# DETERMINATION OF FACTORS AFFECTING THE SATISFACTION OF INSTRUCTORS IN DISTANCE EDUCATION USING CHAID ANALYSIS

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## ABSTRACT

The most effective stakeholders of distance education processes are the instructors who carry out and manage the teaching processes. Instructors are expected to master the process in order to carry out distance education effectively and efficiently. One of the most important factors affecting this situation is the satisfaction level of the instructors who gave courses in the distance education process. Thus, this study aims to determine the factors that affect the satisfaction levels of instructors. A satiscaftion survey consisting of 11 questions was administered to 741 instructors who gave courses in the distance education process at a Turkish State University. The survey data were analyzed by CHAID method. The findings indicated that the general satisfaction of the instructors was at a good level. Also, it was determined that the suitability of the course for distance education, the willingness to teach online, gender, Internet Access/speed, and age played an important role in instructors' satisfaction levels.

**Keywords:** Distance education, instructor, satisfaction, CHAID analysis.

## INTRODUCTION

The priority of educational institutions applying Distance Education system is to create high quality online learning environments suitable for the target audience. However, in the efficiency of these environments, it is important to have qualified instructors who are motivated about online teaching, have a good satisfaction level and can realize effective teaching process in online environments (Bolliger, Inan, & Wasilik, 2014). Based on the fact that universities are the education level where distance education processes are most intensively applied, Moody (2011) put forward six themes explaining the online teaching strategies of instructors involved in the distance education process and their satisfaction levels in this context. These include classroom structure, quality classroom-related audio/video technology, web-enhanced components, technology-related staffing issues both on-site and off-site, educational and IT staffing for instructors, and transactional distance. Cheok and Wong (2015) also mentioned that flexibility, interactivity, perceived usefulness, and perceived ease of use should be taken into account in educational environments and that instructors and the organization should

work in cooperation for the effective use of the learning system. In order to ensure these conditions, it is important to take into account the demands of instructors regarding the realization of distance education (Gok & Kilic-Cakmak, 2020). In addition, it is critical to examine the components involved in the process well in order to ensure instructor satisfaction and continuity in distance education processes (Cheok & Wong, 2015).

Among the factors affecting the distance education process, especially the instructor satisfaction level has a direct impact on the efficiency of the system (Yengin, Karahoca, & Karahoca, 2011) and is also a major factor in terms of achieving the targeted learning outcomes (Bolliger & Wasilik, 2009; Bolliger, Inan, & Wasilik, 2014). Especially in meeting student expectations and realizing their performances at the targeted level, it is important for instructors to make qualified course design in accordance with the nature of distance education and to integrate effective technology into their courses. Acquiring and putting these competencies into practice has the effect of increasing the efficiency of the process and accordingly the satisfaction of the instructors (Palmer, 2011; Keengwe, Diteeyont, & Lawson-Body, 2012). However, the employment of these competencies requires instructors to make more effort from the design to the implementation and evaluation of the learning process compared to face-to-face education (Ng, 2005). Because the instructor role in online environments requires much different experiences for instructors than face-to-face education (Kapucu & Adnan, 2018). Therefore, in the distance education process, while instructors take an active role in the execution of the courses, they also have to provide active support to the process as content developers. Therefore, they are responsible for all the processes that need to be realized before, during and after the course (Gok & Kilic-Cakmak, 2020).

Instructors should be encouraged towards distance education systems and their satisfaction levels should be increased so that they can adapt to distance education; due to their roles in distance education processes and the responsibilities they have, especially at higher education level (Oyefolahan & Abdallah, 2014). For this reason, while addressing the factors affecting the resistance of the instructors to change, it is also important to determine the factors affecting their satisfaction and motivation. In this context, it is necessary to examine the relevant factors (Oyefolahan & Abdallah, 2014; Friedman, Bonzo, & Ketcham, 2017).

Gurer, Tekinarslan, and Yavuzalp (2016) emphasize in their research that taking into account the factors that positively affect the satisfaction levels of instructors in distance education processes not only makes the teaching processes more effective and efficient, but also positively affects instructor and student satisfaction. Although Moody (2011) states that effectiveness and efficiency can be achieved through technology and infrastructure in distance education environments to be created for instructors and students, it is emphasized in the literature that these are not sufficient. For example, Breittholz (2018) concluded in his study that the quality of distance education and therefore the satisfaction levels of instructors are also affected by factors such as teaching experience, assignment, accessible technical support, perceptions of online education, technical knowledge, and lack of self-efficacy. It is important to design effective support mechanisms, especially since general competencies are the elements that need to be supported. Many studies show that these support services are effective on user satisfaction. For example, Rios-Parnell (2017) found that instructors were satisfied with the training they received for communication skills for distance education, the use of Learning Management System (LMS) and the use of social media in the context of technology use in education, but stated that instructors need more technical support and training. In this context, it is of particular importance for educational institutions where distance education is implemented to prepare their instructors for this process by conducting in-service trainings, workshops, meetings and sample training practices; to determine and develop the knowledge and skills for their new duties and the competencies they should have. It is also necessary to ensure the continuity of trainings in the continuation of the process (Kapucu & Adnan, 2018). Again, increasing the continuity of use with the steps taken to eliminate possible systemic problems (freezing of the screen, involuntary disconnection of the session, etc.) that can be experienced in the use of LMSs in general will also contribute to increasing instructor satisfaction (Ates & Guyer, 2016).

When the literature is examined, regarding the variables affecting the satisfaction levels of instructors in their performance and productivity in distance education processes. Alea, Fabrea, Roldan, and Farooqi (2020) concluded in their study that instructors were ready to switch to distance education, but they felt inhibited due to the lack of necessary equipment. Similarly, Gurer, Tekinarslan, and Yavuzalp (2016) stated that instructors are resistant to teaching entirely through distance education and the reason for this resistance is the lack of experience. Emelyanova and Voronina (2014) reported that educators who are resistant to distance education may find it difficult or impossible to implement distance education in a number of subject areas. In

addition, it was determined that educators had complex feelings towards distance education and did not have a common view in terms of quality and effectiveness. Considering some of the results obtained, other factors that negatively affect instructors' satisfaction levels and thus their teaching in distance education include the lack of widespread use of distance education, lack of sufficient infrastructure, insufficient IT literacy, prejudice against distance education, workload, insufficient institutional support, and low participation and interest of students in online courses (Ustun, 2011; Gurer, Tekinarslan, & Yavuzalp, 2016; Ozgol, Sarikaya, & Ozturk, 2017). As emphasized in the literature, there are different factors affecting instructor resistance. In the context Lloyd, Byrne, and McCoy (2012) identified four important factors regarding the resistance of instructors in their research. These are listed as interpersonal, institutional, educational and technological barriers. It is of great importance to design the process by taking these four factors into consideration, especially in the transition stages to distance education. Eliminating the resistance of instructors and increasing their satisfaction levels will positively affect the effectiveness and efficiency of the teaching process.

It is predicted that if instructors are able to carry out distance education processes effectively and efficiently, their satisfaction levels will also increase. One of the most important processes that can be employed in this context is the good planning of support services. Many researchers refer to this situation (See Fernandez, Santos, & Javier, 2018; Hodges, Moore, Lockee, Trust, & Bond, 2020; Torun, Oksuz, Ak, & Gokdas, 2020; Toquero & Talidong, 2020). Getting the opinions of instructors while planning support is valuable in terms of the planned execution of the process (Gok & Kilic-Cakmak, 2020). In the planning and implementation of all these processes, the satisfaction levels of instructors are important because they are key users in distance education. When we look at the studies based on instructor satisfaction in distance education, it is seen that many different variables are examined, so there are many components that need to be taken into account on satisfaction. For example, Kapucu and Adnan (2018) found that significant differences can be seen according to gender and age. Gay (2016) found that instructors' readiness for distance education has a positive effect on their satisfaction. In addition to these components, when examined in general; attitude, anxiety, self-efficacy, innovation, quality of information, experience, social presence, working environment, commitment to work, ease of access, course load, workload, compensation, promotion, incentive policy, prestige, right to use, quality of the system, management support, in-service training, support services (VanHorn, 2006; Palmer, 2011; Cheok & Wong, 2015; Friedman, Bonzo, & Ketcham, 2017; Ozgol, Sarikaya, & Ozturk, 2017; Breittholz, 2018) are also effective on satisfaction.

In general, it can be said that instructor satisfaction plays a determining role as a variable in distance education processes. Structuring the distance education process and effectiveness of the applications to be realized in this context, determining the factors affecting instructors satisfaction levels are considered important and necessary in terms of the effectiveness, efficiency and controllability of the process. Another important point is that qualified learning environments should be ready in a feasible structure in the conditions created by the emergency distance education application that is compulsory in cases such as any pandemic. Because there are unique conditions created by the design and implementation of distance education processes applied in emergencies. This situation also necessitates a serious readiness. On the basis of these importance and necessities, the main purpose of the research is to determine the variables that affect the satisfaction levels of the instructors who experience the distance education process. In line with this main purpose, answers to the following research questions were sought.

1. What is the level of satisfaction of instructors with the distance education?
2. What are the factors and their effectiveness levels that affect the satisfaction of instructors regarding functionality, communication, and support of distance education portal?

## METHOD

### Research Design

The descriptive (survey) model, one of the quantitative research methods, was used in the study. With the descriptive model, it is possible to examine and define the phenomena that are assumed to still exist (Karasar, 2012; Sonmez & Alacapinar, 2018). In this way, it will be ensured to reveal the variables that affect the satisfaction levels of the instructors who experience the distance education process regarding the distance education process.

## Participants

A total of 741 instructors who gave courses in the distance education process at a Turkish State University participated in the study. 350 (47%) of the participants were female, 394 (53%) were male, and their ages ranged between 24-66 years.

## Data Collection

Distance Education Portal Satisfaction Survey, consisting of 11 questions, was used to collect the data. Exploratory factor analysis (EFA) was conducted at the first stage for the "Distance Education Portal Satisfaction Scale" developed by the researchers. First and second level confirmatory factor analysis (CFA) was applied to confirm these results. As a result of the analysis, the scale showed a structure with 11 items and three dimensions. The first dimension was defined as Functionality (5 items), the second dimension as Communication (3 items) and the third dimension as Support (3 items). The three-dimension survey explains 65% of the total variance. The Cronbach Alpha value of the scale was determined as 0,84.

## Data Analysis

Based on the data collected from 741 instructors who experienced the distance education process, Chi-squared Automatic Interaction Detection (CHAID) analysis was used to determine the combined categories and subgroups of the independent variables (age, gender, level of the education program, internet access environment, internet speed problem, online education experience, suitability of the course for distance education and willingness for distance education) to reach the factors affecting the satisfaction levels of the instructors regarding the portal. Here, it is aimed to determine the level of influence of independent variables on the dependent variable. CHAID analysis is an analysis that divides the dependent variable into homogeneous sub-branches that can best explain the dependent variable (Dogan, & Ozdamar, 2003) and models the interaction of the independent variables that show the highest correlation with the dependent variable by establishing various iteration algorithms in each sub-branch (Kayri & Boysan, 2007). Therefore, the tree structure created with CHAID analysis provides the opportunity to examine the independent variables affecting the dependent variable in detail (Emin, Kayri, & Dogan, 2024).

# FINDINGS

The general distribution of the participants is given in Table 1. It is seen that the majority of the participants are between the ages of 35-45. A significant number of the participants (f:310) who teach distance education courses have experience in both undergraduate and postgraduate level courses. The majority of the participants (f:642) who conducted their courses through distance education method carried out these tasks from their homes. It can be said that the number of participants who had serious internet speed problems during the process was low (f:23). It can be said that the proportion of participants who have previous experience of teaching courses through distance education method is low (f:60). It is seen that the majority of the participants are of the opinion that the course they give can be carried out by distance education method and they are willing about distance education.

**Table 1.** Distribution statistics

| **Age** | **f** | **%** |
|---|---|---|
| 26-35 | 113 | 15,2 |
| 36-45 | 315 | 42,5 |
| 46-55 | 230 | 31,0 |
| 56-65 | 83 | 11,2 |
| Total | 741 | 100,0 |
| **Gender** | **f** | **%** |
| Male | 391 | 52,8 |
| Female | 350 | 47,2 |
| Total | 741 | 100,0 |
| **Level of the education program implemented** | **f** | **%** |
| Associate | 190 | 25,6 |
| Undergraduate | 179 | 24,2 |
| Postgraduate | 15 | 2,0 |
| Undergraduate-Postgraduate | 310 | 41,8 |
| Associate-Undergraduate-Postgraduate | 12 | 1,6 |
| Associate-Postgraduate | 35 | 4,7 |
| Total | 741 | 100,0 |
| **Internet access environment** | **f** | **%** |
| Internet access at home | 642 | 86,6 |
| Mobile internet access | 20 | 2,7 |
| Internet access at work or school | 75 | 10,1 |
| Other facilities around me | 4 | ,5 |
| Total | 741 | 100,0 |
| **Internet speed problem** | **f** | **%** |
| Never ever | 200 | 27,0 |
| Rarely | 351 | 47,4 |
| Sometimes | 167 | 22,5 |
| Usually | 20 | 2,7 |
| Always | 3 | ,4 |
| Total | 741 | 100,0 |
| **Previous online education experience** | **f** | **%** |
| Yes | 60 | 8,1 |
| No | 681 | 91,9 |
| Total | 741 | 100,0 |
| **Suitability of the course for distance education** | **f** | **%** |
| Yes | 237 | 32,0 |
| Partially | 426 | 57,5 |
| No | 78 | 10,5 |
| Total | 741 | 100,0 |
| **Willingness for distance education** | **f** | **%** |
| Yes | 188 | 25,4 |
| Partially | 378 | 51,0 |
| No | 175 | 23,6 |
| Total | **741** | **100,0** |

Participants' level of agreement with the dimensions of the satisfaction scale is given in Table 2. It is seen that the highest level of satisfaction is in the Functionality dimension with the option "Very satisfied" (X:4,37), followed by the Support dimension at the second level with the option "Satisfied" (X:4,04), and the third level is in the Communication dimension with the option "Satisfied" (X:3,60), although the average value is lower.

**Table 2.** Levels of agreement with the dimensions of the satisfaction scale

| | N | X |
|---|---|---|
| F1 (Functionality) | 741 | 4,37 |
| F2 (Communication) | 741 | 3,60 |
| F3 (Support) | 741 | 4,04 |

## Functionality

The variation of participants' satisfaction levels regarding the functionality factor according to independent variables is given in Figure 1.

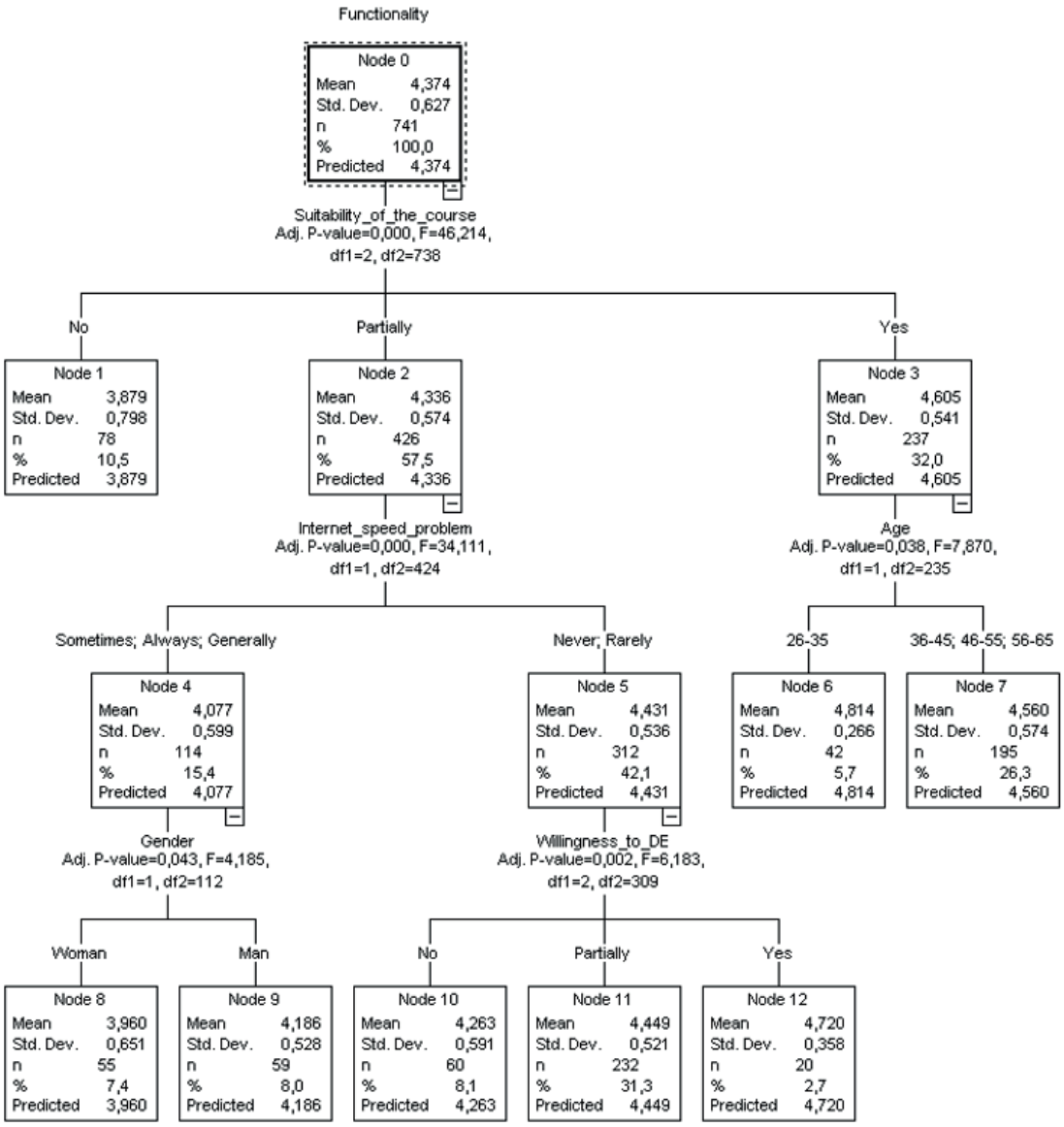


**Figure 1.** Tree structure for the functionality factor

When the tree structure formed as a result of the CHAID analysis is examined, it is seen that those who think that the course they teach is suitable for distance education find the distance education portal more functional in the distance education process (F(2, 738)=46.214; p<0,001). In other words, the main predictor of the functionality factor is the suitability of the course for distance education. Instructors who think that the course is not suitable for distance education have lower satisfaction levels regarding the functionality factor (X: 3,88).

Age was found to be a significant predictor in the satisfaction levels of instructors who thought that their courses were suitable for distance education process (F(1, 235)=7,870; P<0,001). It was found that the satisfaction level of the younger instructors was higher (X:4,81) than the older instructors.

Among the instructors who think that their courses are partially suitable for distance education, the predictor showing the level of satisfaction with the functionality of the distance education portal is the status of having internet speed problems (F(1, 424)=34,111; p<0,001). Instructors who do not have internet speed problems think that the distance education portal is more functional (X:4,43) than those who have speed problems. Among the instructors who do not have internet speed problems, the level of willingness to distance education is an important predictor (F(2, 309)=6.183; p<0,005). Those with a high level of willingness for distance education (X:4,72) find the distance education portal more functional than those with a low level of willingness (X:4,26). Gender was found to be a significant predictor among the instructors who experienced speed problems F(1, 112)=4,185; p<0,005). It was determined that male instructors (X:4,18) who had internet speed problems had higher satisfaction levels with the functionality of the distance education portal than female instructors (X:3,95).

## Communication

The tree structure showing the satisfaction levels of the instructors regarding the communication dimension is given in Figure 2.

When Figure 2 is examined, it is seen that the willingness factor is the most important predictor of the satisfaction levels of the instructors regarding the communication dimension (F(1, 739)=13,492; p<0,005). The satisfaction level of the instructors who are willing to distance education regarding the communication factor is X:3,97, which is higher than those who are not willing. In the satisfaction levels of the instructors who were not willing to distance education regarding the communication sub-dimension, having speed problems on the Internet was found to be an important predictor (F(1, 551)=10.411; p<0,005). Another determi-

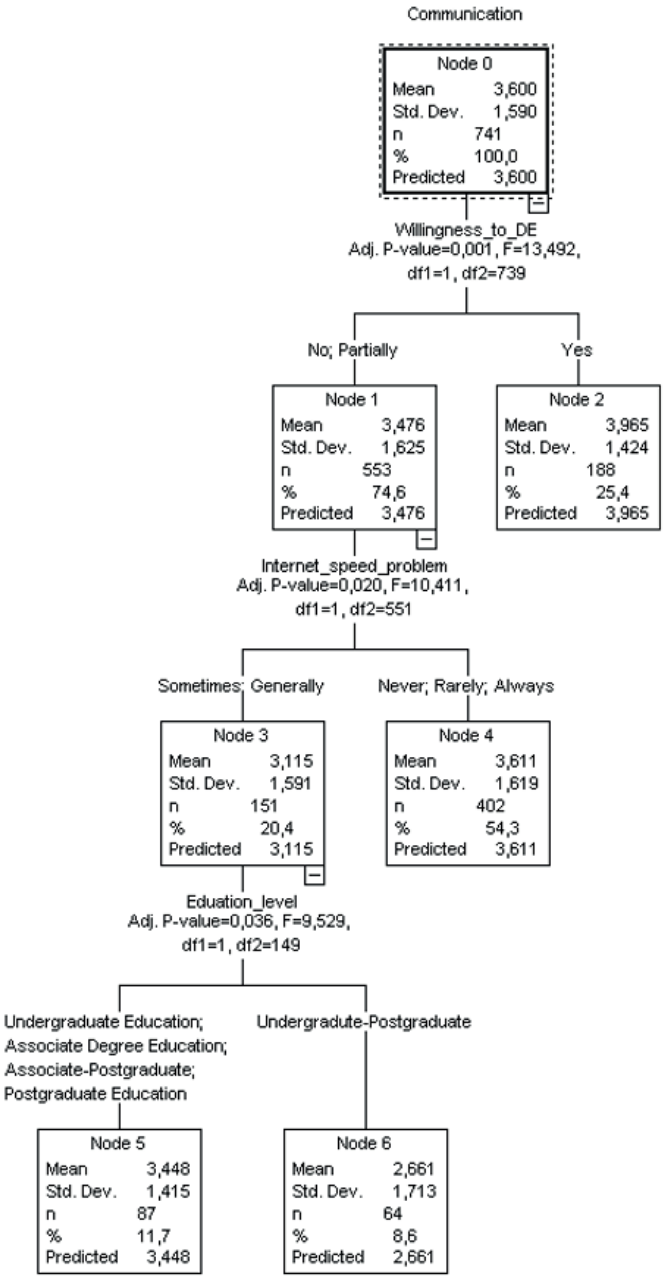


**Figure 2.** Tree structure for the communication factor

nant predictor of the satisfaction levels of the instructors who had speed problems on the Internet regarding the communication dimension was the education level of the instructors (F(1, 149)=9,529; p<0,005). The satisfaction levels of the instructors who teach only at undergraduate and graduate level are lower than the instructors who teach at more than one level (such as associate, undergraduate, graduate).

## Support

The tree structure showing the satisfaction levels of the instructors regarding the support sub-dimension is given in Figure 3.

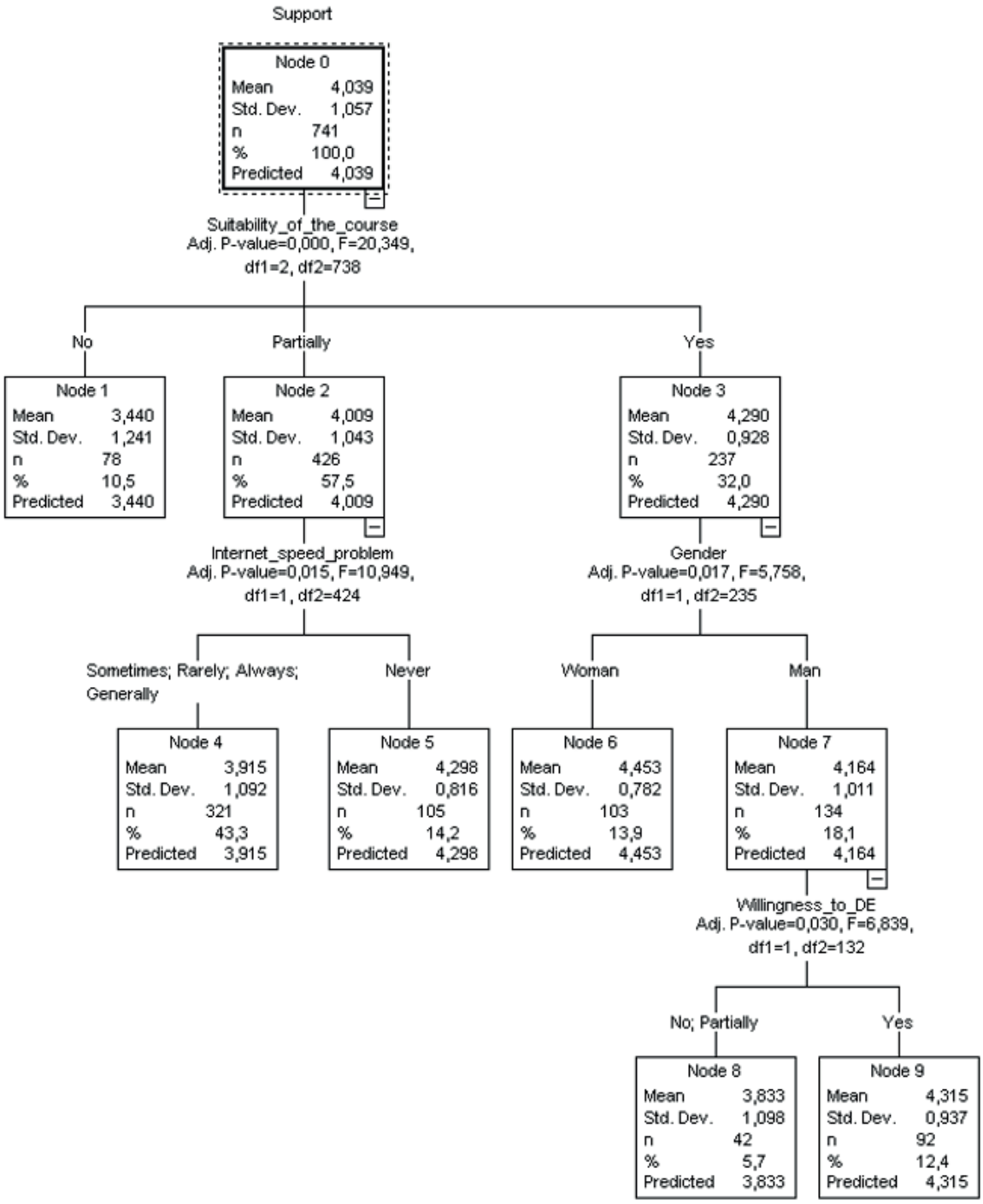


**Figure 3.** Tree structure for the support factor

The main predictor affecting the satisfaction levels of the instructors regarding the support dimension was found to be the suitability of the course given by the instructor for distance education (F(2, 738)=20,349; p<0,001) (Figure 3). Instructors who think that the course they teach is suitable for distance education have a higher level of satisfaction with the support dimension (X:4,29). Those who think that the course given by the instructors is partially (X:4,00) or not at all (X:3,44) suitable for distance education have lower satisfaction levels regarding the support dimension.

The predictor determining the satisfaction levels of the instructors who think that their courses are suitable for distance education is gender (F(1, 235)=5,758; p<0,005), (Figure 3). The satisfaction level of female instructors regarding the support factor (X:4,45) is higher than that of male instructors (X:4,16). When the tree structure of the gender variable was analyzed, the satisfaction level of male instructors regarding the support dimension was found to be a significant predictor (F(1, 132)=6,839; p<0,005), and the satisfaction level of instructors who were willing to distance education was X:4,31, which was higher than the satisfaction level of instructors who were not willing and partially willing to distance education.

For the satisfaction levels of the instructors who think that their courses are partially suitable for distance education regarding the Support dimension, having internet speed problems was also found to be a predictor (F(1, 424)=10,949; p<0,005) (Figure 3). It was determined that the satisfaction level of the instructors who did not experience internet speed problems was X:4,30, which was higher than the satisfaction level of the instructors who experienced internet speed problems (X:3,91).

## DISCUSSIONS AND CONCLUSION

The results obtained based on the findings regarding the satisfaction levels of the instructors regarding the functionality, communication and support dimensions of the distance education portal and the variables predicting the satisfaction levels are discussed below.

### Satisfaction

As a result of the research, it was concluded that the satisfaction levels of the instructors regarding the "functionality" dimension of the distance education portal were high. In the second place is the satisfaction level regarding the "support" dimension, which is above average. In the third place, the level of satisfaction with the "communication" dimension is above average.

The fact that the distance education portal is designed in a structure that instructors will need in the learning-teaching processes they carry out in online environments is reflected in the satisfaction levels regarding the functionality dimension. Meeting the expectations of the instructors leads to an increase in their satisfaction level. Liu and Zhang (2021) emphasize that when the quality perceived by the teacher increases, teacher satisfaction will also increase and that high teacher expectations will increase the perceived quality and that teacher satisfaction can be indirectly increased by improving teacher expectations. Some studies on students have also found that the quality of the online learning system has a positive effect on student satisfaction (Costa et al., 2016; Aparicio et al., 2017; Cidral et al., 2018).

### Functionality

When the tree structure formed as a result of the CHAID analysis was examined, it was concluded that the most important predictor for the satisfaction levels of the instructors regarding the distance education portal functionality factor was the suitability of the course given for distance education.

Age is an important predictor for the satisfaction levels of instructors who think that their courses are suitable for distance education process. It was determined that the satisfaction levels of the younger instructors were higher than the older instructors regarding the functionality factor.

Among the instructors who think that their courses are "partially suitable" for distance education, the level of satisfaction with the functionality of the Distance Education Portal is an important predictor of having internet speed problems. Instructors who do not have internet speed problems find the Distance Education

Portal more functional than those who have speed problems. Among the instructors who do not have internet speed problems, willingness to distance education is the prominent predictor. Among the instructors, those who are willing to distance education find the distance education portal more functional than those who have a low level of willingness. Gender is an important predictor among instructors who have internet speed problems. Male instructors who have internet speed problems have higher satisfaction levels with the functionality of the distance education portal than female instructors.

When the results obtained regarding the satisfaction levels of the instructors in the context of the functionality of the distance education portal used in the distance education process and the variables predicting the satisfaction levels are evaluated in general, it can be said that the most important predictor affecting the "Functionality" factor is the evaluation of the course conducted by the instructor in a structure suitable for the distance education method. The fact that the course is not considered suitable for distance education by the instructors can be evaluated in two sub-dimensions. The first one is the fact that the course content is application-oriented and requires face-to-face interaction, and the second one is that the course content is designed in a structure specific to face-to-face learning environments. Although in the latter case, course content can be designed and maintained in accordance with online learning environments, course design specific to distance education is a pedagogical issue that requires special competence. Goodyear (2015) also states that the quality of instruction depends largely on making the right pedagogical and technological decisions. Varvel (2007) states that the course design process is an instructional plan that includes course objectives, instructional strategies, activities and assessments in accordance with the objectives, while Young (1997) emphasizes that the design of course content in an online course structure requires more technical competencies such as the design of educational websites and interactive learning environments. Therefore, instructional design is the process of making the right decisions and plays an important role in the success of online learning. Therefore, instructional design skills of instructors need to be developed (Winfield, Mealy & Scheibel, 1998).

When evaluated in this context, the proficiency levels of instructors in instructional design will affect the design of course content in accordance with online learning environments. It is evaluated that instructors who cannot design their courses in a structure suitable for online environments may have a negative impact on the efficiency and satisfaction levels of the teaching process. The suitability of the course for distance education varies according to age, internet speed, willingness towards distance education and gender variables. Among the instructors who showed a high level of participation regarding the delivery of their courses through distance education, the fact that younger instructors expressed a positive opinion can be considered as a result of their positive approach to new technologies and, in this context, their higher level of adaptation to technology integration in education. In the context of the use of Information and Communication Technologies (ICT) in online environments, Liu and Zhang (2021) state that learning environments are becoming increasingly complex as online learning requires more intensive use of ICT. Therefore, this situation highlights the level of competence in ICT. The lower satisfaction levels of female instructors compared to male instructors, especially among the instructors who experienced internet speed problems, may be due to their inability to cope with technical issues, their lower attitudes towards information technologies, and their partially lower ability to utilize alternative solution possibilities. Prado, Canon, Martin, and Canton (2020) found in their study that men were more confident in solving problems related to technologies and used them more for technical and educational purposes. On the other hand, they concluded that women use technologies mostly for social purposes. In a meta-analysis study conducted by Cai, Hayrani, and Du (2017) and covering the period between 1997 and 2014, it was concluded that women's attitudes towards technology use were lower than men's (although there was an improvement over the years). Again, Yau and Cheng (2012) state that men appear to be more confident and knowledgeable in using technology-related skills. Alghamdi et al. (2020) emphasize that men have better technical skills than women and are better able to use technologies that require technical skills. Borup and Stevens (2016) state in their research that teachers who do not have technological skills may not be able to teach effectively in online environments. Although some studies in the literature indicate that there are different findings regarding the effect of gender on educators' digital literacy levels (Antoino et al., 2020; Gungor & Kurtipek, 2020; Gokbulut, 2021; Ocak & Kusserin, 2024); the findings of the recent study conducted by Aretouli et al. (2024) in four European countries show that there may be gender differences in educators' thoughts, attitudes and preferences about distance education. Again, Scherer, Siddiq, Howard, and Tondeur (2023), in their study on teachers'

readiness for online teaching and learning, found that there was a difference between genders in favor of men. Sobieraj and Kramer (2020) also found that men and women perceived themselves differently when asked what skills they had and how confident they were in performing a technology-related task.

## Communication

The most important predictor of instructors' opinions on the communication dimension in the context of their satisfaction with the distance education portal they use in the distance education process is their level of willingness to distance education. The most important variable predicting the satisfaction levels of the instructors who are not willing and partially willing to distance education regarding the communication factor is the internet speed problem of the instructors. Instructors who mostly and sometimes experience Internet speed problems have lower satisfaction levels regarding the communication variable. On the other hand, the most important predictor affecting the satisfaction levels of instructors who mostly and sometimes experience internet speed problems is the level of education taught by the instructor. Instructors who teach at both undergraduate and graduate levels have lower satisfaction levels with the communication factor.

When the satisfaction status of the instructors regarding the distance education portal used in the distance education process is examined in the context of the communication dimension, the results obtained in the context of the satisfaction levels and predictors of the instructors are generally evaluated. The high level of willingness of the instructors for distance education positively affects the satisfaction levels related to the communication factor. The level of willingness towards distance education is affected by the internet speed. The existence of a learning environment that can provide the interaction speed required by the course and where there will be no disconnections and communication disruptions in the course is naturally reflected in the level of satisfaction with the communication factor. However, it can be said that the situation of teaching at undergraduate and graduate level among the instructors who have internet speed problems negatively reflects on the satisfaction levels of the instructors regarding the communication factor. This situation is considered as a reflection of the problems arising from the diversification of communication needs due to the student profile and the course. Karadag et al. (2021) stated that the level of acceptance and utilization of distance education systems by instructors has a positive effect on student satisfaction.

## Support

The most important predictor of the satisfaction level of the instructors regarding the "Support" dimension is the instructors' level of "considering the course suitable for distance education". The significant predictor of the satisfaction level of the instructors with a high level of "seeing the course as suitable for distance education" is gender. The satisfaction level of female instructors is higher than that of male instructors. The most important variable predicting the satisfaction level of male instructors is their willingness for distance education. The satisfaction level of those who are willing to teach their courses with distance education method is higher. The most important variable predicting the satisfaction levels of the instructors who think that the course given for the support dimension is partially suitable for distance education is the status of having Internet speed problems. The satisfaction levels of those who do not have Internet speed problems are higher than those who have speed problems.

It was concluded that there are different variables affecting the satisfaction levels of instructors regarding the distance education portal used in the distance education process in the context of the Support dimension. When these results are evaluated in general, it can be said that the fact that the course given is suitable for distance education, the internet infrastructure is fast in receiving and sending data, and the willingness to teach with distance education method positively affects the perception of the support services offered. The instructors' evaluation that the course they teach is suitable for distance education method also increases their positive attitude towards distance education and their motivation to solve possible problems and overcome difficulties. Boumadan Soto-Varela, Ortiz-Padilla, and Poyatos-Dorado (2020) also emphasized that the most important factor in online environments is content. Although the related study emphasized the timeliness and importance of the content, it is considered that the availability of the content through distance education may similarly affect motivation and, accordingly, satisfaction. On the other hand, Lee and Busch

(2005) state that instructors' willingness to participate in distance education can help universities to create or maintain distance education programs. Rockwell, Schauer, Fritz, and Marx (2000) emphasized that the revolution created by technology in education requires a paradigm shift and emphasized the necessity of a change in pedagogical approaches. In the context of keeping up with the change and the sustainability of the programs, the design of the courses given in the context of the sustainability of the programs in accordance with the distance education method will contribute to the positive reflection of the positive approaches of the instructors to the process and the support provided to the operation of the process.

The higher satisfaction levels of instructors who do not experience internet speed problems may be due to the fact that they have the opportunity to utilize technological opportunities more effectively. In this context, Henderson et al. (2017) emphasized that technology is important in the context of distance education experience and stated that it can increase satisfaction. Again, Karadag et al. (2021) state that the availability of technological resources for participation in distance education and the opportunities to access them affect the level of satisfaction. Harsasi and Sutawijaya (2018) also emphasize that technology quality in distance education is an important variable affecting satisfaction. The fact that instructors who do not experience speed problems have the opportunity to benefit from support services faster and/or do not need support services much in meeting the problems arising from internet speed may naturally be reflected in their satisfaction levels. Salisbury et al. (2002) state that technology and the ability to overcome interaction problems in distance education are important variables that can affect the distance education experience.

The satisfaction levels of the instructors who experience the distance education process at the higher education level with the distance education portal vary depending on the functionality of the portal, the communication opportunities offered by the portal in the process and the support opportunities provided in the process. The most important variables affecting these dimensions are the suitability of the course given for distance education within the scope of the functionality factor, the willingness of the instructors towards distance education within the scope of the communication factor, and the suitability of the course given for distance education within the scope of the support factor, as in the functionality factor. As mentioned above, these variables may vary depending on gender, Internet speed, access, level of education and age.

Similar and different possible variables related to the portals used in distance education processes need to be included in the scope of the research and studies with different environments and sample groups are needed. In addition, it would be useful to conduct studies in which qualitative data are also utilized in order to have in-depth knowledge on the subject. The results of such studies are important in terms of supporting the provision of more effective distance education environments and preparing for the future.

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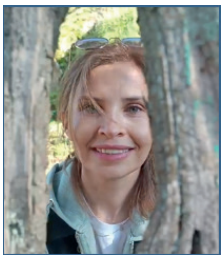

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