	,974	,432
	Within Groups	61,683	42	1,469		
	Total	67,404	46			
YQ1	Between Groups	6,142	4	1,536	1,014	,411
	Within Groups	63,608	42	1,514		
	Total	69,745	46			
YQ2	Between Groups	,419	4	,105	,079	,988
	Within Groups	56,049	42	1,334		
	Total	56,468	46			
YQ3	Between Groups	,760	4	,190	,129	,971
	Within Groups	62,049	42	1,477		
	Total	62,809	46			
YQ4	Between Groups	7,988	4	1,997	1,105	,367
	Within Groups	75,927	42	1,808		
	Total	83,915	46			
YQ5	Between Groups	3,265	4	,816	,430	,786
	Within Groups	79,714	42	1,898		
	Total	82,979	46			
YQ6	Between Groups	8,419	4	2,105	1,660	,177
	Within Groups	53,241	42	1,268		
	Total	61,660	46			
YQ7	Between Groups	3,515	4	,879	,483	,748
	Within Groups	76,400	42	1,819		
	Total	79,915	46			

QQ1	Between Groups	4,056	4	1,014	,642	,636
	Within Groups	66,369	42	1,580		
	Total	70,426	46			
QQ2	Between Groups	1,459	4	,365	,200	,937
	Within Groups	76,541	42	1,822		
	Total	78,000	46			
QQ3	Between Groups	3,095	4	,774	,457	,767
	Within Groups	71,118	42	1,693		
	Total	74,213	46			
QQ4	Between Groups	5,257	4	1,314	,956	,441
	Within Groups	57,722	42	1,374		
	Total	62,979	46			
QQ5	Between Groups	4,024	4	1,006	,683	,608
	Within Groups	61,849	42	1,473		
	Total	65,872	46			
QQ6	Between Groups	2,624	4	,656	,498	,738
	Within Groups	55,376	42	1,318		
	Total	58,000	46			
PQ1	Between Groups	5,630	4	1,408	1,094	,372
	Within Groups	54,029	42	1,286		
	Total	59,660	46			
PQ2	Between Groups	2,088	4	,522	,461	,764
	Within Groups	47,529	42	1,132		
	Total	49,617	46			
PQ3	Between Groups	1,339	4	,335	,243	,912
	Within Groups	57,895	42	1,378		
	Total	59,234	46			
PQ4	Between Groups	5,070	4	1,267	,797	,534
	Within Groups	66,760	42	1,590		
	Total	71,830	46			
PQ5	Between Groups	3,011	4	,753	,505	,732
	Within Groups	62,606	42	1,491		
	Total	65,617	46			
PQ6	Between Groups	2,947	4	,737	,507	,731
	Within Groups	61,010	42	1,453		
	Total	63,957	46			
PQ7	Between Groups	2,272	4	,568	,502	,735
	Within Groups	47,558	42	1,132		
	Total	49,830	46			
PQ8	Between Groups	5,770	4	1,443	1,018	,409
	Within Groups	59,506	42	1,417		
	Total	65,277	46			

PQ9	Between Groups	4,706	4	1,177	,980	,429
	Within Groups	50,400	42	1,200		
	Total	55,106	46			
PQ10	Between Groups	4,264	4	1,066	,881	,484
	Within Groups	50,842	42	1,211		
	Total	55,106	46			
PQ11	Between Groups	7,914	4	1,979	1,672	,174
	Within Groups	49,703	42	1,183		
	Total	57,617	46			
PQ12	Between Groups	8,972	4	2,243	1,646	,181
	Within Groups	57,241	42	1,363		
	Total	66,213	46			
PQ13	Between Groups	5,127	4	1,282	,887	,480
	Within Groups	60,703	42	1,445		
	Total	65,830	46			
PQ14	Between Groups	2,356	4	,589	,423	,791
	Within Groups	58,453	42	1,392		
	Total	60,809	46			
PQ15	Between Groups	1,285	4	,321	,267	,898
	Within Groups	50,545	42	1,203		
	Total	51,830	46			
PQ16	Between Groups	4,218	4	1,055	,754	,561
	Within Groups	58,760	42	1,399		
	Total	62,979	46			
IQ1	Between Groups	2,587	4	,647	,459	,765
	Within Groups	59,158	42	1,409		
	Total	61,745	46			
IQ2	Between Groups	2,706	4	,676	,466	,760
	Within Groups	60,996	42	1,452		
	Total	63,702	46			
IQ3	Between Groups	1,229	4	,307	,182	,947
	Within Groups	70,983	42	1,690		
	Total	72,213	46			
IQ4	Between Groups	1,012	4	,253	,130	,970
	Within Groups	81,541	42	1,941		
	Total	82,553	46			
IQ5	Between Groups	1,399	4	,350	,198	,938
	Within Groups	74,218	42	1,767		
	Total	75,617	46			
IQ6	Between Groups	7,663	4	1,916	,954	,443
	Within Groups	84,337	42	2,008		
	Total	92,000	46			

IQ7	Between Groups	5,543	4	1,386	,762	,556
	Within Groups	76,329	42	1,817		
	Total	81,872	46			
IQ8	Between Groups	6,450	4	1,612	,840	,508
	Within Groups	80,656	42	1,920		
	Total	87,106	46			

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