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**Correspondence**
**Istanbul University, School of Business**
Istanbul University, School of Business, 34322 Avcılar/İstanbul- Turkey

**Phone:** +90 (212) 473 70 00
**Fax:** +90 (212) 590 40 00

**Web:** http://ibr.istanbul.edu.tr/ • http://dergipark.gov.tr/ibr
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RESEARCH ARTICLE

# The Role of Internal Audit from New Enterprise Risk Management Frameworks Perspective: Research in Turkey

**Ahmet Onay**[1]

**Abstract**

Enterprise Risk Management (ERM) has emerged as a paradigm aimed at enabling organizations to respond to ever-changing risk factors. Since the publication of the COSO Risk Management Framework and IIA report in 2004, internal audit functions have assumed a variety of roles in organizations' ERM operations. The main purpose of this study is to determine the extent to which internal auditors' activities have changed over time in relation to ERM activities and to what extent these tasks are undertaken in practice. In the first part, literature and new risk frameworks related to the role of internal audit in ERM are examined. In the study, data collected from 245 internal auditors working in organizations operating in Turkey were analyzed by t-test and analysis of variance (ANOVA). From the findings, it was determined that the opinions of internal auditors regarding ideal situations in terms of ERM tasks assumed under certain conditions differed from those in practice. The analyses showed that some of the internal auditors' opinions differed statistically according to demographic variables. It has been determined that the opinions of internal auditors differ according to age, professional experience and enterprise sector in which they worked. The results were compared with studies on different samples. Thus, internal auditors' opinions and the current situation in Turkey, can be compared to different regions. In our study, different results were obtained from the results of studies conducted in different countries.

**Keywords**

Internal Audit, Enterprise Risk Management, Role of Auditors, Turkey

## Introduction

In recent years, the interest of employees, managers and internal auditors towards Enterprise Risk Management (ERM) has been increasing. Especially since recent financial crises, the fact that business stakeholders such as professional organizations, regulatory authorities and rating agencies have taken greater consideration of ERM than ever, explains this interest. Recent crises have highlighted weaknesses in risk management. Today, business executives face significant pressure to strengthen risk management systems and maintain stakeholder value. Regulatory agencies, professional organizations and other standard developers who put forward new risk management principles, rules and requirements increase this pressure.

1 **Corresponding Author:** Ahmet Onay (Ress. Asst.), Eskisehir Technical University, Vocational School of Transportation, Department of Management and Organization, Eskisehir, Turkey. E-mail: ahmet_onay@eskisehir.edu.tr ORCID: 0000-0003-1182-6003

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In an economic environment where institutional uncertainty is increasing, ERM has emerged as a new paradigm for risk management. ERM argues that instead of relying on a traditional, functional strategy where each unit of the organization manages its own risk, a broader perspective that integrates and coordinates risk management across functions should be adopted. The enterprise-wide approach is designed to increase and maintain stakeholder value. However, ERM aims to do more than merely integrate risk management. The ERM definition made by COSO in 2004 was the most accepted (COSO, 2004, p.4):

*"Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives."*

The IIA is committed to implementing COSO guidelines and publications in risk management. The IIA definition made by IIA in 2004 is similar to and supports the definition of COSO (IIA, 2004, p.3):

*"A structured, consistent and continuous process across the whole organization for identifying, assessing, deciding on responses to and reporting on opportunities and threats that affect the achievement of its objectives."*

In recent years, however, new needs have led to a metamorphosis in the mentality of ERM. COSO, which published the definition adopted by other professional organizations in 2004, did not remain indifferent to this metamorphosis and updated its ERM Framework and definition in 2017. One year after COSO, the International Organization for Standardization (ISO) updated the ISO 31000 guide, which are the most widely used guidelines in the field of ERM after COSO. In the current COSO guide, ERM is defined as (COSO, 2017, p.10):

*"The culture, capabilities, and practices, integrated with strategy-setting and its execution, that organizations rely on to manage risk in creating, preserving, and realizing value."*

Along with the framework published in 2004, the change in the traditional risk management approach focusing on risk mitigation has enabled internal audit to assume significant roles in risk management. The paradigm of the new risk frameworks, which argues that risk should be linked to strategy and performance, and that integrated activities are a necessity instead of functional efforts, has undoubtedly influenced internal audit. As a result of the guidance of IIA, which has changed the scope of the profession to a great extent, internal audit has evolved from a traditional control-based approach to a focal point of the profession to those who place risk management, corporate governance and value creation. Under the explicit guidance of the IIA for risk management, internal auditors make their profession an important part of risk management, and support their organizations in identifying and assessing risks. In

recent years, the internal audit profession and risk management have changed in parallel. As a result, internal auditors theoretically made a significant contribution to ERM process locating them in a position which adds value to ERM practices.

In the following sections of the study, the theoretical background shaped by the new ERM frameworks, literature aiming to determine role of internal audit in ERM, methodology of research, findings and results obtained within the scope of research limitations are given respectively.

## Theorical Background and Literature Review

The transformation of the corporate risk management approach in recent years has necessitated the update of two important frameworks. COSO has updated its ERM framework that it published for first time in 2004, taking into account changing conditions of business world and new emerging requirements. In 2016, it published a draft of the new framework, and in 2017, it adopted the framework supported by feedback of its stakeholders under the name of Enterprise Risk Management - Integrating with Strategy and Performance (Anderson, 2017). The second most widely used risk management framework in the world after the COSO framework was first published by ISO in 2009. ISO re-published its framework in 2018 under the name of ISO31000:2018 Risk Management Guidelines, taking into account the new challenges and changes facing businesses (Fox, 2018).

### New COSO ERM Framework

The new COSO ERM framework has been prepared from a business process perspective in order to facilitate the integration of ERM activities and to increase the level of acceptance of practitioners consisting of top managers, board of directors, risk employees and internal auditors. It argues that an organization must integrate risk management activities that are often carried out separately from operational management and not linked to business processes (Pierce et al., 2016). The new corporate risk management approach wanted to prevent risk management in enterprise from being perceived as a progressive activity carried out by individuals independent of business processes. Because of the lack of integration between employees, processes and technologies complicates activities and prevents creation of the value that ERM can provide by providing insights and recommendations on business activities.

The new COSO ERM framework described a risk management model, which was previously composed of eight elements and described as cube, in a spiral of five interrelated elements (Prinsenberg & Sluis, 2017, p.14; COSO, 2017, p.6). Figure 1 shows elements of the new framework. Governance regulates the management style of an organization that identifies risks of an organization, strengthens the corporate risk management structure and develops oversight

responsibilities (Prewett & Terry, 2018). Culture is about ethical values, desired behaviors and risk understanding in organizations. ERM works with strategic and objective setting activities in strategic planning processes. Risk appetite is determined and aligned with strategy. Business objectives are implemented through strategies while providing the basis for risk identification, assessment and development of appropriate responses. Achieving strategies and objectives is related to performance. Risks are prioritized according to their weight in terms of risk appetite. Organization then selects risk responses and creates a risk portfolio for the amount of risk it undertakes. The results of this process should be communicated to key risk stakeholders. An organization should review operating performance and how well the corporate risk management elements work due to significant changes over time, and which revisions are necessary, and revise as necessary. The ERM should establish communication channels that provide the necessary information from internal and external sources and share it when necessary. These channels should ensure continuous communication with both the top-down and bottom-up information sources and stakeholders that need to be communicated with outside the enterprise.


***Figure 1.*** COSO ERM Helicase (COSO, 2017)

The new COSO Framework seeks to eliminate jargon risk and adopts a common business language to discuss concepts and practices. The framework argues that use of the same language will encourage the adoption of ERM by institutions. In traditional practice, although ERM refers to a business unit, team, or part of defense lines, a holistic view of the new framework provides a risk-based discussion of the culture, capabilities and activities used to manage risk in an enterprise.

The five components in the updated framework are supported by a set of policies. These principles cover all processes from governance to monitoring. These are principles that can be applied in different ways depending on the size of the firm, regardless of type of enterprise or sector in which it operates. Adherence to these principles may provide the senior management and board with a reasonable expectation to understand and manage risks that affect strategy and objectives in the entity. The new framework consists of 20 principles. The principles are shown in Table 1.

Table 1
*Principles of COSO ERM*

| **Governance & Culture** | **Strategy & Objective-Setting** | **Performance** | **Review & Revision** | **Information, Communication, & Reporting** |
|---|---|---|---|---|
| 1.Exercises Board Risk Oversight 2.Establishes Operating Structures 3.Defines Desired Culture 4.Demonstrates Commitment to Core Values 5.Attracts, Develops, and Retains Capable Individuals | 6. Analyzes Business Context 7.Defines Risk Appetite 8.Evaluates Alternative Strategies 9.Formulates Business Objectives | 10.Identifies Risk 11.Assesses Severity of Risk 12.Prioritizes Risks 13.Implements Risk Responses 14.Develops Portfolio View | 15.Assesses Substantial Change 16.Reviews Risk and Performance 17.Pursues Improvement in Enterprise Risk Management | 18.Leverages Information and Technology 19.Communicates Risk Information 20.Reports on Risk, Culture, and Performance Executive |

The new framework highlights inter-function integration in ERM. It argues that risk should be linked to strategy setting and daily business activities. Thus, it helps to use ERM principles to promote value creation and preservation. The framework has been prepared from the perspective of business processes (Steffee, 2016). Risk-related concepts are discussed in terms of creating value that allows an organization to gain real benefits from ERM (Anders, 2019, p.66). The framework highlights relationship between risk and performance. It shows a new way of identifying and evaluating the relationship between risk level and performance. It argues that culture should be emphasized more. It argues that all risks that the organization is responsible for can be managed through an ERM model that reflects the changing demands and expectations of today's markets. To achieve this, the impact of business culture on values such as risk appetite and risk tolerance should be constantly considered.

The strategy setting process is an important field of activity in which corporate risk management should be integrated. Strategic errors are the main reason for the vast majority of losses in share value compared to operational failures. Strategies shaped by mission, vision and core values are the driving force of governance and business performance. Integrating with business activities and processes, ERM provides the development of a much more consistent information architecture that enables better decision-making and performance improvement. ERM should ensure that risk information is acted upon throughout the firm's value chain cycle.

ERM should be integrated into business strategy development, performance management, goal setting and governance processes. A holistic perspective can make risk management activities easier at various levels of enterprise, and act with risk information (Richtermeyer, 2018, p.25). Integrating ERM into business processes eliminates barriers to better information and communication structures and higher performance that support decision-making. Decisions that affect performance with risk information should be optimized and how decisions made affect the entity's risk profile (Sobel, 2018, p.16).

The new framework argues that the evolving role of technology in ERM activities needs to be further taken into account and that technology has reached the potential to create more benefits in ERM. It enables discussion of how technology can affect an organization's strategy, business processes, and risk management (Prinsenberg & Sluis, 2017, p.12).

The new COSO Framework emphasizes that it is important for corporate risk management to follow technological developments. ERM operations and capabilities need to adapt pace of changes and emerging risks in the business world. The principles of information, communication and reporting indicate that integrated risk and performance reporting has become a necessity for businesses. In order to develop strong ERM, businesses should use next generation data analytics and technologies, such as Big Data and Artificial Intelligence. Technology infrastructure will ensure the accuracy, completeness and timeliness of data in ERM (Herron & Dholabhai, 2017, p.21).

There is no doubt that businesses will continue to face a future full of changes, complexities and uncertainties. ERM will be an important part of how an enterprise will be managed and guided in such periods. All organizations need to be able to respond consistently to change, including the ability to adapt quickly to capacity, while maintaining a high level of trust in stakeholders through strong decision-making processes. By focusing on the right issues, ERM can give businesses confidence in their ability to predict the future (Farrell & Gallagher, 2015). The future needs to be adapted to achieve the predicted benefits of ERM. A future-oriented perspective reflects trends that need to be considered (COSO, 2017, p.7-8):

- ERM needs to adapt new data analytics technologies where more and more data can be analyzed faster. More data can be collected from both inside and outside of the enterprise and processed by new methods. Enhanced data analytics and visualization tools will improve understanding of both positive and negative impacts of risks and will be very useful for ERM activities.

- Today, many people think that we have entered an era of automatic processes and artificial intelligence. It is important to take into account the impact of automation, artificial intelligence, and future technologies to be discovered and the enhanced capabilities of ERM in operations and applications. With advanced technology tools, previously unrecognized relationships, trends and models can be revealed, providing a critical source of information for risk management.

- One concern that is often expressed by many business executives is the cost of risk management, compliance activities and control processes compared to value gained. As corporate risk management practices evolve, it will be important to effectively coordinate activities involving risk management, compliance, control and governance to provide maximum benefits to the organization. This may represent one of the best

opportunities for ERM to redefine its importance for organization. ERM can be at the center of a structure, which ensures that risk management, compliance, control and governance activities are carried out at a lower cost, in coordination and cooperation.

## New ISO31000 ERM Framework

In February 2018, ISO published a new risk management framework highlighting similar changes to COSO. However, there has been no change in the objective of integrating risk management of previous framework into strategic and operational processes. The importance of top management leadership, governance of the organization and integration of risk management were emphasized in the 2018 version of the framework. More emphasis was placed on the continuous repetitive nature of risk management. It was emphasized that information obtained and new analyses should ensure that processes, actions and controls are constantly revised. The scope of ERM has been reorganized to maintain a model of systems that can respond quickly to needs (IRM, 2018, p.8).

The new version of ISO 31000 is shorter than the previous version and provides a holistic overview of how risk management can be implemented. ISO 31000 defines principles and processes that characterize effective risk management. It is understood that the new ISO guidelines have the same risk management approach as the new COSO framework, places more emphasis on decision-making processes supported by risk knowledge, places value creation and protection at the center of its principles and advocates organizational and technological integration for effective risk management (IRM, 2018, p.9).

Th new guidelines state that ERM principles should be applied by all employees responsible for creating and maintaining value in risk management, decision-making, goal setting and performance improvement activities. Principles can be applied in any type and size of firm. ERM principles advocate that risk management should support organizations in terms of strategy setting, achieving objectives, and informed decision-making. Risk management should be a part of governance and leadership, and should form the basis of how to manage all organizational levels of enterprise. Eight principles of the new guidelines are (IRM, 2018, p.10):

1. ERM framework and processes should be customized to suit the business.
2. Timely participation of appropriate stakeholders is required.
3. A structural and comprehensive approach is required.
4. Risk management should be an integral part of all organizational activities.
5. Risk management anticipates, identifies, recognizes and responds to changes.
6. Risk management explicitly considers any limitations caused by available information.

7. Human and cultural factors affect all aspects of risk management.

8. Risk management is continuously improved through learning and experience.

When the revisions made in both guidelines are examined, it is understood that the changes emphasize the need for further involvement of the senior management and board of directors in corporate risk management, that business objectives and strategies should be more associated with risk management and that the performance evaluation processes of the enterprise should be integrated with risk management. According to both guidelines, risk management has become an activity where business functions should work together. In summary, both guidelines emphasize the process of creating value through risk management and emphasize the need to place risk management decision-makers at the heart of risk management through organization of employees, processes and technology (Sobel, 2018; IRM, 2018).

## The Role of Internal Audit in ERM

A professional information note issued by IIA in 1998 addressed the role of internal audit in risk management for the first time. The information note suggests that internal auditing should add value to an organization by closely linking with key concerns of senior executives and focusing on issues deemed important for success (Pickett, 2011, p. 84).

International Standards on Internal Auditing address the role and responsibilities of internal auditors in risk management. Performance Standard 2100 specifies that the internal audit function should assist an organization by assisting in the development of risk management and control processes and by identifying and assessing risks exposed. Thus, effective internal audit can become an integral part of organizations risk management processes, including the creation of appropriate corporate risk management.

According to standard 2100, internal auditors should assist both management and audit committee by examining, evaluating, reporting and developing remedial measures to assess the adequacy and effectiveness of risk processes implemented by management. However, it should be remembered that corporate management, the audit committee and board of directors are responsible for the risk management and control processes of an organization. Internal auditors who undertake consultancy tasks can provide assistance in identifying risks, assessing risks, implementing risk management methods, and taking and implementing risk-related control measures (IIA, 2010, p.167-168).

Internal auditors are in a position to better understand the concept of risk management than other employees and provide valuable advice (Flanders, 2018, p.62). Therefore, chief audit executive should be more proactive when training managers and the audit committee on the value of effective risk management (Wright, 2018). Internal auditors can play an important role in increasing this value (Thabit, 2019). In many internal audit activities, a risk-based

model is used in preparation of audit plans prepared in line with data and requests from management. If the audit committee and management do not have a strong understanding of risk management, they cannot identify risk issues that arise and engage in appropriate activities. Internal auditors should shape the risk management approach of audit committee members and management (Cohen et al., 2017).

Internal audit, while adding value to an organization in ERM activities, is at risk of compromising its independence and objectivity. In view of this possibility, the IIA published its report titled "The Role of Internal Audit in Enterprise Risk Management" prepared by IIA-UK and Ireland members in response to the publication of the COSO framework. This report demonstrates ways for internal auditors to maintain objectivity and independence required by IIA's professional standards, while providing assurance and advisory services to risk management processes. Tasks that internal audit function should and should not be involved in during ERM process are specified in the report.

The role of internal auditors in ERM is due to concerns that independence and objectivity will be harmed (Zwaan et al., 2011, p.588). In order to address this concern, the chief audit executive should include the scope of activities of internal audit charter and have audit committee approval. It should be declared that internal audit cannot manage risks on behalf of management, only contribute to the decision-making process with recommendations, and that all activities other than assurance services will be evaluated within the scope of consultancy services (Reding, 2013, p.4-18).

Table 2
*Role of Internal Audit in Enterprise Risk Management*

| | |
|---|---|
| **Core Internal Auditing Roles in ERM** | Giving assurance on risk management processes |
| | Giving assurance that risks are correctly evaluated |
| | Evaluating risk management processes |
| | Evaluating the reporting of risks |
| | Reviewing the management of key risks |
| **Legitimate internal auditing roles with safeguards** | Facilitating identification and evaluation of risks |
| | Coaching management in responding to risks |
| | Coordinating ERM activities |
| | Consolidating the reporting on risks |
| | Maintaining and developing the ERM framework |
| | Championing establishment of ERM |
| | Developing risk management strategy for board approval |
| **Roles internal auditing should not undertake** | Setting the risk appetite |
| | Imposing risk management processes |
| | Management assurance on risks |
| | Taking decisions on risk responses |
| | Implementing risk responses on management's behalf |
| | Accountability for risk management |

IIA Guideline points out that when internal auditors undertake legitimate consulting activities, which are defined as internal audit responsibilities that can be undertaken under certain circumstances, measures should be taken to ensure that they do not assume management responsibility to manage risks in a real sense. The internal audit charter approved by the audit committee is a logical measure to document the responsibilities of auditors in ERM. In addition, when auditors engage in any activities related to ERM, they should consider these tasks in consultation and take minimum care to implement relevant standards in order to maintain independence and objectivity (Gramling & Myers, 2006, p.55). The conditions that enable internal auditors to undertake more tasks in ERM are presented in Table 3.

Table 3
*Requirements for Internal Audit to Expand its Tasks in ERM*

| | |
|---|---|
| **Requirements for Internal Audit to Expand its Tasks** | It should be clear that management remains responsible for risk management. |
| | The nature of internal auditor's responsibilities should be documented in the internal audit charter and approved by the audit committee. |
| | Internal auditing should not manage any of the risks on behalf of management. |
| | Internal auditing should provide advice, challenge and support to management's decision making, as opposed to taking risk management decisions themselves. |
| | Internal auditing cannot also give objective assurance on any part of the ERM framework for which it is responsible. Such assurance should be provided by other suitably qualified parties. |
| | Any work beyond the assurance activities should be recognized as a consulting engagement and the implementation standards related to such engagements should be followed. |

New risks and changing risk factors that affect the business world are forcing internal audit to expand its operations. The new frameworks have elaborated on the paradigm that the scope of risk management activities should be expanded from a holistic perspective. In order to adopt an integrated risk approach, internal auditors should carry limits of their risk management responsibilities to the highest possible level, taking into account certain situations. Internal audit standard 2120 legitimizes further engagement. According to 2120; "Internal audit activity should evaluate effectiveness of risk management processes and contribute to its improvement." As already stated in Standard 2010, "a risk-based plan consistent with objectives of organization to determine the priorities of internal auditing" can only be achieved through outputs from effectively functioning ERM.

The new COSO framework approved tasks of internal audit in risk management. According to the new framework, internal audit should support the identification of risk related problems and opportunity to evaluate by conducting audits or inspections on corporate risk management practices. Internal audit improves accountability by advising board of directors and senior management on matters requiring solutions. Internal audit function constitutes organization's independent line of defense or, in other words, last line of accountability mechanism. Two important factors that distinguish internal audit from other

lines of defense are that they have a high level of independence and objectivity, and have authority to make recommendations to management to make assessments about design of processes and effectiveness of their operations (COSO, 2017, p.113).

Risk management activities for internal auditing have become increasingly important, especially with changes in the definition of the profession. The COSO framework and IIA report, published in 2004, are the first major milestones of the relationship between internal audit and risk management. Many studies in the literature have discussed dimensions of this relationship. The recently published COSO framework and new ISO31000 guidelines have the potential to drive discussions in the literature. A literature review consisting of studies examining the relationship between risk management and internal audit or evaluating duties and responsibilities of the internal audit function in ERM is given in Table 4.

In accordance with the scope of our study, the following main hypotheses have been formulated in the light of theoretical discussions on the responsibilities of internal audit regarding ERM and the results of past studies examining this subject.

**H**$_{1.}$ There is a statistically significant difference between internal auditors' opinions about the current situation and the ideal situation regarding their ERM responsibilities.

**H**$_{2.}$ There is a statistically significant difference between the opinions of internal auditors regarding ERM responsibilities according to their demographic characteristics.

**H**$_{3.}$ There is a statistically significant difference between internal auditors' opinions about the current situation and the ideal situation regarding the new ERM paradigm.

**H**$_{4.}$ There is a statistically significant difference between the opinions of internal auditors who are operating in different countries about their ERM responsibilities.

## Methodology

"What are the responsibilities of internal audit within the scope of ERM?" and "To what extent do internal auditors assume responsibilities of ERM?" are the main research questions that guide the study. In this part of the study, the method of research which is designed to find answers to the research questions is explained. In this section, the universe of research and characteristics of sample and statistical analyses carried out within the scope of research are given.

Table 4
*Studies on ERM Responsibilities of Internal Audit*

| PUBLICATION | SAMPLE | METHOD | FINDINGS |
|---|---|---|---|
| Walker et al. (2002). Enterprise Risk Management: Pulling It All Together. | Five large-scale global companies | Role of internal auditors in ERM was investigated by case analysis. | Internal audit assumes important responsibilities especially in risk identification and report preparation. |
| Tillinghast-Towers, P. (2004). Adding Value Through Risk and Capital Management. | Mid-level and senior executives, including a small number of internal auditors of 101 large-scale companies from all over the world | A questionnaire consisting of 38 multiple choice questions was conducted. Results were analyzed by descriptive statistical methods and presented with tables and graphs. | Focal point of study is the applications of ERM. It has been determined that the internal audit function assumes limited responsibility for ERM. |
| Beasley et al. (2005). ERM: A Status Report. | Internal auditors and top managers of 175 large-scale companies | Descriptive statistics were used on data obtained through the survey. | It is understood that internal audit has developed close relations with the risk unit and managers. It has been determined that it undertakes duties in activities such as risk identification, coordination of activities and monitoring of processes. |
| Gramling & Myers (2006). Internal Auditing's Role in ERM. | 361 internal auditors answered questions raised by the IIA to 7200 members worldwide. | Obtained data were analyzed with descriptive statistics. | It compared theoretical views on responsibilities defined by IIA in its report and the extent to which responsibilities are assumed in practice. It is determined that internal audit's ERM activities are generally in line with IIA reports. |
| Sarens & Beelde (2006). Internal Auditors' Perception About Their Role In Risk Management: A Comparison Between US And Belgian Companies. | Interviews were conducted between 60 and 90 minutes with 10 selected large-scale companies from Belgium and the USA, taking into account the studies in theory. | How qualitative auditors perceive their existing roles in risk management has been demonstrated through qualitative research. | It is understood that the role of internal audit in ERM is related to the development of risk management. Acceptance of ERM responsibilities and awareness of ERM benefits by senior management facilitates work of internal audit. |
| Beasley et al. (2005). Enterprise Risk Management: An Empirical Analysis of Factors Associate with The Extent of Implementation. | 175 responses were received to the questions sent to members through IIA, 52 problematic forms were drawn up, and a sample of 123 internal auditors was reached. | Obtained data were tested with logistic regression model. | It has been determined that ERM has a significant impact on internal audit activities. The factors such as desire of audit committee and senior managers to benefit from internal audit in ERM, term of internal audit manager, sector in which it operates and leadership role of internal audit in ERM have been determined to affect internal audit activities. |

Table 5
*Studies on ERM Responsibilities of Internal Audit (Continuation of Table 4)*

| PUBLICATION | SAMPLE | METHOD | FINDINGS |
|---|---|---|---|
| Fraser & Henry (2007). Embedding Risk Management: Structures and Approaches. | Four finance directors, four chairmen of the audit committee, four internal auditors and one risk manager of five large-scale British firms were interviewed. Data were also collected from four external auditors working at Big4. | In order to reveal role of internal auditors and audit committees in risk management, a qualitative research design was conducted through face-to-face interviews with research sample. | It has been determined that internal auditors assume a significant portion of risk management responsibilities that must remain in management. Findings show that undertaking tasks that the IIA does not consider appropriate for internal auditors on ERM threatens the objectivity of the profession. |
| Castanheira, et al. (2010). Factors Associated with The Adoption of Risk-Based Internal Auditing. | A questionnaire was sent to 96 internal audit unit managers who are members of IIA-Portugal and 59 available responses were received. | In order to investigate company-specific factors affecting adoption of risk-based audit and role of internal audit in ERM, a questionnaire including a number of questions was prepared. Descriptive statistics, percentages and Chi-Square test were used. | It has been determined that internal audit assumes greater responsibility for ERM in small enterprises. In addition, the role of internal auditing in ERM has become more important in the private sector, especially in enterprises operating in risky sectors such as finance. |
| Zwaan et al. (2011). Internal Audit Involvement in Enterprise Risk Management. | Data were collected from 117 certified internal auditors from IIA-Australia. | Statements that define responsibilities in the IIA risk management report of internal audit have been transformed into a questionnaire consisting of two columns describing current and ideal situation. In addition, questions related to use of ERM were included. Obtained data were analyzed by Anova and t-test. | Results show that a significant number of enterprises engage in ERM operations and place responsibilities on their internal auditors in line with the IIA report. Results were compared with previous studies (Gramling & Myers, 2006). |
| Paape & Speklé (2012). The Adoption and Design of Enterprise Risk Management Practices: An Empirical Study. | 928 responses were received from questionnaire sent to 9339 employees with specific characteristics of Dutch origin, and 825 questionnaires were analyzed after unsuitable forms were removed. | Questionnaire used in study was prepared by an expert team and tested as a pilot study on a small number of internal auditors and risk employees. Logistic Regression Model consisting of many independent variables was tested. | Effects of factors such as governance codes, ownership structure, presence of audit committee, audit firm, sector of operation and business size on design of ERM activities were examined. Findings provide clues about impact of internal audit, audit committee, and audit firm on ERM. |
| Shortreed et al. (2012). The Future Role of Internal Audit in (Enterprise) Risk Management. | Responsibilities of internal audit in ERM are examined within scope of current literature, COSO and ISO frameworks. | It is theoretically discussed what future responsibilities of internal auditing are likely to emerge within the scope of ERM. | In particular, IIA reports and risk management frameworks were examined and important results were obtained. Internal audit should update its responsibilities to support risk management to varying circumstances. |

The new frameworks advocate an approach that advocates expanding the scope of internal audit risk management activities from an integrated perspective. It emphasizes the need for internal auditors to maximize their mandate to the highest possible level, provided that certain circumstances are taken into account. The main purpose of this study is to determine the current ERM responsibilities of internal audit in the line with economic conjuncture and technological developments and to determine the level at which these responsibilities are assumed in practice. Opinions reached in the framework of the research sample showed what level of tasks internal auditors undertake in their organizations under ERM in Turkey. ERM awareness levels were also determined. Perspectives obtained as a result of the research will enable internal auditors to develop their professional activities. Results of the research are important in terms of guiding that activities that would harm the professional objectivity and independence of internal audit are not included in job description.

Another important purpose of our study is to compare findings of internal auditors who are working in Turkey regarding ERM duties and participation with similar studies in the literature. We compared the findings of our study with the results of two different studies. These are researches conducted by Gramling & Myers (2006) on an international sample of IIA member participants from many different parts of the World and conducted by Zwaan et al. (2011) on a sample of participants from the Institute of Internal Auditors of Australia (IIAA). Thus, different samples were compared with the sample from Turkey.

The target population of our study consists of internal auditors. Taking into consideration cost and time constraints, accessible population was determined as internal auditors who are members of TIDE (Turkey Institute of Internal Auditors). According to the 2018 annual report of TİDE, 2667 internal auditors are members of TİDE. Assistance was received from TİDE to collect data from internal auditors. TİDE was data collection forms, which we have transferred to an electronic environment, to all its members twice. The entire accessible population was reached and feedback from 254 participants was achieved. As a result of the examination, 9 questionnaires that were filled out incorrectly or incompletely were excluded from the research and 245 questionnaires were analyzed.

In the first part of the questionnaire, questions were asked to determine age, gender (Female / Male), professional experience and sector in which the organization operates (Private / Public). In addition, the risk management model used in the enterprise was asked as an open ended question. The second part of the questionnaire consists of 17 twins (ideal / current) questions constructed with the Likert scale (Strongly Disagree = 1, Strongly Agree = 5). The questionnaire items were formulated as questions in the 5-point Likert format of the Core Internal Auditing Roles in ERM, Legitimate Internal Auditing Roles with Safeguards, and Roles Internal Auditing Should not Undertake included in IIA's position reports. Many studies in the literature refer to the IIA's report titled *The Role of Internal Audit in ERM* and used defended

statements in their research. Utilizing the IIA reports within the scope of the research has provided a more accurate determination of responsibilities of internal audit for the purposes of our study, as well as comparing the results of research with studies in the literature.

Descriptive statistics related to sampling were used in the research. In order to reveal the differences between views of sample on ideal situation and current situation, t tests were conducted. Analysis of variance (ANOVA) was used to test the effect of the descriptive characteristics of the research sample on opinions and to compare the results of our study with the results of other studies in the literature. SPSS 24.0 was used for descriptive and predictive analyses.

## Findings

In this section, the demographic characteristics of the sample and statistical analyses are given. Before statistical analyses were performed, normality, which is the prerequisite for analyses, was tested. Since the data set consisted of ordinal variables based on significance or superiority, the distribution of data was examined by a graphical approach and kurtosis-skewness values instead of test statistics measuring normality. In the literature, there are studies advocating that kurtosis-skewness limit values should be between +1.5 and -1.5 (Tabachnik & Fidell, 2007) or +2 and -2 (George & Mallery, 2010). When graphs and kurtosis-skewness values were examined, it was concluded that the data set was distributed close to the normal distribution and that normality assumption was not violated.

The second part of the questionnaire consists of "core roles", "legitimate roles with safeguards" and "roles that should never be undertaken". In order to determine internal consistency of the questionnaire, the Cronbach Alpha coefficient was calculated for each question group. Cronbach's alpha coefficient was calculated as $\alpha = 0.947$ for core tasks, $\alpha = 0.872$ for tasks that could be undertaken under certain conditions and $\alpha = 0.849$ for tasks that should never be undertaken. It was determined from the obtained values that internal consistency, which is an important indicator of the reliability of the questionnaire, was quite high.

The demographic characteristics of the internal auditors participating in our research are presented in Table 6. Internal auditors are classified according to their gender, age and professional experience. The majority of internal auditors who participated in the survey were male (66%), older than 40 years (35%) and with over 7 years of professional experience (58%).

### Comparison of Opinions in Terms of Ideal Situation and Current Situation

In order to compare participants' views on the ideal situation and the current situation of internal auditors on ERM tasks, the paired sample t test, which is frequently used in statistical literature, was used to evaluate the responses of the same group to two different questions. Results of the test are presented in Table 7.

Table 6
*Demographic Characteristics of Sample*

| | Business Sector | | Total |
|---|---|---|---|
| | **Private** | **Public** | |
| **Gender** | | | |
| Female | 74 | 10 | 84 (34%) |
| Male | 128 | 33 | 161 (66%) |
| **Age** | | | |
| Under 34 | 80 | - | 80 (33%) |
| Between 34-40 | 73 | 6 | 79 (32%) |
| Over 40 | 49 | 37 | 86 (35%) |
| **Professional Experience** | | | |
| Under 7 Years | 69 | 3 | 72 (29%) |
| Between 7-12 | 54 | 20 | 74 (30%) |
| Over 12 Years | 47 | 20 | 67 (28%) |
| Not Reply | 32 | - | 32 (13%) |
| | 202 (82%) | 43 (18%) | **245 (100%)** |

Table 7
*Paired Samples t Test Results*

| | Business Sector | | Total |
|---|---|---|---|
| | **Private** | **Public** | |
| **Gender** | | | |
| Female | 74 | 10 | 84 (34%) |
| Male | 128 | 33 | 161 (66%) |
| **Age** | | | |
| Under 34 | 80 | - | 80 (33%) |
| Between 34-40 | 73 | 6 | 79 (32%) |
| Over 40 | 49 | 37 | 86 (35%) |
| **Professional Experience** | | | |
| Under 7 Years | 69 | 3 | 72 (29%) |
| Between 7-12 | 54 | 20 | 74 (30%) |
| Over 12 Years | 47 | 20 | 67 (28%) |
| Not Reply | 32 | - | 32 (13%) |
| | 202 (82%) | 43 (18%) | **245 (100%)** |

*p < .01 (t>2.58)

According to the test results, a statistically significant difference was found only between the opinions of participants regarding tasks undertaken under certain conditions. The difference is in favor of ideal situation.

## Comparison of Opinions in Terms of Demographic Characteristics

Independent samples t test should be conducted to test the statistical significance of the difference between the means of the views of two unrelated participants. It was tested whether the opinions of participants changed according to gender and sector

(Private / Public) in which the enterprise of the internal auditors operates. Results showed that the opinions did not change according to gender. On the other hand, the fact that the firm to which the internal auditors belonged to operates in the private or public sector affected their opinions. Equality of variance should be examined when evaluating the test results and appropriate values should be considered according to the Levene Test results. Results of theindependent sample t test conducted to determine whether opinions of internal auditors vary according to sector in which they operate are shown in Table 8.

Table 8
*Independent Samples t Test Results*

| **Ideal Situation** | **Group** | **n** | $\bar{X}$ | $\Delta\bar{X}$ | **SS** | **SD** | **t** | **p** |
|---|---|---|---|---|---|---|---|---|
| Core Tasks | Private | 202 | 4.13 | 0.344 | 0.626 | 243 | 3.23* | 0.001 |
| | Public | 43 | 3.79 | | 0.674 | | | |
| Legitimate tasks with safeguards | Private | 202 | 3.09 | -0.355 | 0.540 | 243 | -3.28* | 0.002 |
| | Public | 43 | 3.45 | | 0.665 | | | |
| Tasks should not undertake | Private | 202 | 1.93 | 0.282 | 0.624 | 243 | 2.21 | 0.030 |
| | Public | 43 | 1.65 | | 0.783 | | | |
| Current Situation | Group | n | $\bar{X}$ | $\Delta\bar{X}$ | SS | SD | t | p |
| Core Tasks | Private | 202 | 4.25 | 0.576 | 0.449 | 243 | 5.97* | 0.000 |
| | Public | 43 | 3.67 | | 0.596 | | | |
| Legitimate tasks with safeguards | Private | 202 | 2.76 | -0.766 | 0.663 | 243 | -10.19* | 0.000 |
| | Public | 43 | 3.52 | | 0.386 | | | |
| Tasks should not undertake | Private | 202 | 1.89 | 0.105 | 0.421 | 243 | 1.50 | 0.133 |
| | Public | 43 | 1.78 | | 0.385 | | | |

*$p < .01$ ($t>2.58$)

When Table 8 is examined, it is determined that the opinions of participants regarding both the ideal situation and the current situation differ statistically at the level of $p < .01$ in terms of “core tasks” and “legitimate roles with safeguards” according to the sector in which the enterprise operates. While the opinions of private sector employees on “core tasks” are higher in terms of both ideal situation and current situation, the opinions of public sector employees on “legitimate tasks with safeguards” are higher in both the ideal situation and the current situation.

One-way analysis of variance (ANOVA) was conducted to assess whether age and professional experience had an impact on opinions. As presented in the table of demographic characteristics of sample, age and professional experience variables were classified into three groups. One-way ANOVA test was used to determine whether there was a significant difference between the mean scores of the opinions for three groups. The Scheffe test was applied to determine the difference between the groups for means where significant differences were detected. Results of ANOVA test for age independent variable are presented in Table 9.

Table 9
*ANOVA Test Results According to Age Variable*

| **Ideal Situation** | **Group** | **n** | **X̄** | **SS** | **SD** | **F** | **P** |
|---|---|---|---|---|---|---|---|
| Core Tasks | Under 34 | 80 | 4.15 | 0.622 | 242 | 4.10* | 0.018 |
| | Between 34-40 | 79 | 4.16 | 0.651 | | | |
| | Over 40 | 86 | 3.91 | 0.643 | | | |
| Legitimate tasks with safeguards | Under 34 | 80 | 3.10 | 0.523 | 242 | 1.13 | 0.325 |
| | Between 34-40 | 79 | 3.13 | 0.502 | | | |
| | Over 40 | 86 | 3.23 | 0.683 | | | |
| Tasks should not undertake | Under 34 | 80 | 1.83 | 0.556 | 242 | 0.52 | 0.590 |
| | Between 34-40 | 79 | 1.94 | 0.612 | | | |
| | Over 40 | 86 | 1.87 | 0.787 | | | |
| Current Situation | Group | n | X̄ | SS | SD | F | P |
| Core Tasks | Under 34 | 80 | 4.27 | 0.430 | 242 | 3.77* | 0.024 |
| | Between 34-40 | 79 | 4.12 | 0.464 | | | |
| | Over 40 | 86 | 4.05 | 0.631 | | | |
| Legitimate tasks with safeguards | Under 34 | 80 | 2.73 | 0.715 | 242 | 10.10* | 0.000 |
| | Between 34-40 | 79 | 2.78 | 0.643 | | | |
| | Over 40 | 86 | 3.15 | 0.632 | | | |
| Tasks should not undertake | Under 34 | 80 | 1.79 | 0.397 | 242 | 2.28 | 0.104 |
| | Between 34-40 | 79 | 1.93 | 0.398 | | | |
| | Over 40 | 86 | 1.88 | 0.443 | | | |

* There is a significant difference between groups.

According to the results of the ANOVA test, it was determined that the opinions of participants about the ideal situation and the current situation differed statistically according to age variable in terms of core tasks. Post-hoc test results to determine which age groups differ in terms of core tasks showed that the difference was between the views of the 34-40 age group and the over 40 age group in terms of ideal situation. In addition, the opinions of participants about practice differed significantly according to age variable in terms of tasks assumed under certain conditions. Post-hoc tests show that the difference is between the views of the under-34 and over-40 groups. On the other hand, there is no significant difference in terms of tasks that should never be undertaken.

One-way analysis of variance (ANOVA) was conducted to determine whether opinions of internal auditors changed according to their professional experience. Results of analysis are presented in Table 10.

Results of ANOVA test conducted according to the professional experience variable showed that the opinions of participants differed only in terms of tasks assumed under certain conditions. Post-hoc test results in order to determine the differences between the groups showed that there was a difference between the opinions of participants who had less than 7 years of experience and those who had more than 12 years of experience.

Table 10
*ANOVA Test Results According to Professional Experience*

| **Ideal Situation** | **Group** | **n** | **$\bar{X}$** | **SS** | **SD** | **F** | **P** |
|---|---|---|---|---|---|---|---|
| Core Tasks | Under 7 Year | 72 | 4.26 | 0.591 | 242 | 2.93 | 0.055 |
| | Between 7-12 Years | 74 | 4.10 | 0.678 | | | |
| | Over 12 Year | 67 | 4.00 | 0.629 | | | |
| Legitimate tasks with safeguards | Under 7 Year | 72 | 3.12 | 0.520 | 242 | 1.33 | 0.264 |
| | Between 7-12 Years | 74 | 3.23 | 0.570 | | | |
| | Over 12 Year | 67 | 3.27 | 0.660 | | | |
| Tasks should not undertake | Under 7 Year | 72 | 1.91 | 0.558 | 242 | 0.70 | 0.495 |
| | Between 7-12 Years | 74 | 1.83 | 0.746 | | | |
| | Over 12 Year | 67 | 1.96 | 0.694 | | | |
| Current Situation | Group | n | $\bar{X}$ | SS | SD | F | P |
| Core Tasks | Under 7 Year | 72 | 4.22 | 0.419 | 242 | 2.05 | 0.130 |
| | Between 7-12 Years | 74 | 4.05 | 0.547 | | | |
| | Over 12 Year | 67 | 4.11 | 0.541 | | | |
| Legitimate tasks with safeguards | Under 7 Year | 72 | 2.76 | 0.699 | 242 | 6.51* | 0.002 |
| | Between 7-12 Years | 74 | 2.93 | 0.718 | | | |
| | Over 12 Year | 67 | 3.17 | 0.581 | | | |
| Tasks should not undertake | Under 7 Year | 72 | 1.86 | 0.380 | 242 | 0.82 | 0.437 |
| | Between 7-12 Years | 74 | 1.83 | 0.418 | | | |
| | Over 12 Year | 67 | 1.92 | 0.444 | | | |

* There is a significant difference between groups.

## Comparison of Opinions on New ERM Paradigm

In the questionnaire form of research, question items that are not included in the IIA Role of Internal Audit in Corporate Risk Management Report, which is the focus of our study, are also included. These are the potential tasks of internal audit, reflecting the new paradigm that is emphasized in the new ERM frameworks. The participants' opinions about the ideal situation and the current situation were analyzed by the t test. In addition, participants were asked open-ended about the risk management model used in their businesses. Findings are presented in Table 11.

Table 11
*Comparison of Opinions on New ERM Paradigm*

| **Item Statement** | **Measure** | **n** | **$\bar{X}$** | **$\Delta\bar{X}$** | **ΔSS** | **SD** | **t** | **p** |
|---|---|---|---|---|---|---|---|---|
| Internal audit contributes to use of a common language to discuss risk in enterprise. | Ideal Situation | 245 | 3.96 | 0.302 | 0.772 | 244 | 6.12 | 0.000 |
| | Current Situation | | 3.66 | | | | | |
| Internal audit has the knowledge of software to guide IT professionals as needed. | Ideal Situation | 245 | 4.41 | 0.318 | 0.771 | 244 | 6.46 | 0.000 |
| | Current Situation | | 4.09 | | | | | |
| Internal audit encourages use of technologies that provide continuous audit. | Ideal Situation | 245 | 4.43 | 0.355 | 0.665 | 244 | 8.35 | 0.000 |
| | Current Situation | | 4.07 | | | | | |

*p < .01 (t>2.58)

According to the results of the paired samples t test, a statistically significant difference was found between the opinions about the three question items. This difference is in favor of the ideal situation for all three question items.

Answers given to the open-ended question in Table 12 showed that the most commonly used framework in risk management is COSO ERM.

Table 12
*Open Ended Questions Answers Given*

| What is the most commonly used risk management model in your business? | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **COSO** | **ISO** | **BDDK** | **GRC** | **Own Model** | **COBIT** | **No answer** |
| Frequency (n=245) | 142 | 24 | 8 | 8 | 6 | 3 | 54 |

## Comparison of Research Findings with Similar Studies

Our findings obtained from TİDE member participants within the scope of our study, were compared with studies of Gramling & Myers (2006) and Zwaan et al. (2011). The means of opinions of our study and participants of these two studies about core tasks, legitimate tasks with safeguards and tasks that should not undertaken in IIA report are presented in Table 13.

Table 13
*Comparison of Present Research and Other Research*

| | **Ideal Situation** | | | **Current Situation** | | |
|---|---|---|---|---|---|---|
| | **Present Research** | **G&M** | **ZW** | **Present Research** | **G&M** | **ZW** |
| **Core Tasks (n=245)** | | | | | | |
| Giving assurance on risk management processes | 4.27 | 3.80 | 4.05 | 4.32 | 3.10 | 3.71 |
| Giving assurance that risks are correctly evaluated | 4.02 | 3.60 | 3.63 | 4.04 | 3.00 | 3.18 |
| Evaluating risk management processes | 4.03 | 3.82 | 3.98 | 4.12 | 3.17 | 3.44 |
| Evaluating the reporting of risks | 4.04 | 3.70 | 3.77 | 4.08 | 3.09 | 3.05 |
| Reviewing the management of key risks | 4.02 | 3.76 | 3.95 | 4.17 | 3.19 | 3.39 |
| **Legitimate Tasks with Safeguards (n=245)** | | | | | | |
| Facilitating identification and evaluation of risks | 3.26 | 3.50 | 2.96 | 2.95 | 3.38 | 2.84 |
| Coaching management in responding to risks | 3.18 | 3.11 | 2.81 | 2.86 | 2.84 | 2.66 |
| Coordinating ERM activities | 3.17 | 2.75 | 2.19 | 2.91 | 2.47 | 2.30 |
| Consolidating the reporting on risks | 3.11 | 3.10 | 2.32 | 2.92 | 2.87 | 2.39 |
| Maintaining and developing the ERM framework | 3.18 | 2.73 | 2.17 | 2.86 | 2.49 | 2.30 |
| Championing establishment of ERM | 3.05 | 3.27 | 2.96 | 2.87 | 2.88 | 2.94 |
| **Tasks should not undertake (n=245)** | | | | | | |
| Setting the risk appetite | 1.84 | 1.89 | 1.63 | 1.93 | 1.81 | 1.62 |
| Imposing risk management processes | 1.73 | 2.30 | 1.83 | 1.79 | 2.19 | 1.97 |
| Management assurance on risks | 1.90 | 2.64 | 3.17 | 1.76 | 2.41 | 3.04 |
| Taking decisions on risk responses | 1.89 | 2.14 | 1.86 | 1.97 | 2.07 | 1.89 |
| Implementing risk responses on management's behalf | 1.84 | 1.90 | 1.30 | 1.77 | 1.88 | 1.39 |
| Accountability for risk management | 2.09 | 2.26 | 1.68 | 2.00 | 2.17 | 1.81 |

Differences were found between the findings of our study and the findings of the other two studies. The opinion on core tasks and tasks assumed under certain conditions of internal auditors in Turkey is higher than in terms of both the ideal situation and the current situation. On the other hand, their views on tasks that should never be undertaken are lower. If Table 13 is analyzed, it is understood that the means of views increases in terms of basic tasks and tasks that should never be undertaken according to topicality of the research.

## Results and Recommendations

The International Internal Auditing Standards place internal auditors in a proactive position that adds value to the risk management activities of their organizations. The new risk factors that challenge businesses provide an opportunity to add value to their organizations for the internal audit profession. Internal auditors for this purpose must expand the scope of their activities in the direction of ERM. Adoption of a holistic risk approach advocated by the new risk frameworks depends on the extent to which internal audit, which is the strategic co-partner of the organization, extends the scope of risk management activities to the highest possible level, taking into account certain conditions. As a result of the tests conducted to reveal the differences between the limits of the risk responsibilities of internal audit and the current situation, which is the main purpose of our research, it was found that there is no difference between the opinions in terms of core tasks and never-to-undertake tasks of internal audit. The opinions obtained emphasize that internal audit does not adequately undertake tasks undertaken in certain circumstances. The reason for the difference lies in the fact that internal audit cannot provide conditions that allow it to undertake such tasks, a lack of management support required to meet requirements, or that internal audit functions do not have the level of professional knowledge and experience to undertake tasks. Internal audit functions should strive to provide the conditions that allow them to undertake these tasks to develop the holistic risk approach advocated by the new frameworks.

As a result of our research, the opinions of 245 internal auditors were obtained. Analyses showed that the opinions of internal auditors working in the private sector on main duties were significantly higher than those of public sector employees. On the other hand, the opinions of public sector employees on tasks assumed under certain conditions are significantly higher than those of private sector employees. The findings indicate that internal audit in the private sector is expected to undertake more tasks in risk management and that the conditions affecting internal audit in the public sector have been fulfilled or that necessary top management support is provided.

The opinions were analyzed in terms of demographic variables. It was found that gender did not affect the opinions. The mean of the opinions of internal auditors over the age of 40 on core tasks is significantly lower than the mean of young participants and mean of opinions about tasks assumed under certain conditions is significantly higher. On the other hand, it was

determined that the mean of the opinions of auditors with a high level of professional experience (over 12 years) regarding tasks assumed under certain conditions was significantly higher than the mean of inexperienced (under 7 years).

The new ERM frameworks emphasize that the use of the new technologies referred to as Industry 4.0 elements in risk management can play a key role. Development of an organization's ERM capabilities depends on the use of advanced technologies such as automation, artificial intelligence, and machine learning in risk management activities. In particular, the benefits of big data and analytics to the audit profession will facilitate the development and internal audit of risk management activities. Advanced data analytics and visualization tools will provide a better understanding of both the positive and negative effects of risks. On the other hand, the paradigm advocated in the new ERM frameworks argues that the jargon problem in enterprises can be solved through a common framework, common processes and an integrated model. Development of a common risk jargon adopted by all functions of the business allows for easier discussion of culture, capabilities and activities involved in risk management processes. The findings of our study showed that the role of internal audit should be undertaken by use of new technologies that enable continuous auditing, adoption of a common risk jargon in the enterprise, and at least some level of technology knowledge to guide IT professionals. On the other hand, the participants believe that these new tasks are not adequately undertaken by internal audit in practice. Internal audit functions should update themselves in order to have the knowledge and skills necessary to adapt to the new ERM paradigm and to respond to the new expectations of a changing world.

The study provided descriptive information on the role of internal auditors in ERM in the ideal situation and the current situation. The results of our study were compared with results of a similar study in the literature. Our findings showed that the perceptions of participants about internal auditors' ERM duties increased over the years. The findings of our study showed that the mean of the opinions about core tasks was significantly higher than the mean obtained in the other two studies. On the other hand, there was a consensus among views on tasks that should never be undertaken. This finding can be explained by the fact that independence and objectivity are the red line of the internal audit profession. Our findings show that internal auditors are more aware of core tasks they should undertake in ERM. Regulations made by IIA and the new ERM frameworks are the most important drivers of awareness raising. Today, ERM has become an important area of responsibility for internal auditors.

Some limitations should be considered when interpreting the results presented in our study. One of them is the potential to threaten internal validity of the research due to the loss of control caused by online delivery of the questionnaire, since it is almost impossible to reach potential participants in the same place. On the other hand, research was conducted on internal auditors of TİDE members. This increases the likelihood of the participants having a higher level of knowledge and objectivity than the total internal audit universe. While this may seem to be an advan-

tage, it may also create doubts about generalizability of findings. In addition, due to economic conditions, participation is limited to Turkey. Thus, our findings were compared with other limited samples. This election, however, prevented achievement of general global views. Finally, the IIA limited internal auditors' ERM duties to three categories. Our research is based on the task categories determined by the IIA. Important issues, such as impact of internal auditors' characteristics on ERM activities, level of implementation of ERM of organizations, or the relationship between the audit committee, board of directors, and senior management with ERM are excluded from the scope of our research. Eliminating any limitations is a new research opportunity.

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RESEARCH ARTICLE

# Evaluating the Moderating Role of Work-Life Balance on the Effect of Job Stress on Job Satisfaction

**Melis Attar[1], Vural Çağlıyan[2], Aleem Abdul-Kareem[3]**

**Abstract**
Work has occupied an essential place in human life, and this has caused many employees to spend a substantial amount of their time at workplaces. The purpose of this study is to assess the moderating role of work-life balance on the effect of job stress on employees' job satisfaction. A survey method is used to collect the necessary data for this research. A total of 308 respondents from 90 manufacturing SMEs operating in Konya took part in the study. The data gathered are analyzed using SPSS 23 program and Hayes PROCESS macro v.3.4.1. The results of the analyses reveal a statistically significant negative effect of job stress and positive effect of work-life balance on job satisfaction. Moreover, work-life balance is found not to have a moderating role on the effect of job stress on job satisfaction. It is recommended that policy makers and managers of SMEs need to institute stress management techniques that have the propensity of reducing the negative consequences of job stress while maximizing its merits, as well as formulating strategies that will enable employees to have a balance between their personal and work lives.

**Keywords**
Work-life balance, Job stress, Job satisfaction, Moderating role, SMEs

## Introduction

Job stress and work-life balance (WLB) are significant factors with the potential of determining the level of employees' job satisfaction in an organization. In view of the fact that the kinds of job employees do and how they do them in an organizational setting have changed drastically, many academicians and practitioners are increasingly becoming aware of the need to give considerable attention and interest to job stress and job satisfaction. Some researchers also have thrown some light on the tendency of high job stress leading to employees' job dissatisfaction and intention to leave the business entity (Fairbrother & Warn, 2003). Job stress has a number of consequences on both the employee and the organization as a whole, such as

1 **Corresponding Author:** Melis Attar (Asst. Prof. Dr.), Selçuk University, Faculty of Economics and Administrative Sciences, Konya, Turkey. E-mail: melisattar@yahoo.com ORCID: 0000-0002-1299-7552

2 Vural Çağlıyan (Prof. Dr.), Selçuk University, Faculty of Economics and Administrative Sciences, Konya, Turkey. E-mail: vcagliyan@selcuk.edu.tr ORCID: 0000-0002-7964-8840

3 Aleem Abdul-Kareem (Mr.), Selçuk University, Department of Business Administration, Konya, Turkey. E-mail: aleemka1992@gmail.com ORCID: 0000-0003-0667-1254

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affecting the safety, emotional and health status of individual employee. Employees who are highly stressed are most likely to engage in absenteeism, become less productive, dissatisfied and show low job performance. On the other hand, when job stress is properly managed and controlled, it could provide employees with energy and passion to effectively and efficiently execute their tasks (Kenworthy et al., 2014). As changes in business environment are causing stress on employees by altering the nature of jobs that employees have to do in an organization, policy makers shall have to focus their attention on measures to limit or reduce employees' job stress. Proper job design, avoidance of role conflict, unambiguous job goals, effective organizational structure and good superior-employee relationships are some of the measures that can be instituted to curtail the negative consequences of workplace stress. Job satisfaction shall be proposed to be the result of low job stress. As long as employees have lower stress levels, they can have more positive feelings and may end in higher job satisfaction because their jobs are no longer a stress factor in their lives.

In recent times, WLB has received continuous interest and being discussed in both academic and business milieus. Many researchers now center their focus on WLB than work-family conflict to accommodate employees who are not parents but wish to get time for their personal activities. Several people on daily basis formulate schedules to deal with their professional and personal activities and time. Thus, employees are more oriented and working towards having a good fit between their personal lives and professional lives. Even nowadays, some applicants in the course of making job applications consider whether the prospective workplace has WLB programs in place. Organizations that have measures and programs instituted to enable employees have good equilibrium between their work and personal lives are viewed to be better organizations than those without (Mas-Machuca et al., 2016). Employees working in organizations that recognize and ensure that there is a good harmony between career life and personal life, are more productive and satisfied (Greenhaus et al., 2003). When job satisfaction is achieved, employees then develop desirable attitudes and positive feelings towards their work.

This study is the first of its kind to attempt to examine whether there is a moderating role of WLB on the effect of job stress on job satisfaction or not. A survey of the literature indicates that most of the existing studies employed a bivariate approach to examine the relationships between these variables. This study is therefore important to the extent that it does not only fill the gap identified in the literature by introducing WLB as a moderator into the model but also adopts an approach that focuses on the three variables. The structure of the article is as follows; the first section presents a review on job stress, WLB and job satisfaction, accompanied by review of empirical findings on these variables. The next immediate section discusses the methodology of the study in detail. The subsequent section presents analysis and empirical results on the moderating role of WLB on the effect of job stress on job satisfaction. The final section touches on conclusion and managerial implications of the study.

## Review of Literature

This section entails conceptual review and discussion of empirical findings on the three study variables with an aim of hypothesizing.

### Job Stress

The prevalence of stress among employees has received considerable attention and interest for the past decades. A considerable amount of researchers from diverse fields such as psychology, management, medicine and sociology have made emphatic efforts to understand the nitty-gritty of job stress, its causes, consequences and techniques of managing it (Travers & Cooper, 1993). Researchers from these fields offer different perspectives and interpretations to the concept of stress and this arguably complicates the subject. Thus, the meaning of stress is different for different people under diverse circumstances. Perhaps, the first and the most concise and clear definition of stress is the one provided by Hans Hugo Bruno Selye (popularly referred to as father of stress). Selye (1973: 692) refers to stress as the unspecific reaction of the body to demands placed upon it. Stress focuses on how our body responds to physical and emotional conditions or events that place demands on it. These circumstances could be internal or external with the propensity of frightening, irritating or stimulating us. Stress takes place as the body makes effort to react to both internal and external stimuli. Stress in itself is not necessarily bad since it has the tendency of resulting in creativity, innovation and entrepreneurship. In the view of Kathirvel (2009) stress is the response exhibited by people as a result of undue pressure or other demands on them. It occurs when people are perturbed that they cannot deal with internal or external force placed on them.

Nowadays, work-related stress or job stress is of major concern among practitioners, employers and researchers. Job stress takes place in the event of an inequality between requirements of work and resources, needs and abilities of employees to fulfill demands on them. When there is a mismatch between people's abilities and the job demands, they tend to show response that can cause stress on them (Leka & Griffiths, 2003). Job stress encapsulates a sequence of psychological, behavioral and physiological reactions as a result of an ongoing impact of one or more stressors on employees in a business setting (Yan & Xie, 2016). It describes a person's response to some attributes at workplace that may be physically and psychologically frightening (Jamal, 2005). Job stress poses physical and mental impact on employees and could generate negative/positive feelings on them. Job stress can happen in a diverse range of situations. That is to say that, the causes or sources of job stress is broad in perspective of circumstances. Causes of stress could be broadly categorized into organizational, environmental and individual factors. The focus of this paper is on organizational factors as it talks about stress at workplace. Organizational factors that lead to stress among others include; poor job design, role conflict, goals ambiguity, too much workloads, poor

organizational structure, poor superior-employee relationship and lack of employees involvement in decision making. Leka and Griffiths (2003) opine that job stress could be worse when employees have less control on their jobs or how they can manage its pressures and when they have the feelings that their superiors and colleague employees give them small assistance towards their jobs.

Job stress has a broad range of effect on both individual employee and the organization. Job stress can result into employee absenteeism, low productivity, sleeplessness, depression, turnover and overall distraction of smooth functioning of the organization. Hussain et al. (2003) indicate that higher stress leads to lesser satisfaction, which results to intentions to quit work. Short-term products of job stress have behavioral and physiological impacts resulting in bad performance on job (Williams et al., 2001). Conversely, the right job stress can offer employees with positive vitality and enthusiasm to properly engage in the job with enhanced efficiency and effectiveness (Kenworthy et al., 2014; Chen et al., 2017). Stress can hardly be avoided or ignored so far as one is still alive and kicking. Even when a person is asleep, the body needs some energy to make sure that the organs function properly. People rather need to focus on how to apply some stress management techniques such as physical exercise, hypnosis, relaxation, meditation and effective time management to curb the negative consequences of stress while maximizing its merits.

## Work-Life Balance (WLB)

WLB is a broader concept in scope and more current in the literature than work-family conflict. The attention of many researchers and organizations is now on WLB so as to accommodate employees who are not parents and do not have responsibilities from dependents but aspire to find time to address their non-earning/personal activities such as learning, entertainment and embarking on trips. Work-family conflict deals with a sort of inter-role conflict that arises due to irreconcilable role pressures emanating from work and family domains (Yildirim & Aycan, 2008). Whereas, work-family balance characterizes satisfaction, happiness, fulfillment and efficient functioning at work and home with a least amount of role conflict (Clark, 2000).

It is logical for every employee to desire to have a good fit between their personal lives and work lives. Managing work and personal life is challenging and not as simple as it may seem to be. It is not surprising these days to see organizations instituting programs to help employees attain equilibrium between their private lives and professional lives, as doing so enhances employee performance, efficiency, loyalty and satisfaction in both personal and professional lives. As Karthik (2013) indicates, firms can use WLB programs to promote sustainability, decrease turnover and exhaustion level. Hence, putting measures in place to sustain a healthy balance between special and work life gives the chance for long-term benefits. A proper balance between professional and personal life provides a business firm with a

creative and effective employees (Greenhaus et al., 2003), while variation in the WLB could result in depressed, disgruntled and dissatisfied employees (Kofodimos, 1993).

Although, WLB as a concept has received too much attention and often discussed in recent times, it however, has no universally accepted definition. As Kalliath and Brough (2008) rightly point out that literature on WLB does not entail one obvious definition of the concept and full meaning of the concept is complex to be captured with a simple general measure. It appears that difficulty in getting a clear definition for the concept is due to its broad nature as it merges 'work', 'life' and 'balance'. Nonetheless, some existing definitions for WLB are explored. Dundas (2008) posits that WLB is about how people manage their paid work life and every other thing that is significant to them, such as voluntary activities, community and family issues, personal advancement and recreational activities. In the view of Kalliath and Brough (2008) WLB is how a person perceives work and non-work activities to be in harmony and assist progress in consistent with the person's present life priorities. Though, these two definitions emphasize the need for a harmony between professional activities and personal activities, a line of departure exists between them. The line of distinction between them is anchored on the fact that the latter definition extends its scope to capture the possibility of effective WLB leading to favourable growth and progress in the context of work and or non-work circumstances. Another explanation of WLB worth presenting here is that of Greenhaus et al. (2003), who describe it as the degree to which people are equally involved in and evenly satisfied with their job and family roles. The focus of this definition is on how people can attain equilibrium of satisfaction across multiple life roles. WLB is a desirable but tricky goal to achieve. It refers to the individual's perceptions of how properly work and non-work activities are compatible and are tackled in line with their personal value system, aims and ambitions (Casper et al., 2018). Thus, WLB deals with how personal life interacts or interferes with professional life to result in a good fit between the two. A good equilibrium between the two may be evident in quality of work not being deteriorated and life satisfaction of an individual enhanced. It is also invaluable to point out the fact that WLB is not something static for a long period of time. It is a concept that is dynamic and changes over time based on the circumstances or the needs of persons or business entities.

## Job Satisfaction

Empirical studies and investigation on job satisfaction can be traced back to 1935, where Robert Hoppock has written a groundbreaking book on the topic, followed by an article on job satisfaction of psychologists in 1937. He can well be credited as the pioneer of job satisfaction research. Another early researcher on the topic that comes to mind is Donald E. Super. Super (1939) assessed the link between job satisfaction and occupational level of 273 members of vocational groups in New York City. The deductions drawn from this study assisted and shaped the direction of future researchers on job satisfaction. Since then, several articles examining different facets of job satisfaction have been published (Judge et al., 2001).

Job satisfaction is a concept that concerns employees, employers and academicians. It is perhaps no wonder job satisfaction continues to receive incessant attention from these three parties, given the positive outcomes likely to result from it. Job satisfaction is basically a desirable feeling people have about their jobs emanating from their assessment of the features of the jobs. People tend to have positive or negative feelings about their work after they evaluate the characteristics of the job. According to Robbins and Judge (2016: 116) a person with less job satisfaction has negative feelings towards his/her job, whereas, a person with greater job satisfaction has positive feelings towards the work. Job satisfaction is a broader concept which is related to all or most attributes of the job and the working environment under which the employees are evaluated, rewarded, fulfilled and satisfied (Weiss, 2002). Some researchers use how employees perceive the rewards received from work done to explain job satisfaction. For instance Daehlen (2008) and Koh and Boo (2001) view the concept as the disparity between the amount of rewards employees receive and the amount they believe is due them. In this scenario, employees' satisfaction with the job is likely to be high if the reward received matches their expectations, values, needs and performance, as well as whether the reward is perceived fair, just and equitable. The nature of the job in general and expectations employees have on their jobs can determine whether a job could be satisfying or dissatisfying (Yiu & Lee, 2011). Job satisfaction can also be viewed in terms of it being a multidimensional concept encompassing different aspects of the job in relation to working hours, pay, professional opportunities, fringe benefits, organizational practices and relationship with colleague employees and superiors. Thus, job satisfaction is a variety of job facets (Friday & Friday, 2003). Job satisfaction refers to the general behavior employees have relating to their work. Those who are satisfied with their work exhibit positive attitudes towards their work, whilst those who are not display negative attitudes towards the work (Armstrong, 2006).

Job satisfaction or dissatisfaction has a number of ramifications that need to be given great attention in order to institute measures that will tackle its adverse side. The effect of job satisfaction or dissatisfaction can be looked at from the perspective of workforce or organization as a whole. On the part of employees, the focus is on how job satisfaction or dissatisfaction affects their psychological well-being, whereas, on the organization side, the concern is on how it influences efficient and effective functioning of the business entity. A critical evaluation of literature concerning job satisfaction signals a favorable relationship between job satisfaction and customer satisfaction, job performance and organizational citizenship behavior (Goode & Moutinho, 1995; Hoffman et al., 2007; Robbins & Judge, 2016). That is to insinuate that satisfied employees tend to be more productive, perform well on their job, engage in citizenship behavior and increase customer satisfaction. Job dissatisfaction on the other hand causes employees to indulge in counterproductive work behavior such as absenteeism, tardiness, gossiping and turnover. When people dislike or are not satisfied with their work they are inclined to engage in workplace misbehavior or deviant behavior that can potentially harm the

smooth functioning of the business (Riketta, 2008; Scroggins, 2008; Page & Vella-Brodrick, 2009). Therefore, employers or managers could center their attention on those factors that have demonstrated to be pleasant to high levels of job satisfaction. These factors encompass providing equitable rewards, allowing for participation in decision making process, providing challenging and scintillating work, good relations and building supportive working environment (Saari & Judge, 2004).

## Review of Empirical Findings on Job Stress, WLB and Job Satisfaction

In this part, first, empirical review findings for job stress and job satisfaction presented, followed by WLB and job satisfaction and the combined relationship between WLB, job stress and job satisfaction.

Job stress caused as a result of favoritism, cronyism and nepotism in the workplace has the propensity of increasing dissatisfaction among staff in an organization (Arasli & Tumer, 2008). In a study conducted by Keleş and Fındıklı (2016) to determine the effect and correlations among job satisfaction, job stress and intention to leave on employees in insurance sector in Istanbul, a significant negative relationship has found between job stress and job satisfaction. Goswami and Dsilva (2019) have also found negative influence of job stress on job satisfaction of employees working in Mumbai's hospitality sector. In a related research by Ahsan et al. (2009) on 300 academic staff of a public university in Malaysia, job stress is significantly negatively related to job satisfaction.

Business enterprises should offer their employees with WLB facilities to enable them to be more effective and productively perform their duties (Parvin & Kabir, 2011). Mas-Machuca et al. (2016) have conducted a study on the relationship of WLB with organizational pride and job satisfaction in Spanish pharmaceutical organization and have found WLB to be positively linked to job satisfaction. The results of a study by Hussein et al. (2016) on employees of Northern Rangelands Trust in Kenya have also revealed a strong positive relationship between WLB and job satisfaction. In another study done by Ueda (2012) on 2972 Japanese employees with the main purpose of ascertaining the influence of WLB programs on employee satisfaction, a significant positive effect of WLB programs on employee satisfaction has depicted.

It has been revealed in a study carried out by Saeed & Farooqi (2014) on 171 university teachers that there exists a relationship between WLB, job stress and job satisfaction. Specifically, the results of the study have showed a moderate positive relationship between WLB and job satisfaction and an insignificant relationship between job stress and job satisfaction. Kanwar et al. (2009) have also conducted a study on 313 respondents from IT and IT enabled services industries in New Delhi with the main aim of ascertaining the effect of WLB and burnout (prolonged job stress) on job satisfaction. The findings of the study reveal a positive

link between WLB and job satisfaction, while burnout is negatively related to job satisfaction. Also, an empirical research by Kazmi & Singh (2015) on a sample of 350 police personnel show a significant prediction of WLB and operational stress on job satisfaction. A deduction is made from a survey of the literature that there exists no empirical study about a moderating role of WLB on the effect of job stress on job satisfaction. This prompted the researchers to evaluate whether people with WLB may feel the effect of their job stress reduced in relation with their job satisfaction or not. Moderating role occurs when the size, sign, or strength of the relationship between an independent variable and a dependent variable depends on a third variable or can be predicted by that variable. In that sense, the third variable is considered to be a moderator of the independent variable's effect on the dependent variable or that the moderator and the predictor variable interact in their effect on the outcome variable (Hayes, 2017: 220).

## Methodology

The aim of this study is to establish the moderating role of WLB on the effect of job stress on job satisfaction of employees working in SMEs operating in Büsan Organized Industrial Zone in Konya, Turkey. Specifically, this study is limited to manufacturing SMEs in the area of automotive spare parts with the intention that the number of employees is higher than that of organizations in other sectors and also there is more work load density when compared to others. In order to achieve the research objective, quantitative analyses are employed.

### Model and Hypotheses of the Study

The kind of association between the dependent variable, the moderator and the independent variables is displayed diagrammatically in Figure 1 and 2 below.

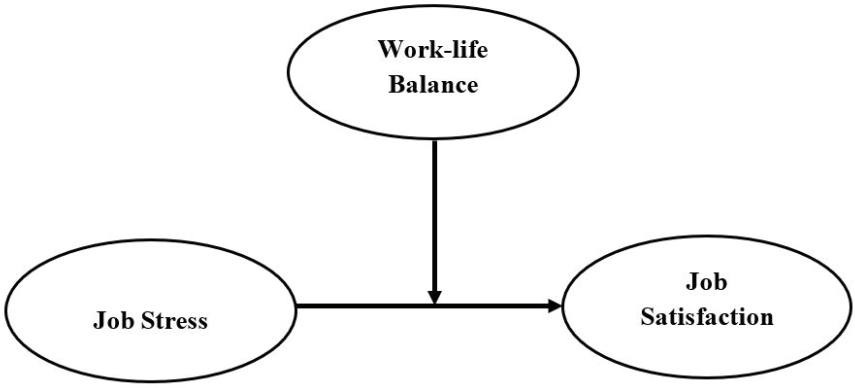


***Figure 1.*** Conceptual model of the study

Model 1 developed by Hayes (2017: 584) and its statistical structure is used to test the moderator effect. The statistical diagram of the model is presented in Figure 2.

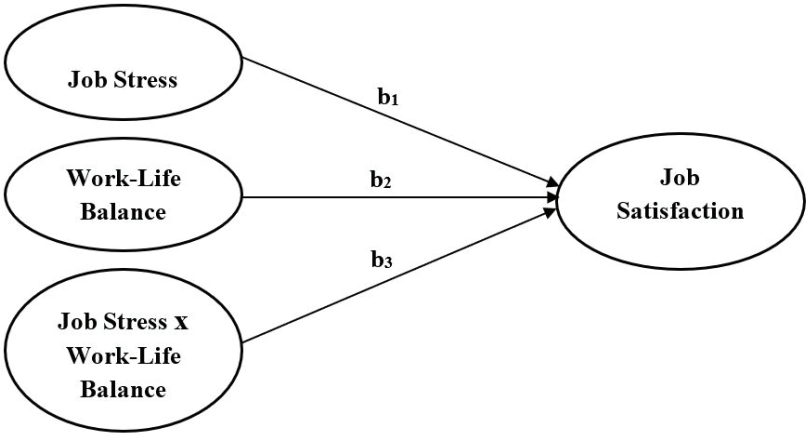


***Figure 2.*** Statistical diagram of the study
**Source:** Adapted from Hayes (2017)

The proposed conceptual model in Figure 1 and the statistical diagram of the study in Figure 2 are both inspired by Model 1 of Hayes (2017). In view of this, three hypotheses are developed and presented below.

**H1:** There is a significant negative effect of job stress on job satisfaction.

**H2:** Work-life balance has a significant positive effect on job satisfaction.

**H3:** Work-life balance has a moderating role on the effect of job stress on job satisfaction.

## Research Population and Sample

The research population is made up of employees working in automotive spare parts manufacturing SMEs in Büsan Organized Industrial Zone located in Konya. In total, ninety (90) manufacturing SMEs are included in the study. The whole number of people in these SMEs at the time of conducting this research stays at 1240. Information on the number of employees in each enterprise is derived from firms' manuals and face to face interactions. The study sample size is calculated by applying Yamane (1967) sampling formula ($n = N/(1+Ne^2)$), with 95% confidence interval and 5% error level. A sample size of 302 is found out to be required size through the application of the formula. So, 308 questionnaires received can be said to have the power to represent the main population.

In choosing the sample size, both purposive sampling and simple random techniques are used. The former sampling technique is used to choose the sector of focus of the study (Manufacturing SMEs), while the latter is used in selecting the employees who participated in the research. This sector is chosen with the intention that the number of employees is higher than that of other organizations in the area and also, there is more workload density when compared to.

## Data Collection Procedures and Measures

Questionnaires are administered as the main instrument of data collection. Three hundred and fifty (350) questionnaires are distributed to the respondents after an explanation of the aim of the study and how to fill the instrument. There are four main sections in the research questionnaires with a total of 46 questions. The first part is for collecting data on the demographic attributes of the respondents. The second and third parts are dedicated to the predictor variable and the moderator respectively. The last section contains questions concerning the outcome variable. A total of three hundred and eight (308) questionnaires are properly completed and received. This constitutes a total response rate of 88%. The remaining 12% are either unreturned ones or rejected due to incomplete responses.

A 7-item scale developed by House and Rizzo (1972) and translated into Turkish by Efeoğlu and Özgen (2006) is used to measure job stress. These items are measured using 5-point Likert type; starting from 1=Strongly Disagree to 5=Strongly Agree. The work-life balance scale consists of 13 items developed by Fisher (2001) and translated into Turkish Apaydın (2011) is adopted to measure WLB. The 13 items are measured on a 5-point Likert scale; starting from 1=Not at all to 5=Almost all of the time. The short form of Minnesota Satisfaction Questionnaire (MSQ) designed by Weiss, Dawis, and England (1967) is used to measure job satisfaction. This questionnaire form consists of 20 items and is translated by Baycan (1982) into Turkish. All the 20 items are adapted into the current study and measured on a 5-point Likert type; starting from; 1=Very Dissatisfied to 5=Very Satisfied.

## Analysis and Findings

The data gathered from the participants are analyzed using SPSS 23 program and Hayes PROCESS Macro v.3.4.1.

## Demographic Data of Respondents

The demographic data collected includes gender, age, marital status, educational level, job title and duration of work experience. The results are presented on Table 1.

Table 1
*Demographic Data*

| **Variables** | | **Frequency** | **Percent** |
|---|---|---|---|
| Gender | Male | 207 | 67.2 |
| | Female | 97 | 31.5 |
| | Missing | 4 | 1.3 |
| | Total | 308 | 100.0 |
| Marital Status | Married | 200 | 64.9 |
| | Single | 102 | 33.1 |
| | Missing | 6 | 1.9 |
| | Total | 308 | 100.0 |
| Age | Below 21 years | 9 | 2.9 |
| | 21-30 | 127 | 41.2 |
| | 31-40 | 114 | 37.0 |
| | 41-50 | 45 | 14.6 |
| | 51-60 | 5 | 1.6 |
| | Above 60 years | 1 | 0.3 |
| | Missing | 7 | 2.3 |
| | Total | 308 | 100.0 |
| Educational Level | Primary Sch. | 24 | 7.8 |
| | Middle Sch. | 38 | 12.3 |
| | Senior High Sch. | 79 | 25.6 |
| | Vocational High Sch. | 31 | 10.1 |
| | Associate Degree | 42 | 13.6 |
| | Degree | 85 | 27.6 |
| | Master's Degree | 8 | 2.6 |
| | Doctorate | 1 | 0.3 |
| | Total | 308 | 100.0 |
| Job Position | Owner/Partner | 14 | 4.5 |
| | Gen. Manager/Assistant Gen. Manager. | 9 | 2.9 |
| | Supervisor/Foreman | 42 | 13.6 |
| | Department/Unit/Assistant Department Manager | 27 | 8.8 |
| | Employee/Officer | 198 | 64.3 |
| | Other | 17 | 5.5 |
| | Total | 308 | 100.0 |
| Overall Years of Work Experience | Less than 1 year | 6 | 1.9 |
| | 1-5 | 75 | 24.4 |
| | 6-10 | 101 | 32.8 |
| | 11-15 | 66 | 21.4 |
| | 16-20 | 25 | 8.1 |
| | Above 20 years | 35 | 11.4 |
| | Total | 308 | 100.0 |

It is obvious from Table 1 that a large portion of the respondents are male representing 67.2% and 64.9% of the participants also indicated they are married. In the age group category, majority of the respondents are 21-30 and 31-40 age groups with 41.2% and 37% respectively. On educational level, greater parts of the participants are bachelors' degree holders and

senior high school graduates with 27.6% and 25.6% respectively. In terms of job position, majority (64.3%) of them indicated they are employees, followed by 13.6% of them occupying the position of a supervisor/foreman. A large percentage (32.8%) of the participants has total working experience ranging from 6-10 years.

## Assessment of Scale Reliability

The scales used in this study are subjected to reliability and validity tests by previous researchers (Weiss, et al., 1967; House & Rizzo, 1972; Baycan, 1982; Fisher, 2001; Apaydın, 2011). In an attempt to find out how reliable and valid these scales are in the case of this study too; the necessary reliability and validity tests are performed. The overall reliability result of all the items used in this study in their respective scales is presented on Table 2 below.

Table 2
*Reliability Test*

| Scale | Measurement Interval | Number of Items | Cronbach Alpha Value |
|---|---|---|---|
| **Job Stress** | 5-point Scale | 7 | 0.835 |
| Dimension 1 | | 3 | 0.803 |
| Dimension 2 | | 3 | 0.788 |
| **Work-Life Balance** | 5-point Scale | 13 | 0.932 |
| Dimension 1 | | 4 | 0.931 |
| Dimension 2 | | 5 | 0.926 |
| Dimension 3 | | 3 | 0.867 |
| **Job Satisfaction** | 5-point Scale | 20 | 0.896 |
| Dimension 1 | | 7 | 0.850 |
| Dimension 2 | | 7 | 0.893 |
| Dimension 3 | | 5 | 0.851 |

**Notes**: (i) In the job stress scale, the 7th item "I often 'take my job home with me' in the sense that I think about it when doing other things" has been removed. The scale is evaluated with a total of 6 items. (ii)The item "My job gives me energy to pursue personal activities" has been eliminated from the WLB scale. The scale is evaluated with a total of 12 items. (iii) In the job satisfaction scale, the 15th item "The freedom to use my own judgment" has been removed from the scale. The scale is evaluated with a total of 19 items. These items are removed from their respective scales due to the fact that their corrected-item total correlations are less than 0.5. These eliminated items are also not included in all subsequent analyses of this study.

The above Table 2 demonstrates that the Cronbach alpha values of all the scales used are beyond the ideal point of 0.7. Therefore, it can be said that the internal stability and consistency of the scales used are adequate.

## Validity Test and Descriptive Statistics

For the purpose of determining the validity of the scales used, a varimax rotation principal component factor analysis is applied. The results of factor analysis for job stress are presented on Table 3 below.

Table 3
*Factor Analysis of Job Stress Scale*

| | **Scale Items** | **1** | **2** |
|---|---|---|---|
| Job Tension | My job tends to directly affect my health. | 0.839 | |
| | I work under a great deal of tension. | 0.826 | |
| | I feel fidgety or nervous because of my job. | 0.772 | |
| Work Anxiety | If I had a different job, my health would probably improve. | | 0.632 |
| | Problems associated with work have kept me awake at night. | | 0.852 |
| | I feel nervous before attending meetings held in my company. | | 0.874 |
| | **Eigenvalue** | **3.298** | **1.024** |
| | **Variance Explained (%)** | **37.776** | **34.750** |
| | **Cronbach Alpha** | **0.803** | **0.788** |
| | **Total Variance (%)** | **72.026** | |

Note: (i) Varimax rotation principal component factor analysis (ii) KMO: 0.809, Bartlett test = 710.825, df = 15; P<0.001

As displayed on Table 3, the results of the principal component factor analysis reveal two dimensions of job stress. Dimension 1 explains a total variance of 37.776%, dimension 2 explains a total variance of 34.750% and total variance on job stress that can be explained by these two dimensions is 72.026%. The eigenvalues of the items are greater than 1 and all factor loadings are greater than 0.50. However, the dimensions of the factor structure (job tension and work anxiety) found on the job stress scale in this study differs from that of some others (Mengenci, 2015; Deveci & Avcıkurt, 2017), that found it as a one-factor structure.

Table 4 below presents descriptive evaluation of the participants' job stress level.

Table 4
*Respondents View on their Job Stress (Jstr) Level*

| **Scale Items** | **Mean** | **Std. Deviation** |
|---|---|---|
| Jstr_1 | 3.12 | 1.25 |
| Jstr_2 | 2.88 | 1.22 |
| Jstr_3 | 2.80 | 1.15 |
| **Job Tension** | **2.93** | **1.02** |
| Jstr_4 | 2.87 | 1.17 |
| Jstr_5 | 3.23 | 1.29 |
| Jstr_6 | 3.04 | 1.24 |
| **Work Anxiety** | **3.05** | **1.04** |
| **Total Job Stress** | **2.99** | **0.902** |

Note: (i) n=308 (ii) Based on Friedman's two-way Anova test $\chi^2$=120,908; p<0,001, the results are statistically significant.

The above Table 4 shows the average value (mean) of responses to the questions on the job stress scale. When the table is examined, the dimensions of job stress; job tension and work anxiety have means of 2.93 and 3.05 respectively. The overall job stress mean is 2.99. This result implies that the respondents' level of job stress is moderate or average on a 5-point likert scale.

The scale used to measure WLB is also subjected to a varimax rotation principal component factor analysis. The results of factor analysis on this scale are shown on Table 5 below.

Table 5
*Factor Analysis of Work-Life Balance Scale*

| | | Scale Items | 1 | 2 | 3 |
|---|---|---|---|---|---|
| | Personal Life Interference with Work | I have difficulty getting my work done because I am preoccupied with personal matters. | 0.753 | | |
| | | My personal life drains me of the energy I need to do my job. | 0.775 | | |
| | | I am too tired to be effective at work because of things I have going on in my personal life | 0.779 | | |
| | | My work suffers because of everything going on in my personal life. | 0.812 | | |
| | | When I am at work, I worry about things I need to do outside of work. | 0.793 | | |
| | Work Interference with Personal Life | I often neglect my personal needs because of the demands of my work. | | 0.804 | |
| | | I have to miss out on important personal activities because of my work. | | 0.827 | |
| | | My job makes it difficult to maintain the kind of personal life I would like. | | 0.818 | |
| | | Put personal life on hold for work. | | 0.758 | |
| Work/ Personal Life En-hance-ment | | Better mood at work because of personal life. | | | 0.850 |
| | | Because of my job, I am in a better mood at home. | | | 0.821 |
| | | My personal life gives me the energy to do my job. | | | 0.750 |
| | | **Eigenvalue** | **7.452** | **1.144** | **1.045** |
| | | **Variance Explained (%)** | **31.728** | **27.969** | **20.649** |
| | | **Cronbach Alpha** | **0.931** | **0.926** | **0.867** |
| | | **Total Variance (%) 80.346** | | | |

Note: (i) Varimax rotation principal component factor analysis (ii) KMO: 0.929, Bartlett test = 3135.192, df = 66; P<0.001

As shown in Table 5, the results of the factor analysis corroborate the three dimensions of WLB. Dimension 1 explains a total variance of 31.728%, dimension 2 explains a total variance of 27.969%, dimension 3 explains a total variance of 20.649%, and total variance on WLB that can be explained by these three dimensions is 80.346%. All the factor loadings are very well beyond 0.50 and their eigenvalues are greater than 1. The three-factor structure found on this scale in the present study is similar to what is discovered by other studies (Fisher, 2001; Hayman, 2005; Erben & Ötken, 2014).

A descriptive evaluation of the participants' WLB is presented on Table 6.

Table 6 above shows the average of the responses to the questions on the WLB scale. When the table is examined, the dimensions of WLB; work interference with personal life (3.26), personal life interference with work (2.72) and work/personal life enhancement (3.29) is seen. In general, it can be said that the total WLB of the participants is above average level on a 5-point likert scale as shown by the overall mean of 3.13.

A varimax rotation principal component factor analysis is also applied on the job satisfaction scale. The findings on this scale are presented on Table 7 below.

Table 6
*Respondents View on their Work-Life Balance (WLB) Level*

| Scale Items | Mean | Std. Deviation |
|---|---|---|
| WLB_1 | 3.22 | 1.37 |
| WLB_2 | 3.28 | 1.35 |
| WLB_3 | 3.10 | 1.36 |
| WLB_4 | 3.09 | 1.38 |
| **Work Interference with Personal Life** | **3.26** | **1.29** |
| WLB_5 | 2.79 | 1.35 |
| WLB_6 | 2.89 | 1.43 |
| WLB_7 | 2.79 | 1.44 |
| WLB_8 | 2.61 | 1.43 |
| WLB_9 | 2.68 | 1.38 |
| **Personal Life Interference with Work** | **2.72** | **1.28** |
| WLB_10 | 3.29 | 1.34 |
| WLB_11 | 3.14 | 1.39 |
| WLB_12 | 3.49 | 1.40 |
| **Work/Personal Life Enhancement** | **3.29** | **1.25** |
| **Total Work-Life Balance** | **3.13** | **1.14** |

Note: (i) n=308 (ii) According to the Friedman's two-way Anova test $\chi^2$=388,161; p<0,001, the results are statistically significant.

Table 7
*Factor Analysis of Job Satisfaction Scale*

| | Scale Items | 1 | 2 | 3 |
|---|---|---|---|---|
| Intrinsic Job Satisfaction | The way my job provides for steady employment. | 0.749 | | |
| | The chance to do things for other people. | 0.655 | | |
| | The chance to tell people what to do. | 0.743 | | |
| | The chance to do something that makes use of my abilities | 0.787 | | |
| | The way company policies are put into practice | 0.801 | | |
| | My pay and the amount of work I do. | 0.757 | | |
| | The chances for advancement on this job. | 0.745 | | |
| General Job Satisfaction | Being able to keep busy all the time. | | 0.790 | |
| | The chance to work alone on the job. | | 0.735 | |
| | The chance to do different things from time to time. | | 0.636 | |
| | The chance to be "somebody" in the community. | | 0.730 | |
| | The way my boss handles his/her workers. | | 0.748 | |
| | The competence of my supervisor in making decisions. | | 0.677 | |
| | Being able to do things that don't go against my conscience. | | 0.630 | |
| Extrinsic Job Satisfaction | The chance to try my own methods of doing the job | | | 0.718 |
| | The working conditions. | | | 0.709 |
| | The way my co-workers get along with each other | | | 0.784 |
| | The praise I get for doing a good job | | | 0.780 |
| | The feeling of accomplishment I get from the job. | | | 0.715 |
| | **Eigenvalue** | **6.726** | **2.801** | **1.695** |
| | **Variance Explained (%)** | **22.576** | **19.740** | **16.742** |
| | **Cronbach Alpha** | **0.850** | **0.893** | **0.851** |
| | **Total Variance (%)** | | **59.058** | |

Note: (i) Varimax rotation principal component factor analysis (ii) KMO: 0.879, Bartlett test = 2921.026, df = 171; P<0.001

As shown on Table 7, three dimensions of job satisfaction are revealed from the principal component factor analysis. Dimension 1 explains a total variance of 22.576%, dimension 2 explains a total variance of 19.740%, dimension 3 explains a total variance of 16.742%, and total variance on job satisfaction that can be explained by these three dimensions is 59.058%. The three-factor structure discovered in this study concurs with that of Tan & Hawkins (2000) who also reports a 3-factor structure of the scale.

Table 8 below presents a descriptive assessment of the respondents' job satisfaction level.

Table 8
*Participants View on their Job Satisfaction (Jsat) Level*

| Scale Items | Mean | Std. Deviation |
|---|---|---|
| Jsat_1 | 3.47 | 0.99 |
| Jsat_2 | 3.53 | 0.98 |
| Jsat_3 | 3.66 | 1.01 |
| Jsat_4 | 3.69 | 1.00 |
| Jsat_5 | 3.53 | 1.05 |
| Jsat_6 | 3.46 | 1.04 |
| Jsat_7 | 3.49 | 0.99 |
| **General Job Satisfaction** | **3.55** | **0.73** |
| Jsat_8 | 3.60 | 0.95 |
| Jsat_9 | 3.72 | 0.93 |
| Jsat_10 | 3.63 | 0.95 |
| Jsat_11 | 3.75 | 1.01 |
| Jsat_12 | 3.46 | 1.09 |
| Jsat_13 | 3.32 | 1.14 |
| Jsat_14 | 3.36 | 1.13 |
| **Intrinsic Job Satisfaction** | **3.55** | **0.80** |
| Jsat_16 | 3.70 | 1.00 |
| Jsat_17 | 3.40 | 1.13 |
| Jsat_18 | 3.63 | 1.14 |
| Jsat_19 | 3.51 | 1.12 |
| Jsat_20 | 3.84 | 1.06 |
| **Extrinsic Job Satisfaction** | **3.62** | **0.86** |
| **Total Job Satisfaction** | **3.57** | **0.61** |

Note: (i) n=308 (ii) Based on Friedman's two-way Anova test $\chi^2$=196,899; p<0,001, the results are statistically significant.

Table 8 above shows the average value of responses given to the questions on job satisfaction scale. When the table is examined, the dimensions of job satisfaction; general job satisfaction, intrinsic job satisfaction and extrinsic job satisfaction have means of 3.55, 3.55 and 3.62 respectively. The overall job satisfaction mean is 3.57. This indicates that the respondents' level of job satisfaction is above average on a 5-point likert scale.

## Correlation Analysis

The nature of relationship that exists among the study variables is established through Pearson's correlation coefficient. The results of the correlation analysis are displayed on table 9.

Table 9
*Correlation Results*

| Variable | Job Stress | Work-Life Balance | Job Satisfaction |
|---|---|---|---|
| Job Stress | 1 | | |
| Work-Life Balance | -0.041<br>0.469 | 1 | |
| Job Satisfaction | -0.250**<br>0.000 | 0.502**<br>0.000 | 1 |

** Cor. is significant at 0.01 level (2-tailed). n = 308

It is apparent from correlation matrix above that there is a statistically insignificant weak negative relationship between job stress and WLB. Results of previous studies support the negative relationship between these two variables (see Sirajunisa & Panchanatham, 2010; Bell, et al., 2012). Furthermore, a statistically significant low negative relationship between job stress and job satisfaction is found. This finding concurs with those in the literature (see Ahsan et al., 2009; Keleş & Fındıklı, 2016). It can also be deduced from the same table that the relationship between WLB and job satisfaction is a statistically significant moderate positive relationship. This result shows a good congruence with existing findings in the literature (see Kanwar, et al., 2009; Saeed & Farooqi, 2014; Mas-Machuca, et al., 2016).

## Findings Relating to the Hypotheses of the Research

This section presents inferential statistics on hypotheses testing. In an attempt to determine the effect of job stress on job satisfaction, the following linear regression analysis is carried out. Prior to this, the regression model below is proposed.

Where $b_0$ is the constant value and $\epsilon$ is the error term, which is valid in classical regression assumptions.

Table 10
*Regression Results of the Effect of Job Stress on Job Satisfaction*

| Dependent Variable | Adjusted $R^2$ | Independent Variable | B | Std. Error | t | F |
|---|---|---|---|---|---|---|
| Job Satisfaction | 0.059 | Constant | 4.074 | 0.117 | 34.722* | 20.367* |
| | | Job Stress | -0.170 | 0.038 | -4.513* | |

Note: *p<0.001.

From Table 10 above, an adjusted $R^2$ of 0.059 implies that 5.9% of the variances in job satisfaction can be explained by job stress. An F value (degree of significance of the regression model) of 20.367, t-value of -4.513, beta value of -0.170 and a p-value of 0.00 clearly indicate that the model is significant. These results support the first hypothesis which states that "There is a significant negative effect of job stress on job satisfaction". Consequently, **H1**

is accepted based on the results. This result coincides with findings of other researchers in the literature (Ahsan et al., 2009; Bemana et al., 2013; Goswami & Dsilva, 2019).

The following linear regression analysis is carried out to assess the effect of WLB on job satisfaction. The regression model below is first proposed.

Table 11
*Regression Results for the Effect of WLB on Job Satisfaction*

| Dependent Variable | Adjusted $R^2$ | Independent Variable | B | Std. Error | t | F |
|---|---|---|---|---|---|---|
| Job Satisfaction | 0.249 | Constant | 2.722 | 0.089 | 30.730* | 102.904* |
| | | WLB | 0.270 | 0.027 | 10.144* | |

Note: *p<0.001.

From a statistical point of view, the proposed model is significant (p<0.001). According to the results of the regression analysis displayed on table 11, an $R^2$ value (percentage of explained variance), F statistic, t-value and the B value clearly reveal that WLB has a significant positive effect on job satisfaction. On the basis of this result, **H2** is also accepted. The findings of the current study concurs with that of literature (Kanwar, et al., 2009; Saeed & Farooqi, 2014; Mas-Machuca et al., 2016).

To determine the moderating role of WLB on the effect of job stress on job satisfaction, Hayes (2017: 220) moderation statistical method is employed. The moderation model and the results of the moderator analysis are shown below.

$$Job\ Satisfaction = b_0 + b_1\ Job\ Stress + b_2\ WLB + b_3\ Job\ Stress \times WLB + \varepsilon \quad .....3$$

Table 12
*Regression Results of Moderating Role of Work-Life Balance*

| Dependent Variable | $R^2$ | Variables | B | Std. Error | t | F | P |
|---|---|---|---|---|---|---|---|
| Job Satisfaction | 0.31 | Constant | 2.91 | 0.29 | 10.008* | 44,91* | 0.00 |
| | | Job Stress | -0.06 | 0.09 | -0.59 | | 0.55 |
| | | WLB | 0.35 | 0.08 | 4.27* | | 0.00 |
| | | Job Stress × WLB | -0.03 | 0.03 | -1.12 | | 0.26 |

Note: *p<0.001.

As seen from Table 12 above, the overall model is significant (p<0.001). However, the interaction term (product of job stress and WLB) is found out not to be statistically significant. Its beta value of -0.03, t-value of -1.12 and p-value of 0.26 clearly depict that the interaction effect is not statistically significant. This implies that the effect of job stress on job satisfaction does not depend on WLB. Hence, WLB does not have a moderating role on the effect of job stress on job satisfaction in this study. Based on this result, **H3** is rejected. Therefore, no further investigation or probe of the interaction effect was conducted.

## Conclusion and Managerial Implications of the Study

The consequences that job stress poses on employees and organization in terms of its negative impact on productivity, effectiveness, safety, health, job satisfaction, among others call for high premium to be placed on it by creating congenial organizational climate and instituting workable stress management techniques so as to alleviate its ramifications. A good fit between employees' personal and professional lives having the propensity to affect their job satisfaction demands measures for enhancing WLB.

This study is conducted to determine the moderating role of WLB on the effect of job stress on job satisfaction of people working in manufacturing SMEs operating in Büsan Organized Industrial Zone in Konya, Turkey. In the descriptive analyses and evaluations, it is generally observed that the participants' level of job stress is moderate while their WLB and job satisfaction levels are a little above average. Based on the results of inferential statistical analyses, it is concluded that job stress has a statistically significant negative effect on employees' job satisfaction and weak negative relationship exists between them. In addition, the findings of this study reveal WLB having a statistically significant positive effect and relationship with job satisfaction. Furthermore, WLB is found not to have a moderating role on the effect of job stress on job satisfaction. This result implies that without WLB, job stress can influence or affect job satisfaction. In other words, the impact of job stress on job satisfaction is not dependent on WLB. Thus, the moderator (WLB) and the predictor variable (job stress) do not interact in their effect on the outcome variable (job satisfaction). In general, on the face of the empirical findings obtained, the first and second hypotheses are accepted and the third hypothesis is discarded. The reason may well be that job stress experienced by employees is such an intense feeling that once it is experienced it may not be irremediable in terms of job satisfaction even if the employees have found a balance between their work and life.

The findings of the study have relevant implications for policy makers of SMEs in their pursuit to increase employees' job satisfaction at workplace. On the premise of the above results, there is the need for policy makers/managers of SMEs to institute stress management techniques that could curtail the negative consequences of employees' job stress while maximizing its merits. Having a work environment that provide and encourage employees to practise or participate in measures such as physical exercise, outdoor activities, cognitive restructuring, hypnosis, relaxation, meditation and effective time management shall be a crucial option for organizations. Also, formulation of policies or strategies that will enable employees to have a good equilibrium between their work and personal lives are required. This could be realized through implementation of flexible work arrangements such as job sharing, part-time, telecommuting, flexible work hours, among others. In brief, the findings of this study will help create the awareness of managers and policy makers on the consequences of job stress and on the need to assist employees have a balance between their personal and professional lives thereby leading to job satisfaction.

## Limitations

It cannot be declared that the current study is free of certain limitations. This study is restricted to only spare parts manufacturing SMEs operating in Konya, Turkey. Hence, it is not clear to what degree one can generalize the findings of this study to other institutions across the country and elsewhere. Consequently, it is proposed that future researchers should focus on other kind of institutions in varying sectors. Besides, the current study did not make use of mediating variable(s) in the conceptual model but rather a moderating variable, it is therefore an avenue for future researchers to add other related variables and examine their effects on job satisfaction.

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RESEARCH ARTICLE

# Identification and Evaluation of the Ways of Meeting Patients' Expectations from a Hospital: An AHP-Weighted QFD Case Study In A Pediatric Hospital

**N. Özgür Doğan[1], Hazal Akbal[2]**

**Abstract**

The purpose of this study is to determine the expectations of pediatric patients from a hospital and find out feasible solutions to address these expectations. In accordance with this purpose, an AHP-weighted QFD case study was carried out in a pediatric hospital in Turkey. In order to determine the expectations of pediatric patients; face-to-face and semi-structured interviews were used and the natural environment of the hospital was observed in many different times. Expectations of the children constituted the left part of the House of Quality (HoQ) of QFD and were weighted using the AHP. Then, technical requirements offering solutions to expectations of children were defined, other parts of the house were added and the whole HoQ was completed. The results show that, from the children's point of view, accommodation services was found as the most important factor and arrangement of the patient rooms as the most important sub-factor. All remaining factors and sub-factors were also evaluated and prioritized. It is hoped that this study can contribute to the related literature and the QFD model developed in the study can be taken as an example by similar and/or different hospitals. Finally, the limitations of this study and future research directions are outlined.

**Keywords**

Analytic hierarchy process; quality function deployment; pediatric hospital; patient provider communication; patient expectations

## Introduction

There are many different health institutions actively involved in the delivery of health services. In order for these health institutions to increase their market share and survive against their competitors, they need to be able to respond to the needs and expectations of service buyers. People who purchase health services want to leave the health institution happily and having a successfully completed treatment in hand. Apart from the medical services to be provided to the patient during the treatment period; communication with the patient, cleanliness of the place security, nutrition, and physical conditions will also affect the health status of her/him. Each patient doesn't leave health institution with the same level of satisfaction.

1 N. Özgür Doğan (Doç. Dr.), Nevşehir Hacı Bektaş Veli Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Nevşehir, Türkiye. E-posta: nodogan@nevsehir.edu.tr ORCID: 0000-0002-7892-1550

2 **Corresponding author:** Hazal Akbal (Öğr. Gör.), Niğde Ömer Halisdemir Üniversitesi, Zübeyde Hanım Sağlık Hizmetleri MYO, Niğde, Türkiye. E-posta: hazalakbal@ohu.edu.tr ORCID: 0000-0002-5129-9773

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While a patient may experience dissatisfaction with nutritional services, another patient may be satisfied with these services and perhaps dissatisfied with the communication styles of health personnel. This issue is especially important in pediatric hospitals. Children who receive services from health institutions have different behavioral structures when compared with adults and therefore they require a more sensitive approach. Every child applying to the health institution can be happy and comfortable by getting rid of the fears about the illness process and this will contribute to meet the demands and expectations of the pediatric patients and provide a better-quality service.

As mentioned in the above paragraphs, children are different from adults and this issue must also be considered while delivering healthcare services to them. According to World Health Organization, a child is a human being under the age of 18 (World Health Organization, 2019). In 2017, population of Turkey is 80,8 million and children constitute 22,8 million of this population, which corresponds to 28,3 % of the total (Turkish Statistical Institute, 2018). If we look at the world's population; in 2017, total population is 7,6 billion and children constitute 26 % of this total (United Nations, 2017). Their behavioral sensitivities and high population size explain the importance of focusing on children.

Children who receive services from health institutions have different behavioral structures when compared with adults and therefore they require a more sensitive approach. Children's needs and expectations are different than adults. These needs and expectations are also different for health services. However, many healthcare providers ignore this distinction and they treat pediatric patients as adults.

The aim of this study was to determine the expectations of pediatric patients from a hospital and to identify the way of meeting these expectations. In accordance with this purpose, AHP and QFD techniques were used. The reason for using the AHP method is that it presents problems hierarchically. Thus, multi-dimensional problems are reduced to one dimension. The AHP method was used for determining the importance degrees of the wishes of pediatric patients and their prioritization. AHP is a method that needs the opinions of the decision makers. Therefore, AHP is the most appropriate method as the study is designed from a children's point of view. OFD is a particularly effective method in the transformation of the customer wants into the technical requirements. Some healthcare providers ignore children's expectations and requests from the hospital or it cannot correctly understand and convey the wishes of children. The QFD method has been used to design a hospital that will make children happy by listening to children's voices.

The study was conducted in a pediatric hospital in the Niğde province of Turkey. In order to determine the expectations of pediatric patients, traditional techniques such as face to face interview, observation, and semi-structured interview were used and, in addition to these techniques, expert opinions were obtained. In order to achieve the goal of fulfilling the

patient expectations, all factors and sub-factors were also evaluated and prioritized. The results show that from the children's point of view, accommodation services were found as the most important factor and arrangement of the patient rooms as the most important sub-factor. According to findings, these two factors were found as fulfilling the expectations of children from the hospital: "redesigning patient rooms (e.g.: coloring and painting the walls)" and "building a bookshelf in each patient room".

The rest of this study is organized as follows. Section 2 reviews the literature. Section 3 discusses the methodology. Section 4 presents the findings. Finally, Section 5 concludes.

## Literature Review

When it comes to talking about the match between the customers' demands and the product or service providers' supplies, perhaps the first method that comes to mind is the Quality Function Deployment (QFD). The OFD is particularly effective on the transformation of the customer wants into the technical requirements. According to Chan and Wu (2002), QFD is a concept defined as a tool that transforms customer needs into product development and production with appropriate technical requirements at every stage of production.

The QFD method has also been used in healthcare sector. It seems that this method has been started to be applied in various fields of healthcare institutions, specifically hospitals. Product development (Hu & Yeh, 2011; Khare & Sharma, 2013; Shih & Chen, 2013), designing a medical diagnostic scale (Shuo, Lee & Huang, 2009), health infrastructure design (Dehe & Bamford, 2017), health system design (Gonzales, et al., 2006; Ahmed, Islam & Al-wahaibi, 2006; Yang & Kim, 2013), the quality of health sites (Chang & Kim, 2010), and the quality of health education (Chou, 2004) are among the applications in the related literature. Since this study focuses on expectations of patients, the literature about the studies with the QFD method addressing patient needs and expectations are summarized in a detailed way in Table 1.

Also, the literature on the AHP for pediatric services is included in listed below Table 2.

In this study, expectations of children from a pediatric hospital were tried to be determined and potential solution alternatives to meet these expectations were identified. This study differs from previous studies in that the research was carried out in a pediatric hospital and with pediatric patients. Therefore, it is expected that this study may contribute to the related literature and shed light on the future studies focusing on pediatric patients and/or pediatric hospitals.

Table 1
*The Literature Review About the Studies with QFD Method Addressing Patient Needs and Expectations*

| Authors | Scope and Aim | Prominent Expectations |
|---|---|---|
| Radharamanan & Godoy, 1996 | Determining how to meet patient needs in the University Hospital at Santa Maria (UHSM). | -rapid response<br>-appropriate treatment<br>-appropriate counseling service |
| Einspruch, Omachonu & Einspruch, 1996 | The purpose of this study was to discuss the application of the QFD process to rehabilitation in a US rehabilitation center. | -to the need to get well<br>-ease of referrals |
| Doğan & Arıcan, 2008 | Determining customer expectations in pharmaceutical industry at Turkey. | -the drug should not put the patient to sleep<br>-quick effect<br>-long effect<br>-low side effect<br>-ease of use. |
| Chiou, & Cheng, 2008 | Identifying customer needs at Taiwan health service. | -convenience<br>-cleanliness<br>-physician care |
| Yapraklı & Güzel, 2010 | Finding the ways of meeting patient expectations at special medical centers in Erzurum. | -staff training and civility<br>-treatment pays<br>-easy access to the results of patients |
| Kuo, Wu, Hsu & Chen, 2010 | Evaluating the quality of outpatient services for elderly patients at Taiwan. | -professional medical care services<br>-sufficient knowledge to answer patients' questions<br>-fast services<br>-providing proper medical equipment to patients |
| Aktepe, et al., 2011 | Redesigning hospital services by determining customer needs and requirements at a University Hospital in Turkey. | -reliability<br>-physical characteristics<br>-assurance |
| Chou, et al., 2014 | Investigating new approaches to evaluate medical service gap between current service state and customer expectations at medical centers in Taiwan. | -redesign hospital transportation and parking area<br>-medical staff's manner<br>-block out irrelevant persons<br>-patients' privacy |
| Hashemi, Marzban & Delavari, 2015 | İmproving the quality of services in a chemotherapy unit services of Nemazee Hospital in Iran. | -access,<br>-suitable hotel services<br>-satisfactory and effective relationships<br>-clinical services. |
| Kıdak, Arslan & Burmaoğlu, 2016 | Determining the needs and expectations of patients about health services at a state hospital in Izmir. | -improvement of inspection system<br>-development of appointment system<br>-giving communication and behavior training to doctors |
| Ariani, Napiyani & Wijaya, 2017 | Identifying priority needs of customer and staff to improve the quality of service at Blahbatuh II Health Centre in Endonezya. | -friendly staff<br>-fast and timely service<br>-effective treatment<br>-performance-based reward system<br>-a staff training program for the health center |
| Gündoğdu & Görener, 2017 | Focusing on patient expectations for the blood-taking process in a private hospital at Turkey. | -expert personel<br>-providing training for healthcare workers<br>-having a visual processing scheme |

Table 2
*The Literature on the AHP for Pediatric Services*

| Authors | Scope and Aim | Prominent Expectations |
|---|---|---|
| Hancerliogullari, Hancerliogullari & Koksalmis, 2017 | Determining the most suitable anesthesia method for circumcision surgery in pediatric surgery. | -convenience<br>-reliability<br>-duration<br>-psychology |
| Faggiano et al., 2017 | To evaluate different type and manufacturers of intensive care ventilators in order to support the healthcare decision-making process about the choice to adopt the best available technology for ventilation of pediatric patient in intensive care units at Bambino Gesù Children's Hospital. | -feasibility<br>-safety<br>-efficacy<br>-costs<br>-organizational characteristics<br>-technical characteristics of the technology |
| Antmen & Minç, 2018 | To selection of ventilator in a child intensive care unit of a hospital in Adana county. | -being suitable for the child<br>-mode<br>-battery<br>-to make different measurements<br>-maneuver<br>-ease of use<br>-maintenance |
| Yu et al., 2018 | To developed an evidence-based pediatric drug evaluation model. | -effectiveness<br>-safety<br>-applicability<br>-economics<br>-pharmaceutical characteristics |
| Di Mauro et al., 2019 | To evaluate the best intensive care ventilator manufacturers out in different pediatric intensive care units of Bambino Gesù Children's Hospital. | -clinical<br>-technical<br>-organizational<br>-economic<br>-safety domain |
| Lin et al., 2020 | Establish indicator system for evaluation of rational drug use in children with primary nephrotic syndrome. | -importance,<br>-accessibility,<br>-degree of familiarity, and<br>-the evidence of judgment. |

## Materials and Methods

The population of the study consisted of children aged 7-12 who came to the additional service building of the Niğde Pediatric Hospital. In order to determine the expectations of pediatric patients, face-to-face interviews and semi-structured interviews were used. Since we had difficulty finding a data collection procedure from previous studies on this subject, we tried to develop a data collection tool (Appendix 1). The data of the study were collected by using the expectation measurement criteria in Appendix 1 for determining the expectation of pediatric patients from the pediatric hospital. These expectations criteria were transformed into technical characteristics with the help of the AHP and QFD methods, and then, the applications enabling increases in the service quality were determined.

## Analytic Hierarchy Process (AHP)

The AHP method enables decision-makers to structure a complex problem in the form of a simple hierarchy and assess a big number of quantitative and qualitative factors in a systematic manner (Radivojeviç & Gajoviç, 2014: 342). The AHP has been widely applied and extensively studied in a number of fields since it was developed by Thomas L. Saaty in the 1970s (Zhang et al., 2019: 476). It is a process of modeling and quantifying decision makers' decision thinking processes for complex systems. By using AHP, decision makers decompose the complex problems into several levels and factors, and make simple comparisons and calculations among the factors (Chang, Yang & Dong, 2018: 8).

The first stage of the method begins with the definition of a multi-criteria decision-making problem. The goal, criteria and alternatives to be achieved are transformed into a hierarchic structure as shown in Figure 1.

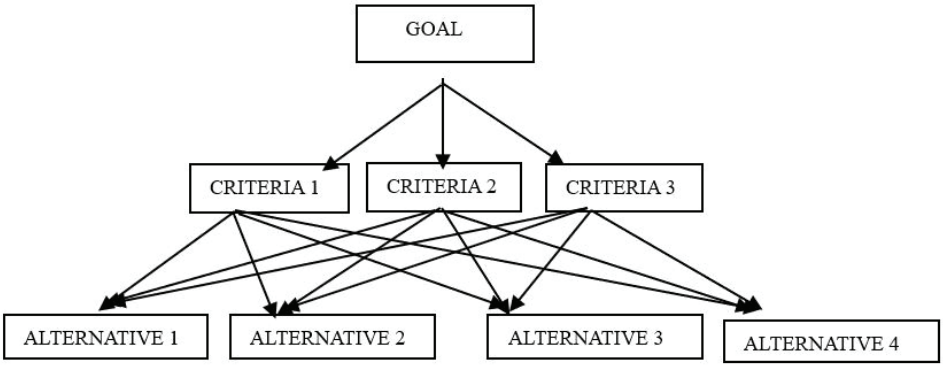



***Figure 1.*** Hierarchic structure of AHP (Ge & Liu, 2019)

In the second stage, the criteria determined are compared with each other, and a binary comparison matrix form is obtained with expert opinion. When constructing these matrices, a scale is used that covers the values between 1 and 9, which are expressed in Table 3. If the elements in the matrix are compared to itself, a numerical value of 1 is given (Oktafianto et al., 2018: 180).

Table 3
*Saaty's AHP Binary Comparisons Scale (Javid, Nejat & Hayhoe, 2014)*

| Intensity of Importance | Definition |
|---|---|
| 1 | Equal Importance |
| 3 | Moderate Importance |
| 5 | Strong Importance |
| 7 | Very Strong Importance |
| 9 | Extreme Importance |
| 2,4,6,8 | Values Between Two Values |

In the third step, the normalized matrix is obtained by dividing the value of each column by the respective column total. Then importance degrees are obtained by averaging the row values of the normalized matrix (Bang & Chang, 2013: 5747).

In the fourth step, the consistency ratio (CR) is examined to ensure the reliability of the analysis. If the CR ≤ 0.10, the decisions of the experts are considered as appropriate (Chung & Na, 2018: 134). When calculating this ratio, the Weighted Total Vector (WTV) is generated by multiplying the initial comparison matrix and importance degrees. The resulting matrix elements are divided into importance degrees. The mean of these values is obtained; and the result is called λmax. Then Consistency Index (CI) is calculated: CI = (λmax-n) / (n-1) (Bang & Chang, 2013:5747). After CI is obtained, the Random Index (RI) value is found. Table 4 shows the RI values according to the factors.

Table 4
*Random Index (Saaty, 2008)*

| n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RI | 0 | 0 | 0.52 | 0.89 | 1.11 | 1.25 | 1.35 | 1.40 | 1.45 | 1.49 | 1.52 | 1.54 | 1.56 | 1.58 | 1.59 |

The consistency ratio is defined as the ratio of the consistency index to the random index and the formula of CR = CI / RI is used (Falsini, Fondi & Schiraldi, 2012: 4823). If this ratio is greater than 0.10, the decision matrix is inconsistent. Decisions should be reviewed and improved. In the last stage, a final decision is made based on the results obtained (Varajao & Cruz-Cunha, 2013: 3345).

## Quality Function Deployment (QFD)

Quality function deployment (QFD) is an overall method that provides a means of translating customer requirements into the appropriate technical requirements for each stage of product development and production (Chan & Wu, 2002: 463). The method was first used and defined by Akao in Japan in 1966 as a method for quality assessment in the shipyard design process. In the early 1990s, and after investigating the Japanese product design practices in detail, QFD techniques were adopted by U.S. firms to reduce time to market, decrease costs of design and manufacture, and increase overall product quality (Morris & Morris, 1999: 131). QFD is an analysis technique that portrays how requirements and expectations are satisfied, and makes a trade-off between conflicting needs and expectations. The analysis uses a diagram known as House of Quality (HoQ), shown in Figure 2.

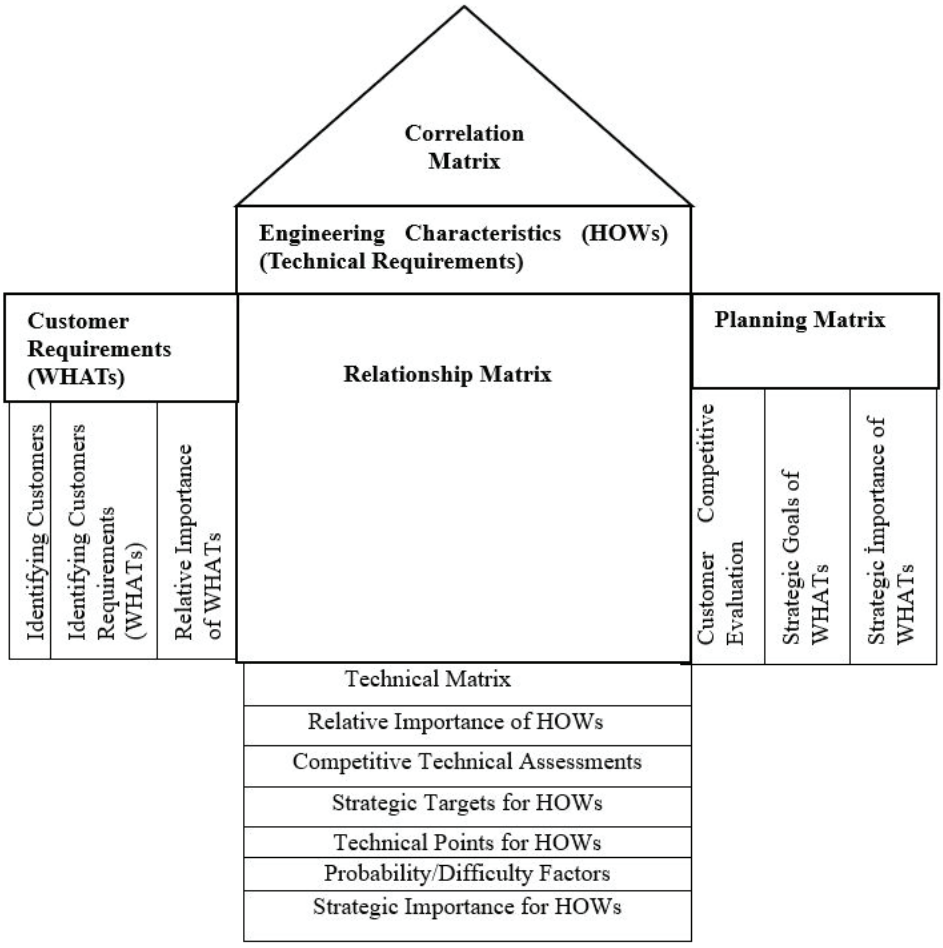



***Figure 2.*** House of Quality (Park, Ham & Lee, 2012)

The implementation steps of the QFD method are described below.

1) *Identifying and prioritizing customer requirements*: The first step is to identify customer requirements, which usually are determined by personal interviews and/or focus groups (Matzler & Hinterhuber, 1998: 35). The most important and time consuming step in determining customer requirements is listening to the voice of customers (VOC). Customer requirements, defined by interviews, brainstorming, surveys, or feedback; are characterized by the voice of customer (Özgener, 2003: 972). Then, the importance degree of each customer voice (WHATs) is determined.

2) *Identifying engineering characteristics (technical requirements)*: This step is determined by a design team, and design measures or product features that are developed by this team can be used to address the defined customer requirements (Özgener, 2003: 972). In this

stage, we try to find the answer to the following question: How can we change the product? (Matzler & Hinterhuber, 1998: 35).

3) *Constructing the relationship matrix*: The principal function of the relationship matrix is to transform requirements expressed by customers into product characteristics by establishing a connection between customer requirements (WHATs) and the technical requirements (HOWs) designed to improve a product (Chen & Huang, 2011: 388). This relationship is expressed by various symbols or numbers as shown in Table 5.

Table 5
*Relationship Matrix Scale Scores (Ahmed, Islam & Al-wahaibi, 2006; Ardıç, Çevik & Göktaş, 2008)*

| Meaning | Symbol | US System Score | Japan System Score |
|---|---|---|---|
| Strong relationship | ◘ | 9 | 5 |
| Medium relationship | ○ | 3 | 3 |
| Weak relationship | Δ | 1 | 1 |

4) *Constructing the correlation matrix*: In this step, engineering characteristics are developed and the correlation between each of these characteristics is determined (Park, Ham & Lee, 2012: 328). The degree of relationship between engineering characteristics can be indicated by strong '●' and weak '○' symbols.

5) *Estimation of costs, feasibility and technical difficulty*: This step is necessary for making reasonable choices and includes quantifying costs, feasibility and technical difficulty of each design attribute (Matzler & Hinterhuber, 1998: 36).

## Results and Discussion

The study was carried out during February and March of 2019 with patients attending the additional service building of the Pediatric Hospital of the Niğde Education and Research Hospital. The population of the study was limited to pediatric patients of 7 to 12 years of age (totally 24 children). While collecting the data of the study, the families of the pediatric patients received an explanation about participation in the study. After the oral and written consent of the families was obtained, the data were collected in an environment where the factors affecting the data collection process were minimized. Children who were treated for severe or infectious diseases and hospitalized for emergency reasons were not included in the study.

The factors that affect patients' expectations from the hospital are considered as three main criteria and eleven sub-criteria as shown in Figure 3. In other words, Figure 3 reflects the hierarchical structure of AHP. These three main criteria are *service environment*, *personnel-patient interaction* and *accommodation services*. The sub-criteria determined for the service environment are appearance of treatment equipment, clothes of hospital personnel, care information for disease and treatment services. The sub-criteria related to personnel-patient

interaction are the behaviors of doctors, nurses and other health personnel. The sub-criteria related to accommodation services are nutrition services, arrangement of patient rooms, appearance of rest chairs and appearance of patient beds.

In order to measure the expectations, the children who participated in the study were asked the questions in Appendix 1 according to these predetermined criteria and sub-criteria. Then, these expectation criteria were transformed into engineering characteristics, and a roadmap showing the prioritization of possible applications to increase service quality was determined.

A six-stage process was followed within the scope of this study:

*Stage 1. Gathering the expectations of pediatric patients*: At this stage, the patient's wishes and requirements were determined by focusing on the child's own statements.

*Stage 2. Determining the importance degrees of the wishes of pediatric patients*: The identified wishes and requirements are prioritized according to their importance degrees. The AHP method was used for prioritization.

*Stage 3. Transforming the wishes of pediatric patients into engineering characteristics*: It was determined how to fulfill the wishes and/or requirements.

*Stage 4. Constructing the relationship matrix*: At this stage, the relationship matrix was developed between patient requirements and engineering characteristics.

*Stage 5. Constructing the planning and the correlation matrix*: The planning matrix was constructed by evaluating the hospital's current situation, future situation and improvement ratio. Importance and percent importance degrees of technical requirements were determined. Then, the correlation matrix, expressed as the roof of House of Quality (HoQ) was constructed and the way of affecting the engineering characteristics was determined.

*Stage 6. Completing the HoQ*: Finally, the HoQ was built.

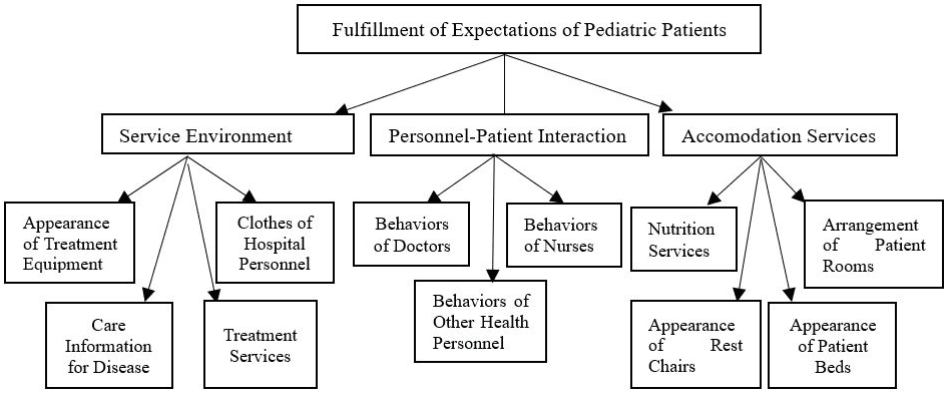



***Figure 3.*** Hierarchical structure of AHP

In order to achieve the overall goal of fulfilling the patient expectations, firstly the main criteria were compared according to the importance scale developed by Saaty. Afterwards, normalization was made and importance degrees (ID) were calculated for each criterion. The study was conducted with 24 pediatric patients. However, it would be unnecessary information to show the comparison matrices separately for 24 patients. For this reason, comparison matrices conducted for only one child who was randomly selected and called "Child-1". Comparison matrices for criteria and sub-criteria for child 1 were also created for other children. These matrices are presented in Appendix 2 and Appendix 3 using abbreviations of criteria and sub-criteria.The comparisons and other related calculations made for Child-1 were also made for each child who participated in the interviews, and the obtained values are shown in Appendix 2. The table in Appendix 3 shows the overall common weights of sub-criteria. The common and/or overall weights of all criteria/sub-criteria can be seen in Appendix 2 and Appendix 3 with both average mean (AM) and geometric mean (GM) values. Table 6 shows the result of the comparisons and calculations of main criteria for Child-1. Furthermore, the consistency related values are summarised in Table 6.

Table 6
*Importance Degrees of Main Criteria for Child-1*

| | **Service Environment** | **Personnel-Patient Interaction** | **Accomodation Services** | **ID** | **WTV** | **WTV/ID** |
|---|---|---|---|---|---|---|
| Service Environment | 1,00 | 7,00 | 5,00 | 0,73 | 2,27 | 3,13 |
| Personnel-Patient Interaction | 0,14 | 1,00 | 0,33 | 0,08 | 0,25 | 3,01 |
| Accomodation Services | 0,20 | 3,00 | 1,00 | 0,19 | 0,59 | 3,04 |

$\lambda_{max}$ = 3,05; CI=0,03; RI=0.58 CR=0,05 (comparisons are consistent since CR≤0.10 )

As a result of the interview with the first child, importance degrees (ID) were calculated for each criterion. Importance degrees were obtained by averaging the row values of the

normalized matrix. As a result of the interview with the first child, it can be seen from Table 6 that the ID of the service environment criterion is 0.73. The ID for the personnel-patient interaction criterion is 0.08, and the ID for the accommodation criterion is 0.19. In this case, the most important main criterion for the first child patient is the service environment in the hospital. The CR is used to determine the consistency of the child's decision. CR value is found as 0.05 for Child-1, and since CR≤0.10, it can be stated that Child-1 is consistent in his/her decisions.

After comparing the main criteria, the sub-criteria were compared among themselves. Table 7 shows the result of the comparisons and all other related calculations of sub-criteria of service environment for Child-1.

Table 7
*Importance Degrees of Sub-Criteria of Service Environment for Child-1*

| | **Appearance of Treatment Equipment** | **Clothes of Hospital Personnel** | **Care Information for Disease** | **Treatment Services** | **ID** | **WTV** | **WTV/ID** |
|---|---|---|---|---|---|---|---|
| Appearance of Treatment Equipment | 1,00 | 0,33 | 3,00 | 0,25 | 0,14 | 0,58 | 4,06 |
| Clothes of Hospital Personnel | 3,00 | 1,00 | 4,00 | 0,50 | 0,30 | 1,26 | 4,19 |
| Care Information for Disease | 0,33 | 0,25 | 1,00 | 0,20 | 0,07 | 0,29 | 4,04 |
| Treatment Services | 4,00 | 2,00 | 5,00 | 1,00 | 0,48 | 2,02 | 4,17 |

$\lambda_{max}$ = 4,12; CI=0,04; RI=0.90 CR=0,04 (comparisons are consistent since CR≤0,10 )

According to Table 7, the sub-criteria of service environment are arranged in decreasing order of importance as follows: treatment services, clothes of hospital personnel, appearance of treatment equipment, and care information for disease. CR value is 0.04 so Child-1 is consistent in his/her decisions.

Table 8 shows the result of the comparisons and all other calculations of sub-criteria of personnel-patient interaction for Child-1.

Table 8
*Importance Degrees of Sub-Criteria of Personnel-Patient Interaction for Child-1*

| | **Behaviors of Doctors** | **Behaviors of Nurses** | **Behaviors of Other Health Personnel** | **ID** | **WTV** | **WTV/ID** |
|---|---|---|---|---|---|---|
| Behaviors of Doctors | 1,00 | 0,50 | 0,17 | 0,10 | 0,31 | 3,01 |
| Behaviors of Nurses | 2,00 | 1,00 | 0,20 | 0,17 | 0,53 | 3,01 |
| Behaviors of Other Health Personnel | 6,00 | 5,00 | 1,00 | 0,72 | 2,21 | 3,06 |

$\lambda_{max}$ = 3,03; CI=0,01; RI=0.58 CR=0,02 (comparisons are consistent since CR≤0,10)

One can see from Table 8 that the sub-criteria related to personnel-patient interaction are arranged in decreasing order of importance as follows: behaviors of other health personnel,

behaviors of nurses, and behaviors of doctors. It is seen that communication with other health personnel, including medical secretaries, paramedics and interns, is more important than the other two criteria. The CR value is 0.02 and consistency is assured.

Table 9 shows the result of the comparisons and all other calculations of sub-criteria of accomodation services for Child-1.

Table 9
*Importance Degrees pf Sub-Criteria of Accomodation Services for Child-1*

| | Nutrition Services | Arrangement of Patient Rooms | Appearance of Rest Chairs | Appearance of Patient Beds | ID | WTV | WTV/ID |
|---|---|---|---|---|---|---|---|
| Nutrition Services | 1,00 | 0,25 | 4,00 | 0,33 | 0,14 | 0,59 | 4,22 |
| Arrangement of Patient Rooms | 4,00 | 1,00 | 6,00 | 2,00 | 0,48 | 2,01 | 4,17 |
| Appearance of Rest Chairs | 0,25 | 0,17 | 1,00 | 0,17 | 0,06 | 0,23 | 4,02 |
| Appearance of Patient Beds | 3,00 | 0,50 | 6,00 | 1,00 | 0,32 | 1,32 | 4,17 |

$\lambda_{max}$ = 4,15; CI=0,05; RI=0.90 CR=0,05 (comparisons are consistent; CR≤0,10 )

According to Table 9, the sub-criteria of accommodation services are arranged in decreasing order of importance as follows: arrangement of patient rooms, appearance of patient beds, nutrition services, and appearance of rest chairs. The CR value is 0.05, so consistency is assured.

The comparisons and other related calculations made for Child-1 were also made for each child who participated in the interviews, and the obtained values are shown in Appendix 2. As a result of the group average of 24 children as shown in Appendix 2, the most important main criterion was found as *accomodation services* with a weight of 0.55. It was followed by *service environment* (0.28) and *personnel-patient interaction* (0.17). The table in Appendix 3 shows the overall common weights of the sub-criteria. For example, one can see from Appendix 3 that the most important sub-criterion was found as *arrangement of patient rooms* with a weight of 0.27, and the second most important sub-criterion was *nutrition services* with a weight of 0.18. The common and/or overall weights of all criteria/sub-criteria can be seen in Appendix 2 and Appendix 3, with both average mean (AM) and geometric mean (GM) values. While analyzing these weights and values, the following abbreviations must be taken into consideration: service environment (K1), personnel-patient interaction (K2), accommodation services (K3), appearance of treatment equipment (K11), clothes of hospital personnel (K12), care information for disease (K13), treatment services (K14), behaviors of doctors (K21), behaviors of nurses (K22), behaviors of other health personnel (K23), nutrition services (K31), arrangement of patient rooms (K32), appearance of rest chairs (K33), and appearance of patient beds (K34).

The voices of the children were listened to and then weighted using the AHP method. This effort made it possible to identify the most important expectations and priority rankings for

them. Expectations of children constitute the left part of the HoQ (the WHATs) and the way of meeting these expectations, namely the engineering characteristics (the HOWs) take place in the right side. This match or transformation is given in Table 10.

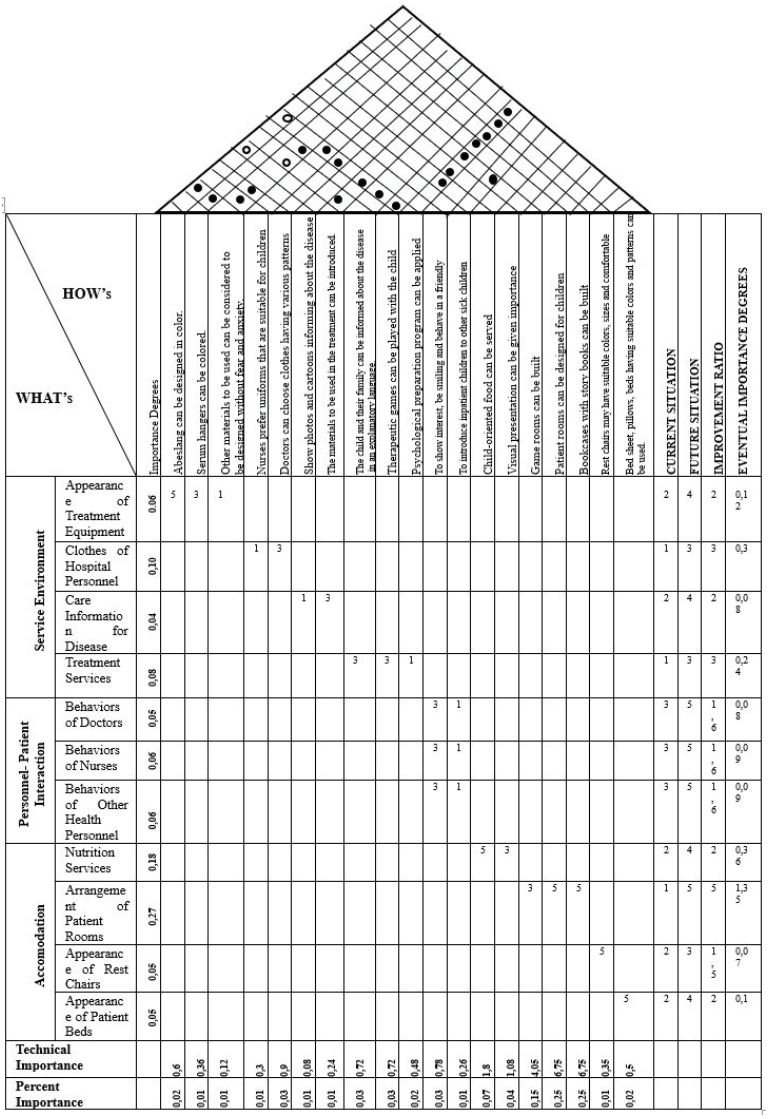
As a result of the interviews with 24 children, expectations were converted into engineering characteristics in order to fullfill their expectations from the hospital. The determined engineering characteristics were formed in accordance with the opinions of the senior management of the hospital under investigation. In addition, researchers, nurses and doctors working in child services and senior management of the hospital under investigation determined the relationship between these engineering and the expectations of children. In order to determine the relationship between these characteristics and the expectations of children, a scoring system from 1 to 5 was used.

After determining the relationships between engineering characteristics and expectations, a planning matrix was created. In this matrix, first of all, the current situation column describes the current situation of the hospital regarding the expectations of children. Then, based on the current situation, the future situation column was prepared containing the realization of these future expectations. The values obtained were evaluated using a scaling system from 1 to 5. In this system, "1" indicates the worst, and "5" indicates the best.

The improvement ratios were obtained by dividing the values in future situation by the values in current situation column. In light of this information, the eventual (overall) importance degrees were found by multiplying the improvement ratios by importance degrees. After the eventual importance degrees were determined, the technical importance values were calculated. This calculation was made by multiplying the values of each column by the eventual importance degrees and summing the results of columns which have more than one value. Then, the percent importance values were calculated. Percentage of importance values were calculated by dividing the technical importance of each column by sum of the technical importance values, and then the obtained values were multiplied by 100. According to these findings, two factors with importance values of 6.75 (25 percent) were found as the ones with the highest priorities. These two factors were "redesigning patient rooms (e.g.: coloring and painting the walls)" and "building a bookshelf in each patient room". "Building playground rooms" was found as the second important factor with a value of 4.05 (15 percent), which can enable children to forget their illnesses for a while, socialize and do various activities such as painting and playing games. The house of quality (HoQ) shown in Figure 4 was created by considering all these steps.

Table 10
*Transformation of Expectations of Pediatric Patients Into Engineering Characteristics*

| Criteria | Expectations of Patients (WHAT's) | Engineering Characteristics (HOW's) |
|---|---|---|
| Service Environment | I expect the materials used in the treatment to be cute. | *Abeslang can be designed in color.<br>*Serum hangers can be colored.<br>*Other materials to be used can be considered to be designed without fear and anxiety. |
| | I expect clothes of hospital personnel to change. | *Nurses may prefer uniforms that are suitable for children (e.g.: including rainbow, geometric figure, cartoon heroes)<br>* Doctors can choose clothes having various patterns. |
| | I expect to understand the care information about the disease. | *The child can be shown photos informing about the disease, stories can be told, suitable cartoons can be watched.<br>*The materials to be used in the treatment can be introduced according to the age and development level of the child. |
| | I expect to non-disturbance of treatment process | *The child and their family can be informed about the disease in an explanatory language.<br>*Therapeutic games can be played with the child (e.g.: blowing up a balloon or blowing foam)<br>*Psychological preparation program can be applied to pediatric patients |
| Personnel-Patient Interaction | I expect doctors to act like friends | *Doctors can show interest, be smiling and behave in a friendly manner towards the child<br>*Doctors can introduce inpatient children to other sick children and give start to communication |
| | I expect nurses to act like friends | *Nurses can show interest, be smiling and behave in a friendly manner towards the child<br>*Nurses can introduce inpatient children to other sick children and give start to communication. |
| | I expect other health personnel to act like friends | *The child can be welcomed by an understanding and friendly personnel from the first moment she/he arrives at the hospital<br>*Admission secretaries can show interest, be smiling and behave in a friendly manner towards the child |
| Accomodation Services | I expect more delicious food | *Visual presentation can be given importance (e.g.: a smiley face can be on the plate during food presentation)<br>*Child-oriented food can be served (e.g.: cake, juice) |
| | I expect my room to be as I imagined | *Game rooms can be built where children can warm to other children, draw pictures, play games and perform various activities<br>*Patient rooms can be designed with visual attractiveness for children (e.g.: colorful or patterned walls or cupboards)<br>*Bookcases with story books can be built in the patient rooms for children to spend time |
| | I expect the resting chairs to be more colorful and comfortable | *Rest chairs having suitable colors, patterns and sizes for children can be used<br>*Fabric of rest chairs may have adequate quality to be comfortable |
| | I expect the patient beds to be more colorful | *Bed sheet, pillows and beds having suitable colors, and patterns for children can be used |



| WHAT's \ HOW's | | Importance Degrees | Abeslang can be designed in color. | Serum hangers can be colored. | Other materials to be used can be considered to be designed without fear and anxiety. | Nurses prefer uniforms that are suitable for children. | Doctors can choose clothes having various patterns | Show photos and cartoons informing about the disease | The materials to be used in the treatment can be introduced. | The child and their family can be informed about the disease in an explanatory language. | Therapeutic games can be played with the child | Psychological preparation program can be applied. | To show interest, be smiling and behave in a friendly | To introduce inpatient children to other sick children | Child-oriented food can be served | Visual presentation can be given importance | Game rooms can be built | Patient rooms can be designed for children | Bookcases with story books can be built | Rest chairs may have suitable colors, sizes and comfortable | Bed sheet, pillows, beds having suitable colors and patterns can be used. | CURRENT SITUATION | FUTURE SITUATION | IMPROVEMENT RATIO | EVENTUAL IMPORTANCE DEGREES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service Environment | Appearance of Treatment Equipment | 0,06 | 5 | 3 | 1 | | | | | | | | | | | | | | | | | 2 | 4 | 2 | 0,12 |
| | Clothes of Hospital Personnel | 0,10 | | | | 1 | 3 | | | | | | | | | | | | | | | 1 | 3 | 3 | 0,3 |
| | Care Information for Disease | 0,04 | | | | | | 1 | 3 | | | | | | | | | | | | | 2 | 4 | 2 | 0,08 |
| | Treatment Services | 0,08 | | | | | | | | 3 | 3 | 1 | | | | | | | | | | 1 | 3 | 3 | 0,24 |
| Personnel- Patient Interaction | Behaviors of Doctors | 0,06 | | | | | | | | | | | 3 | 1 | | | | | | | | 3 | 5 | 1,6 | 0,08 |
| | Behaviors of Nurses | 0,06 | | | | | | | | | | | 3 | 1 | | | | | | | | 3 | 5 | 1,6 | 0,09 |
| | Behaviors of Other Health Personnel | 0,06 | | | | | | | | | | | 3 | 1 | | | | | | | | 3 | 5 | 1,6 | 0,09 |
| Accomodation | Nutrition Services | 0,18 | | | | | | | | | | | | | 5 | 3 | | | | | | 2 | 4 | 2 | 0,36 |
| | Arrangement of Patient Rooms | 0,27 | | | | | | | | | | | | | | | 3 | 5 | 5 | | | 1 | 5 | 5 | 1,35 |
| | Appearance of Rest Chairs | 0,05 | | | | | | | | | | | | | | | | | | 5 | | 2 | 3 | 1,5 | 0,07 |
| | Appearance of Patient Beds | 0,05 | | | | | | | | | | | | | | | | | | | 5 | 2 | 4 | 2 | 0,1 |
| **Technical Importance** | | | 0,6 | 0,36 | 0,12 | 0,3 | 0,9 | 0,08 | 0,24 | 0,72 | 0,72 | 0,48 | 0,78 | 0,26 | 1,8 | 1,08 | 4,05 | 6,75 | 6,75 | 0,35 | 0,5 | | | | |
| **Percent Importance** | | | 0,02 | 0,01 | 0,01 | 0,01 | 0,03 | 0,01 | 0,01 | 0,03 | 0,03 | 0,02 | 0,03 | 0,01 | 0,07 | 0,04 | 0,15 | 0,25 | 0,25 | 0,01 | 0,02 | | | | |

***Figure 4.*** House of Quality for the expectations of pediatric patients

The correlation matrix, which is known as the roof of House of Quality (HoQ), was constructed and how engineering characteristics affect each other was determined. The degree of relationship between engineering characteristics was indicated using '●' and '○' symbols, respectively for strong and weak relationships. Cells were left blank when there was no relationship. According to these results, there is a strong relationship between the color of tongue depressors and the usage of non-fearful and non-disquieting materials. Because the use of an

anxiety-causing material would negatively affect the child's treatment and it would also cause the child to refuse treatment. There is also a strong relationship between the "introduction of treatment equipment" and "psychological preparation programs". For example; if the materials are introduced within the pre-operative psychological preparation programs, the anxiety of the child who undergoes an operation can be reduced. There is a strong relationship between "color of serum hangers" and "usage of non-fearful and non-disquieting materials". While there is a strong relationship between "usage of non-fearful and non-anxiety (non-disquieting) materials" and "usage of nurse and doctor uniforms in various colors and patterns", there is a weak correlation between "providing explanatory information to the child and her/his family". This is because, although explanatory information is given about the place of use and benefit status of medical and technical equipment in treatment to reduce the fear level of children, this explanation may not be effective for every child and family. There is a strong relationship between "usage of nurse and doctor uniforms in various colors and patterns" and "psychological preparation programs". Many children are afraid of the uniforms of doctors and nurses, and this situation causes the child to avoid health personel and treatment. In order to eliminate these negative effects, cartoon characters, geometric figures or colored patterns can be preferred in uniforms. There is a strong relationship between "introduction of the materials used in treatment" and "providing explanatory information to the child and her/his family". There is a strong relationship between "providing explanatory information to the child and her/his family" and "providing a psychological preparation program". There is a strong relationship between "communicating with other children" and "building play rooms for children". In addition, it was found that there is a strong relationship between "offering psychological preparation programs" and "presenting food specials for children", "giving importance to the visual presentation of meals", "building play rooms", "designing patient rooms", "establishing bookshelves", and "having bed sheets, pillows and rest chair in various colors and patterns".

## Conclusion

This study was carried out in a pediatric hospital with the aim of determining the expectations of pediatric patients from the hospital and to identify the way of meeting their expectations. This hospital is a tertiary healthcare organization in Niğde, a city located in the central Anatolian part of Turkey, and serves under Niğde Ömer Halisdemir University. The expectations of pediatric patients were evaluated in terms of some factors such as service environment, personnel-patient interaction and accommodation services. The sub-criteria of these three factors were also taken into conderation. Accommodation services was found as the most important factor or main criterion, and arrangement of the patient rooms as the most important sub-criterion. All other main and sub criteria were evaluated and prioritized in the study.

Based on the findings of the study, the following comments and suggestions can be derived: In the current state; the rooms were designed as appropriate for adult patients and not for children. Especially in long-term hospitalizations, children dream of a hospital environment that makes them feel at home. For this reason, a game room can be designed, where children can interact with each other and perform various activities such as playing games, painting, reading books, etc., and child rooms should be redesigned, and thus, become colorful and patterned. Hospitals present standard meals for both adults and children without difference. According to pediatric patients, the meals are not delicious, and they judge the food as unpleasant, unsalted and bad. This situation leads children to refuse meals and negatively affect the treatment process. This can be avoided by serving child-oriented food and putting emphasis on presentation. Another important issue is the design of the materials that are used during the child's treatment process. At this point, it can be considered to avoid materials having fearful and strange designs, and prefer the ones which are colorful, patterned, and interesting. In addition to aforementioned points; information must be given about the treatment process according to the child's age, a healthy communication between health personnel and children must be established, and a home-similar environment must be built from the moment the child takes the first step into the hospital.

The expectations of an adult from healthcare are different from that of children. While adult individuals consider factors such as cleaning, safety, doctor's knowledge, children give more importance to visual elements and personnel behavior. There are many studies in the literature about the expectations of children from pediatric services. However, in these studies, children's expectations from the hospital were measured by asking their parents. Parents may not fully reflect their children's views. One-to-one interviews with children enable them to express their opinions, feelings and expressions more easily. The purpose of this study was to identify expectations from the child's perspective and to find solutions to meet these expectations. This situation revealed the original aspect of the study.

Like other studies, this study had some limitations. Firstly, it was conducted in a single pediatric hospital in a micro level, and secondly, the scope of the sample was restricted to children aged 7 to 12 and excluding emergency patients and the ones who had severe and/or infectious diseases. Therefore, future research can consider dealing with different and/or multiple hospitals, and expand the scope of the sample used in this study. The findings of this study can be used as a baseline by other researchers, all shareholders of healthcare sector, and management of healthcare organizations and especially other pediatric hospitals. However, it can be easily stated that the decision makers of all pediatric healthcare organizations may utilize the model developed in the present study.

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# APPENDIX

Appendix 1
*Patient expectations measurement criteria interview questions*

| | **Expectations of Patients** | **Questions About Criteria** |
|---|---|---|
| Service Environment | Appearance of Treatment Equipment | -Do you think the materials used in the treatment are fearful and worrying?<br>-Would you like the materials used in the treatment to be colored and patterned?<br>-Do the materials used in treatment affect your happiness in the hospital? |
| | Clothes of Hospital Personnel | -Do the clothes by doctors and nurses create fear and anxiety?<br>-Do the clothes that doctors and nurses wear affect your happiness in the hospital?<br>-What kind of clothes would you like doctors and nurses to wear? |
| | Care Information for Disease | -Do you want to be informed by the doctors and nurses about the equipment used in the treatment?<br>-Would you like a photo to be displayed about your illness?<br>-Would you want stories to be told about your illness?<br>-Would you want to see a movie to about your illness? |
| | Treatment Services | - Do you want to be informed by doctors and nurses about what kind of treatment you have been given?<br>-Do you understand what the doctors and nurses say about your treatment?<br>-Do you want to play therapeutic games (blowing bubbles, blowing bubbles for improving lung function)? |
| Personnel-Patient Interaction | Behaviors of Doctors | - How do you want doctors to communicate with you?<br>- Do you think doctors approach you with love and affection? |
| | Behaviors of Nurses | - How do you want the nurses to contact you?<br>- Do you think the nurses approach you with love and affection? |
| | Behaviors of Other Health Personnel | - How do you want other medical personnel to contact you?<br>- Do you think other medical staff approach you with care and love? |
| Accomodation Services | Nutrition Services | -Are you happy with the food you ate in the hospital?<br>-What food do you want to eat at the hospital? |
| | Arrangement of Patient Rooms | - How can you arrange the room in the hospital?<br>- You want to feel at home in the hospital?<br>- Do you want to be with your friends in the hospital room? |
| | Appearance of Rest Chairs | -You want the rest chairs to be colored and patterned?<br>-Do the color and pattern of the rest chairs affect your treatment positively? |
| | Appearance of Patient Beds | -You want the beds to be colorful and patterned?<br>-Will the comfort of the beds affect your treatment positively? |

Appendix 2

*Weights obtained from pairwise comparison matrices of pediatric patients*

| | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 | C17 | C18 | C19 | C20 | C21 | C22 | C23 | C24 | AM | GM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** |
| According to the criteria | 0,73 | 0,74 | 0,18 | 0,19 | 0,12 | 0,11 | 0,27 | 0,32 | 0,27 | 0,26 | 0,32 | 0,08 | 0,32 | 0,11 | 0,16 | 0,14 | 0,32 | 0,56 | 0,33 | 0,26 | 0,14 | 0,10 | 0,54 | 0,20 | 0,28 | 0,23 |
| | 0,08 | 0,09 | 0,08 | 0,08 | 0,20 | 0,19 | 0,12 | 0,09 | 0,09 | 0,08 | 0,12 | 0,21 | 0,12 | 0,26 | 0,25 | 0,62 | 0,09 | 0,12 | 0,08 | 0,08 | 0,33 | 0,33 | 0,16 | 0,09 | 0,17 | 0,14 |
| | 0,19 | 0,17 | 0,74 | 0,73 | 0,68 | 0,70 | 0,61 | 0,59 | 0,64 | 0,66 | 0,56 | 0,71 | 0,56 | 0,63 | 0,59 | 0,24 | 0,59 | 0,32 | 0,59 | 0,66 | 0,53 | 0,57 | 0,30 | 0,71 | 0,55 | 0,51 |
| | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | **K1** | | |
| According to the K1 | 0,14 | 0,17 | 0,11 | 0,06 | 0,43 | 0,07 | 0,12 | 0,06 | 0,31 | 0,07 | 0,43 | 0,50 | 0,05 | 0,06 | 0,18 | 0,42 | 0,07 | 0,47 | 0,07 | 0,14 | 0,07 | 0,07 | 0,46 | 0,07 | | |
| | 0,30 | 0,49 | 0,47 | 0,13 | 0,10 | 0,50 | 0,29 | 0,29 | 0,48 | 0,31 | 0,15 | 0,31 | 0,56 | 0,49 | 0,49 | 0,40 | 0,27 | 0,31 | 0,52 | 0,49 | 0,14 | 0,13 | 0,28 | 0,56 | | |
| | 0,07 | 0,06 | 0,37 | 0,28 | 0,17 | 0,29 | 0,54 | 0,12 | 0,14 | 0,15 | 0,11 | 0,08 | 0,26 | 0,12 | 0,09 | 0,07 | 0,12 | 0,08 | 0,14 | 0,31 | 0,29 | 0,30 | 0,10 | 0,10 | | |
| | 0,48 | 0,28 | 0,05 | 0,52 | 0,30 | 0,14 | 0,05 | 0,53 | 0,07 | 0,47 | 0,31 | 0,11 | 0,13 | 0,33 | 0,24 | 0,11 | 0,54 | 0,14 | 0,27 | 0,05 | 0,50 | 0,50 | 0,16 | 0,27 | | |
| | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | **K2** | | |
| According to the K2 | 0,10 | 0,16 | 0,15 | 0,09 | 0,39 | 0,17 | 0,10 | 0,17 | 0,33 | 0,10 | 0,17 | 0,33 | 0,10 | 0,39 | 0,31 | 0,39 | 0,10 | 0,16 | 0,16 | 0,10 | 0,61 | 0,26 | 0,54 | 0,14 | | |
| | 0,17 | 0,54 | 0,10 | 0,20 | 0,44 | 0,11 | 0,23 | 0,11 | 0,53 | 0,33 | 0,11 | 0,57 | 0,67 | 0,44 | 0,49 | 0,44 | 0,16 | 0,54 | 0,10 | 0,16 | 0,27 | 0,63 | 0,30 | 0,09 | | |
| | 0,72 | 0,30 | 0,75 | 0,71 | 0,17 | 0,72 | 0,67 | 0,72 | 0,14 | 0,57 | 0,72 | 0,10 | 0,23 | 0,17 | 0,20 | 0,17 | 0,74 | 0,30 | 0,74 | 0,74 | 0,12 | 0,11 | 0,16 | 0,77 | | |
| | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | **K3** | | |
| According to the K3 | 0,14 | 0,30 | 0,30 | 0,28 | 0,16 | 0,23 | 0,29 | 0,30 | 0,30 | 0,24 | 0,37 | 0,50 | 0,28 | 0,36 | 0,29 | 0,43 | 0,29 | 0,31 | 0,51 | 0,57 | 0,34 | 0,15 | 0,33 | 0,27 | | |
| | 0,48 | 0,49 | 0,55 | 0,58 | 0,51 | 0,60 | 0,55 | 0,47 | 0,55 | 0,54 | 0,51 | 0,31 | 0,54 | 0,50 | 0,48 | 0,40 | 0,52 | 0,56 | 0,33 | 0,28 | 0,52 | 0,47 | 0,51 | 0,57 | | |
| | 0,06 | 0,08 | 0,10 | 0,07 | 0,06 | 0,05 | 0,08 | 0,14 | 0,05 | 0,11 | 0,06 | 0,11 | 0,09 | 0,07 | 0,10 | 0,07 | 0,13 | 0,05 | 0,08 | 0,06 | 0,06 | 0,30 | 0,08 | 0,05 | | |
| | 0,32 | 0,13 | 0,05 | 0,07 | 0,27 | 0,12 | 0,08 | 0,09 | 0,10 | 0,11 | 0,06 | 0,08 | 0,09 | 0,07 | 0,13 | 0,10 | 0,06 | 0,08 | 0,08 | 0,09 | 0,08 | 0,08 | 0,08 | 0,11 | | |

Appendix 3

*Common weights obtained from the opinions of pediatric patients*

| | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 | C17 | C18 | C19 | C20 | C21 | C22 | C23 | C24 | AM | GM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K11 | 0,10 | 0,13 | 0,02 | 0,01 | 0,05 | 0,01 | 0,03 | 0,02 | 0,08 | 0,02 | 0,14 | 0,04 | 0,02 | 0,01 | 0,03 | 0,06 | 0,02 | 0,26 | 0,02 | 0,04 | 0,01 | 0,01 | 0,25 | 0,01 | 0.06 | 0,03 |
| K12 | 0,22 | 0,36 | 0,08 | 0,02 | 0,01 | 0,06 | 0,08 | 0,09 | 0,13 | 0,08 | 0,05 | 0,02 | 0,18 | 0,05 | 0,08 | 0,06 | 0,09 | 0,17 | 0,17 | 0,13 | 0,02 | 0,01 | 0,15 | 0,11 | 0,10 | 0,08 |
| K13 | 0,05 | 0,04 | 0,08 | 0,05 | 0,02 | 0,03 | 0,15 | 0,04 | 0,04 | 0,04 | 0,04 | 0,01 | 0,08 | 0,01 | 0,01 | 0,01 | 0,04 | 0,04 | 0,05 | 0,08 | 0,04 | 0,03 | 0,05 | 0,02 | 0,04 | 0,03 |
| K14 | 0,35 | 0,21 | 0,01 | 0,10 | 0,04 | 0,02 | 0,01 | 0,17 | 0,02 | 0,12 | 0,10 | 0,01 | 0,04 | 0,04 | 0,04 | 0,02 | 0,17 | 0,08 | 0,09 | 0,01 | 0,07 | 0,05 | 0,09 | 0,05 | 0,08 | 0,05 |
| K21 | 0,01 | 0,01 | 0,01 | 0,01 | 0,08 | 0,03 | 0,01 | 0,02 | 0,03 | 0,01 | 0,02 | 0,07 | 0,01 | 0,10 | 0,08 | 0,24 | 0,01 | 0,02 | 0,01 | 0,01 | 0,20 | 0,08 | 0,09 | 0,01 | 0,05 | 0,03 |
| K22 | 0,01 | 0,05 | 0,01 | 0,02 | 0,09 | 0,02 | 0,03 | 0,01 | 0,05 | 0,02 | 0,01 | 0,12 | 0,08 | 0,11 | 0,12 | 0,27 | 0,01 | 0,06 | 0,01 | 0,01 | 0,09 | 0,20 | 0,05 | 0,01 | 0,06 | 0,03 |
| K23 | 0,06 | 0,03 | 0,06 | 0,06 | 0,03 | 0,14 | 0,08 | 0,06 | 0,01 | 0,05 | 0,09 | 0,02 | 0,03 | 0,04 | 0,05 | 0,11 | 0,07 | 0,04 | 0,06 | 0,06 | 0,04 | 0,04 | 0,03 | 0,07 | 0,06 | 0,05 |
| K31 | 0,03 | 0,05 | 0,22 | 0,20 | 0,11 | 0,16 | 0,17 | 0,18 | 0,20 | 0,16 | 0,20 | 0,36 | 0,16 | 0,23 | 0,17 | 0,10 | 0,17 | 0,10 | 0,30 | 0,38 | 0,18 | 0,09 | 0,10 | 0,19 | 0,18 | 0,15 |
| K32 | 0,09 | 0,08 | 0,40 | 0,43 | 0,35 | 0,42 | 0,34 | 0,28 | 0,35 | 0,36 | 0,29 | 0,22 | 0,30 | 0,32 | 0,28 | 0,10 | 0,30 | 0,18 | 0,19 | 0,18 | 0,28 | 0,27 | 0,15 | 0,40 | 0,27 | 0,25 |
| K33 | 0,01 | 0,01 | 0,07 | 0,05 | 0,04 | 0,03 | 0,05 | 0,08 | 0,03 | 0,07 | 0,03 | 0,08 | 0,05 | 0,04 | 0,06 | 0,01 | 0,08 | 0,02 | 0,05 | 0,04 | 0,03 | 0,17 | 0,02 | 0,04 | 0,05 | 0,04 |
| K34 | 0,06 | 0,02 | 0,04 | 0,05 | 0,18 | 0,08 | 0,05 | 0,05 | 0,06 | 0,07 | 0,03 | 0,05 | 0,05 | 0,04 | 0,08 | 0,02 | 0,04 | 0,03 | 0,05 | 0,06 | 0,04 | 0,05 | 0,02 | 0,08 | 0,05 | 0,05 |

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RESEARCH ARTICLE

# Are Work Attitudes of Generations Myth or Real? Evidence from the United States and Turkey

**Sait Gurbuz**[1], **Ihsan Aytekin**[2]

**Abstract**
Despite the increased attention paid to generational differences especially from practitioners and the popular press, systematic and empirical intergenerational research has been scarce, is largely North American centric, and lacks consistent results. The present study aimed to fill this gap by examining whether differences exist among generations in their key work and organizational attitudes, personal values, and work ethic values in the United States and Turkey. Survey data were gathered from 1019 employees (427 from the U.S. and 592 from Turkey). We found little evidence supporting substantive and significant generational differences or their association with key outcome variables. Furthermore, the U.S. originated classification of generations cannot be generalized to the Turkish business context.

**Keywords**
Generational differences, Work attitudes, Work ethics, Cohorts

## Introduction

In recent years, there is a common belief that the three generational cohorts' (i.e. Baby Boomers, Generation X, and Generation Y) work attitudes and personal values are different. These differences pose challenges to practitioners in productively leading their human capital. As Westerman and Yamamura (2007), the investigation of intergenerational differences has been a critical area for human resource management research. Firms should adapt their cultures and work environments to new generations to increase their level of satisfaction and decrease their turnover intention. Therefore, the issue is also critically important to organizations that seek to attract and retain a younger, highly competent workforce (Benson & Brown, 2011). According to one study, nearly 60% of the human resource managers sampled reported that their companies experience intergenerational employee conflict due to generational discrepancies in beliefs and work attitudes (Burke, 2005). Some companies have tailored their workplace practices to the work preferences of the millennial generation (Generation Y). For example, eBay offers meditation therapies; Google provides onsite hairdressing and a laundry

1 **Corresponding author:** Sait Gurbuz (Prof. Dr.), International Business School, Hanze University of Applied Sciences, Groningen, The Nederlands. E-mail: sgurbuz_99@yahoo.com ORCID: 0000-0001-7817-9141

2 Ihsan Aytekin (Asst. Prof. Dr.), Social Sciences University of Ankara, Faculty of Political Sciences, Department of Business, Ankara, Turkey. E-mail: ihsan.aytekinasbu.edu.tr ORCID: 0000-0003-3344-6140

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service; KPMG provides paid leave during the first year of employment; and other companies permit workers to perform volunteer service during work hours (Twenge, 2010). Such programs have been attractive to the younger generation.

There are two problem arising from the generational research that we focused on in this study. The first one is related to generalizability of generational research in the field. Despite an increase in interest in generational diversity, especially among practitioners and the popular press, systematic and empirical intergenerational research has been scarce (Costanza et al. 2012; Gurbuz, 2015; Parry & Urwin, 2010). Most relevant research has compared Baby Boomers and Generation X (e.g.,Twenge, 2010). However, Generation Y, the youngest generation, has received limited attention. Furthermore, the bulk of intergenerational research has been conducted in the West (Benson & Brown, 2011; Cogin, 2012), with limited research from other regions (Egri & Ralston, 2004). Countries such as Turkey might also be experiencing the effects of intergenerational differences in their workforces; however, it is possible that a common taxonomy or set of labels for the various generational cohorts might not be generalizable across cultures.

The second problem relates to the reliability of hypotheses that have suggested that there are generational differences. Most of the studies have rested on anecdotal information and popular press rather than systematic and empirical research (Costanza & Finkelstein, 2015). Some researchers have reported that generational differences are real and have an effect on the various variables (e.g. work values, employees' attitudes, and behaviors, etc.) to a specific degree (e.g. McGuire, Todnem & Hutchings, 2007; Smola & Sutton, 2002; Westerman & Yamamura, 2007). Some have reported that intergenerational cohorts are generally in harmony (e.g., Schamm, 2004) while others suggest that generational differences are more myth than reality (e.g., Costanza & Finkelstein, 2015; Constanza et al., 2012; Gurbuz, 2015). Costanza et al. (2012: p. 391) conducted a comprehensive meta-analysis on the effect of generational differences in terms of work-related variables and they conclude that "… the inconsistent pattern of results does not support the hypothesis of systematic differences". Therefore, the question of "are there intergenerational differences?" has arisen from these contradictory results.

The present study aimed to determine if differences exist in key work and organizational attitudes (i.e., job satisfaction, organizational commitment and citizenship behavior), personal values, and protestant work ethic (PWE) values between generations, both in the US and Turkey. We selected job satisfaction, organizational commitment, citizenship behavior, personal values, and protestant work ethic as outcome variables for two reasons. First, most of these variables are considered to be pivotal work attitudes and behaviors to gain long-term human-based organizational competitive advantage (Gurbuz & Yildirim, 2019; Youssef & Luthans, 2007). Second, based on congruence theory, personal values and protestant work values might have a powerful impact on the implementation of management practices (Cogin,

2012; Nadler & Tushman, 1980). Our primary aim here is not to compare the Turkish and US generations, but to compare the differences between the generations of both countries within themselves, and thus to increase generalizability of the study. In doing so, the present study will extend multigenerational theory, empirically testing common beliefs and assumptions concerning generational cohorts and offer numerous recommendations to HRM practitioners for managing their multigenerational workforces. In this cross-cultural study, our primary focus is to examine workforce attitudes and values in three generational cohorts and to investigate whether there are substantial differences.

The U.S. and Turkey were sampled for a couple of reasons. The terminology of generational cohorts comes from the U.S. and most multigenerational research has been conducted in this country. However, recent intergenerational studies have indicated that the U.S. centric generational taxonomy is controversial in terms of generalizability to other cultural contexts is (e.g., Costanza & Finkelstein, 2015; Gurbuz, 2015). Turkey, on the other hand, is underrepresented in the intergenerational literature. The US is considered to dominate the global economy (Barnet & Cavanaugh, 1994) and is viewed as a benchmark for modernization in Turkey. The U.S. and Turkey dramatically differ on the historical, cultural, and economic fronts. The present study provides a good test of intergenerational differences between these contrasting locations.

In the introduction section of the study, we made out a brief summary of the subjects, the gap in the literature, the purpose, and the importance of the study. Next, we explained the multigenerational theory and generational cohorts before developing the hypotheses of the study. The method section contains information about data collection, measurement tools and analysis techniques used. Then, we provide findings in the result section. Finally, we discussed the results in terms of theoretical and practical implications with the study limitations in the discussion section.

## Theoretical Background and Hypothesis Development

### Multigenerational Theory

According to generational cohort theory, "a group of people or cohorts who share birth years and experiences as they move through time together, influencing and being influenced by a variety of critical factors" is defined as a generation (Kupperschimdt, 2000, p. 66). Thus, a group of people who encompass similar social, historical, economic, and political events during their childhood is regarded as a generational cohort (see Mannheim, 1952 for a comprehensive review). These common life experiences generally persist during subsequent years among those in a cohort (Jurkiewicz & Brown, 1998). Generational cohort theory posits that individuals that mature during the same time period possess a similar set of belief and

preferences, consecutively those preferences affect their work and organizational attitudes and behaviors (Inglehart, 1997).

Despite the lack of consensus among scholars and practitioners concerning specific names/labels and precise birth years that define generations, the four generations which are often addressed in cohort research are: (a) Traditional generation (born before 1945); (b) Boomer generation (born between 1945 and 1965); (c) X Generation (born between 1966 and 1978); (d) Y Generation (born between 1979 and 1990) (Lester, Standifer, Schultz, & Windsor, 2012). As most traditionalists have retired, the present study focused on the three other generational cohorts that are expected to simultaneously be in the workforce. In generational studies, four generations are subject to research.

## Baby Boomers

This cohort (also known as Boomers) includes those born between the Second World War and 1965. Baby boomers reached adulthood during a time of unprecedented prosperity, affluence, optimism, and opportunity (Kupperschmidt, 2000). Boomers are characteristically hard working, prioritizing material gain and personal development via their careers (Smola & Sutton, 2002). This generation has a strong sense of business ethics and are loyal to their companies.

In exchange, they expect a good salary, prestige, job guarantee, and career opportunities (Hirsch & Shanley, 1996). Boomers are known for their team work orientation and optimism (Hess & Jepsen, 2009), and put the job at the center of their lives (Smola & Sutton, 2002). In short, they expect the best from life.

## Generation X

This cohort (also known as GenXers) includes those born between 1966 and 1979. Compared to Boomers, GenXers tend to value self-employment more than company loyalty (McGuire et al., 2007). In addition, they are more concerned with autonomy and independence, as well as work-life balance. They tend to view work from an action-orientated perspective (Jorgensen, 2003). Instead of valuing money and status, GenXers are encouraged by intrinsic factors such as leisure time, autonomy, and personal freedom (Twenge, 2010). Compared to Boomers, they have weaker work ethic values and desire an informal work environment (Twenge, 2010). GenXers prefer flexible, stimulating, challenging, and interesting jobs. They are described as self-reliant, individualistic, entrepreneurial, risk taking, and comfortable with diversity and change (Egri & Ralston, 2004; Jurkiewicz & Brown, 1998).

## Generation Y

Generation Y is the youngest generation (labeled as GenYers, GenMe, or Millennials) in the workplace. Those in this cohort were born after the late 1970s, although there is a lack of

consensus concerning when this generation begins and ends (Kupperschmidt, 2000; Smola & Sutton, 2002). Because GenYers are highly individualistic and self-focused, they have been labeled GenMe. GenYers are typically considered to be technology driven. They think that long-term employment in an organization is improbable; consequently, the probability that their careers will be characterized by a high turnover pattern is high, especially when compared to prior generations (Kim, Knight, & Crutsinger, 2009). This cohort is considered to be collaborative, team-oriented, and results-oriented, preferring to work for managers that value their input (Crumpacker & Crumpacker, 2007). They value professional development and prefer to self-manage their careers (Westerman & Yamamura, 2007). According to Myers and Sadaghiani (2010), GenYers value a work-life balance and give priority to family and friend relationships. In addition, they seek flexibility and are characterized as independent, self-assured, and self-sufficient (Martin, 2005).

## Work Attitudes and Generations

Job satisfaction is one of the key work outcomes in the organizational behavior literature. According to Lock (1976: p.1304) it is "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences''. A substantial body of research shows that job satisfaction predicts organizational commitment, citizenship behaviors, perceived stress, withdrawal behaviors (i.e. absenteeism, voluntary turnover, and tardiness) (Gurbuz & Yildirim, 2019 ). Organizational commitment is defined as a psychological bond identifying an individual's affiliation to an institution, which in turn, affect someone's decision to stay in the organization (Meyer & Allen, 1993). Previous studies have reported that organizational commitment correlated with turnover, motivation and involvement, absenteeism, and OCB (Choi, Oh, & Colbert, 2015; Gurbuz, 2009). The third variable OCB is defined as "discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization" (Organ, Podsakoff, & MacKenzie, 2006, p. 3). A similar pattern of relationships has been detected for OCB and these same outcomes (see LePine, Erez, & Johnson, 2002).

The theoretical rationale that explains generational differences in work attitudes is that life experiences, including important life events, have a powerful effect on an individual's future values and attitudes (McMullin et al., 2007). Daboval (1998) reported that Boomers' level of organizational commitment is significantly higher than that of GenXers'. In their study on Taiwanese manufacturing firms, Yu and Miller (2005) observed that GenXers gave more importance to job satisfaction and were more loyal to their occupation than Boomers. Jorgensen's (2003) findings from Australia is consistent with Yu and Miller (2005) result, indicating that this cohort were more inclined to quit their job if they were not satisfied with it (in this case, a defense job) than Boomers. Smola and Sutton (2002) observed that GenXers were less committed to their companies than Baby

boomers. On the other hand, Ferres, Travaglione, and Firns (2003) did not observe a difference between GenXers and the older generations in terms of their level of affective commitment, although GenX employees exhibited lower continuance commitment and stronger turnover intentions.

In contrast, Wallace (2006) studied lawyers and observed that work effort, and rewards were more related to Boomers' loyalty to their organization, whereas having supportive colleagues was more related to with GenXers' loyalty. In a study that included 2776 Australian workers Benson and Brown (2011) reported that the relationship between organizational commitment and generational cohorts was not significant, which is consistent with Wallace's (2006) findings. A study by Lub et al. (2012) that included 359 hotel employees in the Netherlands reported that GenYers have a significantly lower level of commitment and higher turnover intentions than GenXers.

Research investigating intergenerational differences in OCB is scarce. Raineri, Paille, and Morin (2012) studied 704 Quebec public service employees and reported that Boomers were engaging more OCBs than GenXers do. In a similar vein, Twenge et al. (2008) reported that the younger generations had a lower motivation for altruistic rewards.

On the other hand, some studies have reported that the impact of generational differences on employees' attitudes and behaviours is very slight, and even conflicting. Based on these limited and unclear data, it cannot be claimed that there will be different attitudes and behaviors among different generations (Costanza & Finkelstein, 2015; Constanza et al., 2012; Gurbuz, 2015).

Although the evidence to date is somewhat mixed in this literature, it seems reasonable to surmise that the work attitudes of the older generations (e.g., Boomers) will be higher than the younger generations (e.g., Generation Y). Thus we hypothesized that:

*H1: Boomers will have a higher level of job satisfaction than GenXers and GenYers (H1a), a higher level of commitment than GenXers and GenYers (H1b), and a higher level of OCB than GenXers and GenYers (H1c).*

*H2: GenXers will have a higher level of job satisfaction than GenYers (H2a), a higher level of commitment than GenYers (H2b), and a higher level of OCB than GenYers (H2c).*

## Protestant Work Ethic Values and Generations

Protestant Work Ethic Values (PWE) are defined as a preference for hard work, avoidance of leisure, independence from others, and asceticism (Furnham, 1990). Although the term PWE was first used in Weber (1958) for protestant culture, it is now used to describe individuals that perceive work at the core of their lives, regardless of religious affiliation

(Miller, Woehr, & Hudspeth, 2002). PWE values can influence generational work-related preferences, attitudes, and behaviors. For example, earlier research indicated that employees with high PWE values scores gave more importance to the intrinsic rewards rather than extrinsic ones (Furnham, 1990). Understanding the PWE values of multiple generations can help organizations design workplace environments that enhance employee motivation and productivity. The present study is based on Blau and Ryan's (1997) PWE operationalization (i.e. hard-working, non-leisure, independence, and asceticism), which is firmly grounded in Weber's theory (1958) and derived from Furnham's (1990) initial study.

Although there is a cliché stating younger generations (GenXers and GenYers) are inclined to work to live and the older generation (Baby Bommers) is more likely to live to work, relevant empirical and systematic research on this issue is limited. Smola and Sutton (2002) reported that the younger generations desire to get ahead more quickly than Boomers do, and do not think that work should be as central to their lives as Boomer do. They suggested that GenXers like to work hard to maximize their individual goals. In addition, they reported that between 1974 and 1999, work ethic values of younger generations were in decline, while that the value of leisure was on the rise. Using a time-lag method, Twenge (2010) observed that GenYers gave more importance to leisure than Boomers and GenXers. They also observed that GenXers value leisure to a significantly greater degree than Boomers. Compared with Boomers, GenXers, and to a greater extent GenYers, place more value on money, prestige, and status. Additionally, they reported that GenYers are significantly less likely to value an intrinsically rewarding job, as compared to GenXers and Boomers. Consistent with these findings, Cogin (2012) reported that the hard working value exhibited a downward trend among GenXers and GenYers. She additionally reported that the most important work value among Boomers is hard work, versus asceticism among GenXers and leisure among GenYers. Although evidence is still mixed, popular conceptions and most prior studies suggest that younger generations do not place value on work ethics. Hence, we hypothesize that:

*H3: Boomers will have a higher PWE hard working dimension score than GenXers and GenYers (H3a), a lower PWE non-leisure dimension score than GenXers and GenYers (H3b), a higher PWE independent dimension score than GenXers and GenYers (H3c), and a lower PWE asceticism dimension score than GenXers and GenYers (H3d).*

*H4: GenXers will have a higher PWE hard working dimension score than GenYers (H4a), a lower PWE non-leisure dimension score than GenYers (H4b), a higher PWE independent dimension score than GenYers (H4c), and a lower PWE asceticism dimension score than GenYers (H4d).*

## Personal Values and Generations

Personal values are also likely to differ between generational cohorts. Schwartz (1994, p.29) defined individual values as, "desirable trans-situational goals, varying in importance that serve

as guiding principles in the life of a person or other social entity". Using 97 samples from 44 countries, 10 universal values were identified and four types of second-order values were classified: "openness to change (self-direction, stimulation); conservation (conformity, security, tradition); self-enhancement (achievement, hedonism, power); self-transcendence (benevolence, universalism)" (Schwartz, 1994, p.4). As the relevant literature is limited, only some values (tradition, security, conformity, hedonism, and power) will be examined in the present study.

Life-stage theory reveals that as individuals mature they become more collectivistic, conservative, and self-transcendent (Erikson, 1997); however, a longitudinal research suggests something different. Inglehart (1997) showed that value preferences remain relatively stable throughout the human life cycle. Egri and Ralston (2004) noted that in the US Boomers had significantly higher conservation value scores (e.g. conformity, security, and tradition) than GenXers, whereas GenXers had higher self-enhancement values scores than Boomers. Chinese researchers reported that the Republic Generation (born between 1930 and 1950) had the highest conservation value scores, whereas the Cultural Revolution Generation (born between the early 1960s and the late 1960s) had the highest self-enhancement value scores. Egri and Ralston's (2004, p.211) findings are primarily in agreement with Inglehart's (1997) theory of intergenerational values, which proposes that "generational cohorts that grow up during times of socioeconomic security internalize postmodernist values (e.g. individualism, interpersonal trust, tolerance of diversity, and self-transcendence)". Thus, we hypothesize that:

*H5: Boomers will have a higher conservation value score (i.e. conformity, security, and tradition) than GenXers and GenYers.*

*H6: GenXers will have a higher conservation value score than GenYers.*

*H7: GenYers will have a higher self-enhancement value score (i.e. hedonism, and power) than Boomers and GenXers.*

*H8: GenXers will a have higher self-enhancement value score than Boomers.*

## Cross-Cultural Differences in Generations

Popular press literature about the birth years for generational cohorts (e.g. Boomers, GenX, and GenY) have been determined by social, historical, and economic events in the US (Costanza & Finkelstein, 2015). The terminology of and labeling of generational cohorts are rooted in the US, and not surprisingly, as most multigenerational research originated in the U.S., it then spread to other parts of the world. As all countries have a unique culture, society, economy, and history, the widespread use the U.S.-centric generational classification should be questioned. For example, the U.S. and Turkey have radically different cultures. In general, the U.S. culture tends to assign less value to collectivism, power distance, uncertainty avoidance, and masculinity, whereas Turkish culture tends to assign higher value to collectivism,

power distance, uncertainty avoidance, and femininity (Hofstede & Minkov, 2010). Additionally, in the U.S. Boomers were born after the Second World War and up to the mid-1960s, but Turkey did not experience a similar increase in the birth rate (baby boom) between 1945 and 1965; hence, generational differences are more prevalent in the US than in Turkey. Thus, we hypothesize that:

*H9: Generational differences will be more prevalent in the U.S. than in Turkey*.

In sum, the present study aimed to determine if differences exist in key work and organizational attitudes (i.e., job satisfaction, organizational commitment, and citizenship behavior), personal values, and PWE values between generations, both in the U.S. and Turkey. Based on the research hypotheses and multigenerational theory, our research model is depicted in Figure 1.

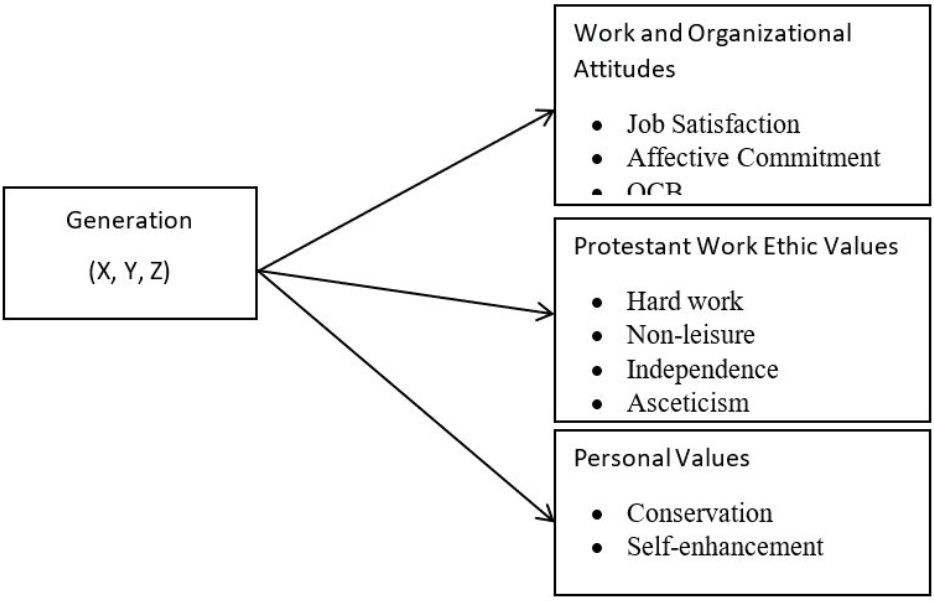


***Figure 1.*** Research Model

## Method

### Samples and Data Collection

A total of 1019 individuals (427 from the U.S. and 592 from Turkey) voluntarily participated in our study. To **ensure** sampling **equivalence, individuals working in** similar organizations in

the US and Turkey were recruited. During the data collection process, the questionnaires were delivered to the participants with a brief explanation about the general purpose of the study and confidentiality of responses. Participants were assured that their responses were confidential and participation in the study was purely voluntary. To ensure anonymity during the data collection process, we asked participants not to write their names on the questionnaire.

US participants were recruited through 2 northeastern college alumni databases, part-time MBA programs, and personal connections to a variety of industries located in western New York State. The US participants anonymously completed the study questionnaire in person or online via a web-based survey portal. US participants were employed in a variety of industries (26% education, 24.4% technology, 21.3% public sector, 15.5% health service, and 12.9% other). Mean age of the US participants was 40.68 ± 12.98 years. Over 55% of the U.S. sample were female.

The Turkish participants were accessed with the help of MBA students that was performed as a part of their course requirements. More specifically, MBA students were asked to collect data in Ankara over the course of 4 semesters. The Turkish participants were employed in a variety of industries (24.7% education, 22.8% technology, 17.9% public sector, 17.4% health service, and 17.2% other). Average age of the Turkish sample was 36.19 ± 10.14 years. Over 41% of the Turkish sample were female.

## Variables and Measurements

### Generation

There is a lack of consensus among researchers about the precise birth years that define generations. For example, birth years for Boomers have been reported to start between 1940 and 1946 and end between 1960 and 1964. In addition, there is no agreement concerning the birth years for GenX and GenY (Cogin, 2012; Jurkiewicz & Brown, 1998; Kupperschmidt, 2000). To overcome this lack of consensus, as Cogin (2012) suggested, participants born in overlapping "grey area birth years" for each generation were excluded from the study. Accordingly, Boomers included those born between 1940 and 1963, GenX included those born between 1966 and 1976, and GenY included those born between 1979 and 1994. The final sample for hypothesis testing included 964 participants (407 from the US and 557 from Turkey). Descriptive statistics for each generational cohort in each country for all study variables are shown in Table 1 and 2.

### Work and Organizational Attitudes

We assessed job satisfaction with four items adapted from Brayfield-Rothe (1951). A sample item includes: "*I feel that I am happier in my job than most other people*". We rated the re-

spondent s' affective commitment with six items taken from Meyer, Allen, and Smith (1993). A sample item includes: "*I would be very happy to spend the rest of my career in this organization*". We measured the participants' OCB with six items adapted from Smith, Organ, and Near (1983). A sample item includes: "*I help others who have been absent*". These scales were used because of their reliability and validity and their widespread use and acceptance. The commitment scale was adapted into the Turkish language by Wasti (2003) while job satisfaction and OCB scales were adapted into the Turkish context by Gurbuz (2015). The reliability coefficient is .82 for job satisfaction, .80 for affective commitment, and .73 for OCB.

## Personal values

We measured personal values with 19 items adapted from Schwartz and Bardi (2001). These values were assessed in terms of two higher-order values: conservation (i.e., tradition, conformity, and security) and self-enhancement (i.e., hedonism and power). The conservation variable was computed by averaging the tradition, conformity, and security ratings, and the self enhancement variable was computed by averaging the hedonism and power ratings. Sample items include: "*I believe that people should be satisfied with what they have"* (tradition), "*I really want to enjoy life. Having a good time is very important for me*" (hedonism), "*I want to avoid doing anything people would say is wrong*" (conformity), "*It is important for me to be rich. I want to have a lot of money*" (power), and "*It is very important for me that my country is safe*" (security). The scale was adapted into the Turkish context by Schwartz and Bardi (2001). The reliability coefficient is .74 for conservation and .66 for self-enhancement.

## Protestant work ethic values

Work ethic values were measured using a 12-item scale developed by Blau and Ryan (1997). The scale is composed of four subscales: hard work (e.g., "*Hard work makes one a better person*"), non-leisure (e.g., "*Life would be more meaningful if we had more leisure time*", independence (e.g., "*One should live one's life independent of others as much as possible*"), and asceticism (e.g., "*You cannot take it with you, so you might as well enjoy yourself*"). There are three items for each subscale. Each subscale's items were presented on a five-point scale. The ratings for each subscale were then combined and averaged. The scale was adapted into the Turkish context by Gurbuz (2015).The reliability coefficient (coefficient alpha) is .82 for hard work, .85 for non-leisure, .78 for independence, and .67 for asceticism.

## Covariates

We identified gender, marital status, and education as covariates in the analyses. Age was only used to define generational cohorts due to its high correlation with this variable, ($r$ = -.92; $p < .001$).

## Analytic Strategy

We used confirmatory factor analysis using maximum likelihood estimation with LISREL version 9.20 software (Jöreskog & Sörbom, 2015) to verify the distinctiveness of our nine self-rated scales. Results of the proposed nine-factor model (one factor: job satisfaction, one factor: affective commitment, one factor: OCB, four factors: PWE, one factor: conservation, and one factor: self-enhancement) demonstrated good fit with the data, $\chi^2$ ($N$ = 964) = 1958.68 with 284 *df*, $p < .001$, *CFI* = .90, *SRMR*= .04, and *RMSEA* = .077 (Gurbuz & Sahin, 2018). We compared the proposed nine-factor model with several alternative models. Nested model comparisons demonstrated that the proposed nine-factor model had a significantly better fit than the nested models, revealing that self-rated measures were distinct. In addition, Harman's single-factor test was utilized to explore potential common method bias (CMB) among study variables. The results indicated that only 13.30 % of the total variance was explained by the single factor, revealing that CMB is not a serious threat for the present study.

We then used multivariate analyses of covariance (MANCOVA) and post hoc group comparisons using the Bonferroni test to test the hypotheses. In these analyses, we utilized the generation cohort groups as the independent variable.

## Results

Intercorrelations, means, and standard deviations among the study variables are presented in Table 1. The correlation coefficients indicate a lack of CMB, which is a potential concern for cross-sectional, self-report survey research (Podsakoff, MacKenzie, & Podsakoff, 2012). Table 1 shows that there is no baseline level of correlation among the present study's variables, and not all of the coefficients are significant, revealing a lack of CMB (Spector, 2006).

The means and standard deviations values for all the study variables in each U.S. and Turkish generational cohort are shown in Table 2. MANCOVA was conducted on the Turkish and the U.S. samples separately to determine if there was an overall effect of the generation on job satisfaction, affective commitment, OCB, personal values, and PWE values after the effects of gender, marital status, and education were taken into account. MANCOVA results for the US sample shown in Table 3 indicate that the dependent variables differed significantly between the three generational cohorts, $F$ (18, 786) = 3.226, $p < .01$, partial $\eta^2 = .068$. The effects of the control variables are smaller than the generational factor, with gender accounting for 5.3% of variation ($p < .05$), marital status 4.6% ($p < .05$), and education 2.9% (*n.s.*). The Turkish MANCOVA results in Table 3 also indicate that the dependent variables differed significantly for the generational groups, $F$ (18, 1088) = 1.987, $p < .01$, partial $\eta^2 = .032$. The effects of the control variables are smaller than the generation factor, with gender accounting for 2.8% of variation (*n.s.*), marital status 3% (*n.s.*), and level of education for 2.8% (*n.s.*).

Table 1
*Means, Standard Deviations, and Intercorrelations among the Study Variables*

| Variables | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | M | SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U.S. | | | | | | | | | | | Turkey | |
| 1. Job satisfaction | 3.52 | .84 | - | .642** | .550** | .293** | -.093* | .021 | -.113** | .380** | -.021 | 3.49 | .92 |
| 2. Affective commitment | 3.64 | .86 | .609** | - | .532** | .321** | -.184** | -.017 | -.133** | .372** | .015 | 3.44 | .93 |
| 3. OCB | 4.21 | .53 | .402** | .318** | - | .354** | -.109** | .037 | -.111** | .398** | -.042 | 3.81 | .65 |
| 4. Hard working | 4.09 | .73 | .135** | .096* | .228** | - | -.135** | .153** | -.068 | .495** | .013 | 3.54 | .95 |
| 5. Non-leisure | 3.71 | .79 | -.082 | -.037 | -.037 | .014 | - | .211** | .236** | -.134** | .199** | 3.06 | .82 |
| 6. Independence | 2.51 | .86 | .074 | .001 | -.049 | .181** | .057 | - | .277** | .109** | .240** | 3.33 | .87 |
| 7. Asceticism | 3.02 | .84 | -.059 | -.211** | -.165** | .090 | .335** | .238** | - | -.050 | .407** | 3.34 | .87 |
| 8. Conservation | 3.68 | .451 | .132** | .081 | .309** | .370** | .103* | .104* | .029 | - | .056 | 3.78 | .49 |
| 9. Self- enhancement | 2.99 | .651 | .002 | -.087 | -.100* | .184** | .292** | .319** | .425** | .026 | - | 3.22 | .68 |

Note. n = 407 for the U.S. and 557 for Turkish sample; *p < 0.05, **p < 0.01.

Table 2
*Attitudes and Values of the U.S. and Turkish Generational Cohorts: Means and Standard Deviations*

| Variables | Job satisfaction | | Affective commitment | | OCB | | Hard working | | Non-leisure | | Independence | | Asceticism | | Conservation | | Self- enhancement | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD |
| **U.S.** | | | | | | | | | | | | | | | | | | |
| Boomers (n= 119) | 3.67 | .81 | 3.85 | .78 | 4.34 | .46 | 4.01 | .74 | 3.51 | .77 | 2.53 | .80 | 2.82 | .81 | 3.69 | .48 | 3.08 | .61 |
| GenX (n= 114) | 3.55 | .80 | 3.74 | .86 | 4.21 | .42 | 3.96 | .72 | 3.73 | .72 | 2.47 | .87 | 2.89 | .83 | 3.62 | .41 | 3.09 | .55 |
| Gen Y (n= 174) | 3.39 | .87 | 3.41 | .85 | 4.14 | .62 | 4.20 | .70 | 3.78 | .82 | 2.55 | .90 | 3.26 | .81 | 3.68 | .45 | 3.32 | .52 |
| **Turkey** | | | | | | | | | | | | | | | | | | |
| Boomers (n= 68) | 3.76 | .78 | 3.72 | .92 | 3.90 | .63 | 3.57 | .97 | 2.83 | .79 | 3.27 | .85 | 3.25 | .82 | 3.92 | .57 | 3.30 | .60 |
| GenX (n=185) | 3.57 | .87 | 3.52 | .90 | 3.82 | .67 | 3.60 | .92 | 3.08 | .82 | 3.23 | .90 | 3.26 | .81 | 3.83 | .51 | 3.29 | .63 |
| Gen Y (n= 304) | 3.38 | .95 | 3.32 | .94 | 3.79 | .63 | 3.48 | .95 | 3.05 | .82 | 3.41 | .87 | 3.40 | .90 | 3.72 | .44 | 3.40 | .61 |

Table 4 shows that there were significant differences in affective commitment, OCB, hard-working, non-leisure, asceticism, and self-enhancement between the U.S. generational cohorts, whereas there were significant generational differences only in satisfaction, affective commitment, and conservation between the Turkish generational cohorts.

Post hoc tests using the Bonferroni adjustment for multiple comparisons showed that there are limited significant generational differences for both countries at the $p = .05$ level. Table 5 shows these post-hoc comparisons and a summary of the results for each study hypothesis. Contrary to our expectations, we found support for some of the study's hypotheses. Hypothesis 1 stated that Boomers would have a higher level of job satisfaction than GenXers and GenYers (H1a), a higher level of commitment than GenXers and GenYers (H1b), and a higher level of OCB than GenXers and GenYers (H1c). Hypothesis 2 proposed that GenXers would have a higher level of job satisfaction than GenYers (H2a), a higher level of commitment than GenYers (H2b), and a higher level of OCB than GenYers (H2c). As shown in Table 5, Turkish

Table 3
*MANCOVA Results for the U.S. and Turkish Generational Cohorts*

| Variables | Wilks | F | df | p | Effect size |
|---|---|---|---|---|---|
| **U.S.** | | | | | |
| Generations | .867 | 3.226 | 786 | .000 | .068 |
| Gender | .947 | 2.448 | 393 | .010 | .053 |
| Marital status | .954 | 2.111 | 393 | .028 | .046 |
| Education | .971 | 1.297 | 383 | .236 | .029 |
| **Turkey** | | | | | |
| Generations | .937 | 1.987 | 1088 | .008 | .032 |
| Gender | .972 | 1.759 | 543 | .073 | .028 |
| Marital status | .970 | 1.842 | 543 | .058 | .030 |
| Education | .978 | 1.332 | 543 | .073 | .028 |

Boomers had a significantly higher level of job satisfaction than Turkish GenYers. The U.S. and Turkish Boomers had a significantly higher level of affective commitment than the U.S. and Turkish GenYers, whereas the U.S. GenXers had a significantly higher level of affective commitment than the U.S. GenYers. The U.S. Boomers also had a significantly higher level of OCB than the U.S. GenYers, whereas Turkish Boomers did not have a significantly higher level of OCB than Turkish GenYers. Based on these findings, H1a, H1b, H2b, and H1c were only partially supported.

In terms of PWE values, our hypothesis predicted that Boomers would have a higher hard working dimension score than GenXers and GenYers (H3a), a lower non-leisure dimension score than GenXers and GenYers (H3b), a higher independent dimension score than GenXers and GenYers (H3c), and a lower asceticism dimension score than GenXers and GenYers (H3d). The hypothesis predicted that GenXers would have a higher PWE hard working dimension score than GenYers (H4a), a lower non-leisure dimension score than GenYers (H4b), a higher

independent dimension score than GenYers (H4c), and a lower asceticism dimension score than GenYers (H4d). The U.S. Boomers had a significantly lower PWE non-leisure dimension score than the U.S. GenYers. The U.S. Boomers had a significantly lower PWE asceticism score than the U.S. GenYers, and the U.S. GenXers had a significantly lower PWE asceticism score than the U.S. GenYers. All PWE hypotheses were rejected for the Turkish sample based on the data obtained. The U.S. sample data fully supported H4d and partially supported H3b and H3d.

Concerning personal values, Hypothesis 5 proposed that Boomers would have a higher conservation value (e.g. conformity, security, and tradition) score than GenXers and GenYers, Hypothesis 6 predicted that GenXers would have a higher conservation value score than GenYers, Hypothesis 7 stated that GenYers would have a higher self-enhancement values (i.e. hedonism and power) score than Boomers and GenXers, and Hypothesis 8 proposed that GenXers would have a higher self-enhancement values score than Boomers. The U.S. GenYers had a significantly higher self-enhancement values score than the U.S. Boomers and GenYers, which supports H7 for the U.S. sample, whereas Turkish Boomers had a significantly higher conservation values score than Turkish GenYers, which partially supports H5 for the Turkish sample (Table 5). Because the differences in the other study variables between generational cohorts were not significant, the remaining study hypotheses were rejected (see Table 5). The last hypothesis was that generational differences would be more prevalent in the U.S. sample than in the Turkish sample. As shown in Table 5, hypotheses H2b, H4d, and H7 were fully supported and hypotheses H1b, H1c, H3b, and H3d were partially supported in the U.S. sample, based on the present findings, whereas only hypotheses H1a, H1b, and H5 were partially supported in the Turkish sample based on the study findings, indicating that generational differences were more prevalent in the U.S. sample and supporting H9.

## Discussion

The present study investigated differences between generational cohorts in key work attitudes (i.e. job satisfaction, affective commitment, and citizenship behavior), personal values, and PWE values in the U.S. and Turkish samples. Overall, our findings do not support the common cliché that intergenerational differences exist in both samples.

Many earlier studies reported there are differences between generational cohorts in work-related attitudes and behaviors (Appelbaum et al., 2005; Benson & Brown, 2011; Daboval, 1998; Jorgensen, 2003; Lub et al., 2012; Raineri et al., 2012; Smola & Sutton, 2002; Yu & Miller, 2005). However, a recent meta-analysis by Costanza et al. (2012) observed that the differences among generational cohorts are relatively small and inconsistent.

Despite small effect sizes, the results of our study reveal the existence of some weak patterns. Turkish Boomers had a significantly higher level of job satisfaction than Turkish

GenYers. The U.S. and Turkish Boomers had a significantly higher level of affective commitment than the U.S. and Turkish GenYers, whereas the U.S. GenXers had a significantly higher level of affective commitment than the U.S. GenYers. In addition, the U.S. (but not Turkish) Boomers had a significantly higher level of OCB than the U.S. GenYers. These findings indicate that older generations are generally more satisfied, committed, and demonstrate citizenship behaviors to a greater degree than the young generations, which is in agreement with earlier research that has shown that chronological age is positively correlated with job satisfaction (Kacmar & Ferris, 1989), commitment (Ng and Feldman, 2010), and citizenship behaviors (Ng & Feldman, 2008). Meyer, Stanley, Herscovitch, & Topolnytsky (2002) observed that the strongest predictors of commitment were supportive organizational climate, effective leadership, and role clarity. Likewise, Judge et al. (2002) suggested that some personality traits are correlated with job satisfaction, which might be main antecedents for the higher level of job satisfaction among the older generations.

Kowske et al. (2010) did not observe robust support for generational differences in terms of job satisfaction, even after compensating for the effects of age, as did Costanza et al. (2012). More recently, Costanza & Finkelstein (2015) argued that "stereotypes about generational differences in the workplace are unfounded and ill advised" (p. 321).

Our study also found that intergenerational differences in work-related attitudes and values are relatively limited, revealing that there are no substantive differences in among generational cohorts. This result is in line with the findings of Costanza et al. (2012) and others (Cennamo & Gardner, 2008; Kowske, Rasch, & Wiley, 2010; Wallace, 2006). Furthermore, the present findings are consistent with those produced via earlier longitudinal research that indicated value preferences remain relatively stable throughout an individual's life cycle (Inglehart, 1997). For instance, in the context of Turkey, GenXers and GenYers do not differ in terms of any of the variables studied. In the US context, there is no significant difference between these generations except for affective commitment and ascetism. The violation of psychological contract may be a possible explanation for this situation, particularly in terms of work and organizational related variables. As psychological contract studies, employees work hard, have a strong loyalty to their companies, and prioritize their job in their lives in exchange for career opportunities, lifelong job guarantee, and good salary (Hirsch & Shanley, 1996). This informal relationship occurred between the employer and the employee is called a psychological contract. However, it seems difficult for organizations to meet these expectations of employees in today's turbulent economic structure. Organizations have provided less than expected fees for salary, and terminated the job of employees for various reasons including re-organization, downsizing, and economic turbulences, as a result, the non-voluntary labor turnover rate has increased considerably (Arthur & Rousseau, 1994; Maguire, 1993). Thus, the psychological contract between employers and employees has been breached and violated in the perception of employees (Robinson & Morrison, 2000; Turnley & Feldman,

Table 4
*MANCOVA Results for Each Study Variable, According to the U.S. and Turkish Samples*

| Variables | Job satisfaction | | Affective commitment | | OCB | | Hard working | | Non-leisure | | Indepen-dence | | Asceticism | | Conservation | | Self-enhancement | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | ηp2 | F | ηp2 | F | ηp2 | F | ηp2 | F | ηp2 | F | ηp2 | F | ηp2 | F | ηp2 | F | ηp2 |
| U.S. Gener-ations | 2.367 | .012 | 7.953*** | .038 | 3.601* | .018 | 4.618** | .023 | 4.480* | .022 | 1.126 | .006 | 13.579*** | .064 | 677 | .003 | 5.460** | .027 |
| Turkish Generations | 4.584* | .016 | 4.900** | .017 | .292 | .001 | .155 | .001 | 2.380 | .009 | 380 | .002 | .056 | .000 | 3.236* | .012 | 1.491 | 005 |

*p<.05, **p<.01, ***p<.001.

Table 5
*The U.S. and Turkish Generation Cohort Differences: Hypotheses and Results of Post Hoc Group Comparisons*

| Variables | Hypotheses | U.S. Generation Group Differences | Turkish Generation Group Differences |
|---|---|---|---|
| Job satisfaction | H1a. Boomers > GenXers and GenYers | Rejected. | Partially supported. Boomers > GenYers |
| | H2a. GenXers > GenYers | Rejected. | Rejected. |
| Affective commitment | H1b. Boomers > GenXers and GenYers | Partially supported. Boomers > GenYers | Partially supported. Boomers > GenYers |
| | H2b. GenXers > GenYers | Supported. | Rejected. |
| OCB | H1c. Boomers >GenXers and GenYers | Partially supported. Boomers > GenYers | Rejected. |
| | H2c. GenXers > GenYers | Rejected. | Rejected. |
| Hard working | H3a. Boomers > GenXers and GenYers | Rejected. | Rejected. |
| | H4a. GenXers > GenYers | Rejected. GenYers > GenXers | Rejected. |
| Non-leisure | H3b. Boomers < GenXers and GenYers | Partially Supported. Boomers < GenYers | Rejected. |
| | H4b. GenXers < GenYers | Rejected. | Rejected. |
| Independence | H3c. Boomers > GenXers and GenYers | Rejected. | Rejected. |
| | H4c. GenXers > GenYers | Rejected. | Rejected. |
| Asceticism | H3d. Boomers < GenXers and GenYers | Partially Supported. Boomers < GenYers | Rejected. |
| | H4d. GenXers < GenYers | Supported. | Rejected. |
| Conservation | H5. Boomers > GenXers and GenYers | Rejected. | Partially Supported. Boomers > GenYers |
| | H6. GenXers > GenYers | Rejected. | Rejected. |
| Self-enhancement | H7. GenYers > Boomers and GenXers | Supported. | Rejected. |
| | H8. GenXers > Boomers | Rejected. | Rejected. |

1998). Violation of the psychological contract may reduce the loyalty, satisfaction, voice, and intention to remain of all, even of those who naturally (e.g. older generations) have a higher level (Turnley & Feldman, 1998; Robinson & Rousseau, 1994).

As findings of our study, generational differences are more prevalent in the U.S sample than the Turkish one. These results may have an explanation: cultural differences among both countries, and the level of psychological contract violation. Firstly, According to Stell and Taras (2010: p. 212) "… individual attitudes, beliefs and behaviors are believed to be culturally determined. According to Hofstede (1980, 1984), the differences in attitudes and behaviors between individuals are less in collectivist societies. Individuals depend on their own traditions and norms of adults, and therefore exhibit more similar attitudes and behaviors. In individualistic societies, however, individuals are unique, less dependent on traditions and what their ancestors do, and are therefore more prone to different attitudes and behaviors. Turkey is listed among collectivistic societies and individuals are more inclined to experience collectivist attitudes and behaviors. Secondly, this result may because of the level of psychological contract violation being relatively higher in Turkey. Unfortunately, Turkey has been unable to achieve economic balance and has experienced economic crisis more than any developed country (Barkey, 2019). The number of unemployed aged 15 and above in Turkey increased by 980.000 compared to the same period last year, and during August 2019 was 4 million 650 thousand people (TUİK, 2019). The relatively high level of layoffs, economic crises and turmoil in Turkey (compared to the U.S) may cause further violation of the psychological contract, which as a result, further reduces loyalty, commitment, OCB, and motivation to be hard-working (Turnley & Feldman, 1998; Robinson & Rousseau, 1994).

In sum, the present findings offer only limited support for generational differences in work-related attitudes and values. Based on the present study's findings and previously published findings, we argue that chronological age and other variables are related to the small effects observed in the present study. Moreover, the present findings show that generational differences are more prevalent in the US sample than in the Turkish sample, as was expected.

## Implications for Practice

Based on popular press and generational gurus' ideas about generational differences, most organizations and managers have unfortunately already started to tailor workplace practices to work preferences of generational cohorts. For example, they have determined HR programs that explain how employees of different generational cohorts should be managed. However, the present study's findings and those of earlier relevant studies suggest that such programs and interventions may not be effective strategies. Instead of using myths, stereotypes, popular practices or inconsistent results about generations, organization, managers and practitioners should rely on actual individual differences that are supported by solid theory and strong

research to predict crucial work outcomes. Another more plausible option for managers and organizations is to conduct needs analyses to determine employee preferences and develop workplace practices based on the findings.

### Limitations and Future research

The present study has some limitations, including the inclusion of samples from only two countries. We collected the research data from employees working in a variety of industries located in western New York State, the U.S. and Ankara, Turkey. However, both countries have a vast degree of regional differences and cultural nuances. Hence our sample does not perfectly represent the whole country. Future research with more representative samples would have strengthened the generalizability of the results. Inclusion of samples from other countries might have helped to determine the generalizability of the U.S.-centric generational cohort taxonomy. Additionally, the present study used cross-sectional data, which limits the ability to separate variance attributable to the effects of generational cohort, age, and period effects (Costanza et al., 2012). Additional research employing more robust research methods, such as cross-classified HLM, longitudinal design, and cross-temporal meta-analysis, might yield more reliable findings. Most importantly, as was mentioned above, each country's experiences and events that affect generational cohort characteristics are unique. Apparently, more research is needed to precisely define and categorize generational cohorts, to better conceptualize generational phenomena, to identify generational differences that result from generational cohort inclusion and age, and to determine if the US-centric generational taxonomy (e.g. Boomers, GenXers, and GenYers) is generalizable to other countries. For example, future research using more qualitative research methods should be conducted within cultures around the world to define the start and end years for country-specific generations.

## Conclusion

We investigated differences in work and organizational attitudes (i.e. affective commitment, job satisfaction, and OCB), work ethic values, and personal values between generational cohorts in Turkish and the U.S. samples. We did not find substantial support for the presence of generational differences or their association to key outcome variables. Our findings did not fully support the common cliché that intergenerational differences exist in work-related attitudes, work ethic values, and personal values. In addition, the U.S. originated classification of generations cannot be generalized for the Turkish business context. Our findings act as a warning to organizations seeking to adopt HR strategies based on the common cliché and stereotypes on generational differences.

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RESEARCH ARTICLE

# To Be Rated or To Be Indexed: Corporate Governance Rating Experience in Borsa Istanbul

**Burak Pirgaip[1], Mehmet Berktay Akyüz[2]**

**Abstract**

We aim at answering whether it is more noteworthy for investors to attain or sustain corporate governance goals by examining how the market reacts towards announcements regarding corporate governance ratings (CGR) and corporate governance index (XCORP) including the firms listed in Borsa Istanbul within the sample period of 2007-2018 using a standard event study methodology. We found that, although both announcements produce relatively weak signals, joint announcements made upon XCORP inclusions along with first ever CGR (attainment) have more significance when compared to single announcements of subsequent CGR (sustainment) in the pre-event period. However, we also determined that the impact of subsequent CGR announcements in the post-event period was more profound. Our results revealed that the market anticipates XCORP inclusions whereas subsequent CGR are unexpected. Besides, the weak support for signaling hypothesis was considered to result from the obscuring effects of current legislation and market practices.

**Keywords**

Corporate governance, Corporate governance rating, Corporate governance index, Abnormal returns, Event study

## Introduction

Corporate governance is concerned with organizational relationships that are set out to ensure proper and efficient allocation of duties, powers and responsibilities among a firm's management, its board of directors, its owners and other stakeholders (OECD, 2015). The nature and the level of interaction between these parties may vary from one firm to another, but it is built and updated in the glare of publicity when listed issuers are considered. In this regard, both corporate governance mechanisms and stock markets receive continuous feedback from each other. On one hand, capital market information enhances the ability of the organization to adopt changing demands and circumstances in a more effective and faster manner (Gillan, 2006); on the other hand, investors are willing to pay for good corporate governance, which translates into improvement in the value of stocks (Chang and Wei, 2011).

1 **Corresponding Author:** Burak Pirgaip (Assoc. Prof. Dr.), Hacettepe University, Department of Business Administration, Ankara, Turkey. E-mail: burakpirgaip@hacettepe.edu.tr ORCID: 0000-0001-8870-8502

2 Mehmet Berktay Akyüz (Ress. Asst.), Sabanci University, School of Management, İstanbul, Turkey. E-mail: berktayakyuz@gmail.com ORCID: 0000-0002-0638-7520

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From this standpoint, one question deserves closer attention: Is it more noteworthy to attain or sustain corporate governance goals in the eyes of investors? We aim at answering this question by drawing from signaling theory (Spence, 1973; Ross, 1977; Bhattacharya, 1979). The theory, within the context of corporate governance, postulates that disclosure of information regarding corporate governance actions conveys a signal of management quality or high reputation (see Toms, 2002; Musteen et al., 2010; Rahaman and Al Zaman, 2013 among others) as well as being perceived as a manifestation of the firm value or good performance (see Westphal and Zajac, 1998; Certo et al., 2001; Utrero-González and J. Callado-Muñoz, 2016 among others). Since corporate governance has a voluntary nature in substance, the signaling effect thereof also finds its roots in the literature pertaining to voluntary disclosures (Diamond, 1985). The basic premise, in any case, is that such disclosures can reduce the level of information asymmetry among stock market participants who then are expected to react positively to these signals of "differentiated" firms of "high-quality" (Fama, 1965; Jensen, 1978).

In this study, we focused on two types of disclosures attached to the corporate governance practice in Turkey: inclusion in the Corporate Governance Index (XCORP) which is developed by the Turkish stock exchange, i.e. Borsa Istanbul (BIST), and obtaining corporate governance ratings (CGR). Although these corporate actions have inherent commonalities as they are signs of good quality, they imply slightly -but significantly- different inferences in that the former indicates a one-time accomplishment of a distinctive level of corporate governance while the latter provides an overall assessment of the following efforts made towards the maintenance of this achievement. Furthermore, XCORP inclusion is, by regulation, warranted by an adequate level of CGR obtained by a given firm for the first time ever. Accordingly, CGR announcements other than the ones attached to XCORP inclusions once are subsequently made on a stand-alone basis in the years ahead. This is important to consider for a number of reasons. First, it is worth accounting for the possibility that the efficacy of a signal is influenced by earlier signals that have already granted a reputation to the firm (Heil and Robertson, 1991). That is, further achievements in corporate governance may be less or more valuable when the firm has already been included in the XCORP. As a corollary, another proposition would be that investors' expectations on the orientation of firms toward the future could change with time, meaning that their interpretations of the past and the future firm performance could be subject to change in different periods (George and Jones, 2000). This indeed suggests the management of a portfolio composed of different signals. Connelly et al. (2011) posit that different types of signals could communicate different messages and their interaction with each other should be explored. In concrete terms, inclusion of a firm in the XCORP could be regarded as an "activating signal" since it separates the firm from its competitors in terms of initiating good corporate governance principles within the organization, whereas obtaining a CGR is rather identified with a "pointing signal" that would stand for a confirmation of this acquired characteristic. All of these issues eventually would be reflected

in the firm's value as markets provide differing feedback with respect to investor behavior by reacting to announcements differently.

Our analytical framework, therefore, was based on the standard event study methodology, which is commonly concerned with market reaction surrounding a corporate event based on cumulative abnormal return analysis (e.g. Lee, 2001; Cohen and Dean, 2005; Park and Mezias, 2005). In this way, we scrutinized the stock price reaction upon the announcements of improvements in the corporate governance of firms. We extended our analysis to include the impact of these announcements on trading volume as well. Our empirical findings revealed that abnormal returns and volumes following joint announcements of XCORP inclusions and first ever CGR were more pronounced than the ones associated with subsequent CGR in the pre-event period and on the announcement day. However, investors appeared to pay more for subsequent CGR announcements in the post-event period. Neither of the two signals were strong as a possible consequence of legislative impositions and imitative market practices.

The contribution of this study is two-folded. Primarily, we made a difference by analyzing the announcements effects of being included in XCORP and obtaining CGR in a comparative manner. Our approach allowed us to touch upon the literature on signaling theory from different angles owing to the fact that potential differences may exist in the market reactions to these separate events even if they are both driven by the same corporate governance mechanism. The Turkish market, in this respect, offers one of the unique settings where the prevailing corporate governance legislation includes specific provisions for both types of events. Secondarily, we spurred on academic discussion by drawing attention to index inclusion as a value adding facility for corporate governance practices.

Under this backdrop, the next section provides the conceptual and institutional background for our study. Section 3 and Section 4 introduce research data and methodology, respectively. Section 5 discusses the results of empirical analyses and Section 6 concludes the study.

## Conceptual and Institutional Background

### Literature Review and Hypothesis Development

A vast amount of research has been devoted to revealing the relationship between corporate governance and firm performance. Yet, the CGR concept has not been adequately addressed in this respect. Relevant studies primarily include investigations of whether firms perform better with good corporate governance ratings that yield complicated results. Drobetz et al. (2004), Garay and Gonzalez (2008), Morey et al. (2009), Renders et al. (2010), Arora and Sharma (2016), Bhatt and Bhatt (2017), and Ghosh (2018) find out that there is plausible national and international evidence to care about corporate governance in im-

proving firm performance. Contrarily, researchers also argue that the relationship between corporate governance and firm performance is negative (Bauer et al., 2004; Bebchuk et al. 2009), weak (Epps and Cereola, 2008; Al-ahdal et al., 2020) or even non-existent (Singh and Davidson, 2003; Lehn et al. 2007). On the other hand, due to the fact that a stock exchange index product similar to XCORP can be rarely found in other jurisdictions[1], "corporate governance index" has remained as an almost untouched domain to date. Rather, scholars use this nomenclature interchangeably with rating to describe self-constructed indices that stand for a subject firm's corporate governance score (Gompers et al., 2003; Foerster and Huen, 2004; Da Silva and Leal, 2005; Black et al., 2006; Cheung et al., 2011; Korent et al., 2014; Ararat et al., 2017; Arora and Bodhanwala, 2018; Kaur and Vij, 2018). This strand of literature is based on assessing the impact of the corporate governance level within a firm on performance and therefore is an extension of the abovementioned extant research on rating in substance. Apart from these studies, CGR activity per se has also been subject to criticism in many papers. For instance, Koehn and Ueng (2005) find that CGR are not reliable for investors at all. Donker and Zahir (2008) similarly put forward that a single-score-methodology may not be used as a simple measurement of corporate governance quality. Ertugrul and Hegde (2009) underline that a single score may not be informative enough about the whole complex corporate governance system. According to Daines et al. (2010), commercial CGR do not provide useful information for the market in terms of share prices. Interestingly, in a very recent study, Guest and Nerino (2020) replicate the analysis of Daines et al. (2010) and come up with contrasting findings with significant price impact of CGR in the case of downgrades in particular. Black et al. (2014) argue that probable reasons for this inconclusiveness in the CGR literature are construct invalidity, data unavailability and omitted variable bias. This argument has econometrically been verified by the authors indicating that "country-specific" governance indices, tailored to national legal infrastructure, have substantial power to predict market performance, while "common" indices across different countries suffer.

There is also a multitude of literature that employs event study methodology to corporate governance announcements most of which are related to signaling effects of institutional reforms such as appointment of independent board members, establishment of audit committees or enhancement of internal control mechanisms etc. Most of these studies find positive reactions (Chan-Lau, 2002; Picou and Rubach, 2006, Black and Khanna, 2007; Kang et al., 2009; Gupta and Fields, 2009; Fuenzalida et al., 2013), whereas there are some others that find negative (Zhang, 2007; Litvak, 2007; Daines et al., 2010) or insignificant (Rubach and Picou, 2005; Hodgson et al., 2011) reactions. Previous work focusing specifically on the

1 To the best of our knowledge, the Novo Mercado Index (IGCX) in Brazil and the Good Corporate Governance Index (GCGI) in Peru are the only ones that measure the performance of share prices of firms with an acceptable level of corporate governance (Ernst&Young, 2016). Nevertheless, these indices are not based on commercial/official corporate governance ratings, but rather on self-assessments of firms or stock exchanges (Fuenzalida et al., 2013; Da Silva and Leal, 2005).

Turkish stock market has a fragmented picture as well. The study by Bozcuk (2010) is one of the earliest research that investigates the market reaction to corporate governance rating reports during the four-year period from 2006 until the end of 2009, with a sample of 20 announcements. The author reports evidence of a statistically significant positive market reaction on the announcement day. However, as the author conveys, this reaction appears to be triggered by the simple act of having a corporate governance rating grade rather than the magnitude of the rating itself. Sakarya (2011), based on data pertaining to 11 companies which acquired their first CGR in 2009, also confirms a significant positive market reaction to ratings announcements. In another single year analysis, Yapa (2017) concludes that stock returns significantly increase in the aftermath of CGR announcements made in 2015 by 50 firms. Nevertheless, Sakarya et al. (2017) articulate that announcements regarding CGR grades had no impact on stock returns of 58 firms listed in Borsa Istanbul within the 2011-2015 period. In a contemporaneous study, Kavcar and Gümrah (2017) also reach the same conclusion for a sample of 55 firms in the period of 2007-2015. Lastly, Tuan and Borak (2019) center upon CGR changes instead of announcements between the years 2010 and 2014. The results of the study show that investors react negatively not only to the downgrades but, surprisingly, also to the upgrades. Negative reaction is also found to be significant in another study by Kılıç (2011) in which the investors of firms that are included in XCORP neglected to consider the inclusion event when they make their investment decisions. In another comparable attempt, Yavuz et al. (2015) argue that XCORP inclusion may have negative impacts on stock returns.

While these studies provide us the basis to find support for our research motivation that aims to differentiate the signaling power of XCORP inclusions and CGR obtainment in the market, we draw our primary inspiration from another branch of literature, which relates to the informational features of joint announcements. Joint announcements are announcements of multiple events that are made on the same day. Although we are not aware of any previous work that considers the joint announcement theme as part of corporate governance, a peculiar body of literature has evolved on the dividend announcement effects on information asymmetry conjoined with other corporate actions such as earnings or split announcements. On one hand, Kane et al. (1984) articulate that jointly made earnings and dividend announcements are complements of each other in that market does not evaluate them in isolation. Similarly, Eddy and Seifert (1992) argue that the stock price reaction to two contemporaneous announcements is greater than the reaction to just one signal. Alongside this US-based research, Easton (1991), Lonie et al. (1996), McCluskey et al. (2006), Dasilas et al. (2008), Anderson (2009), Al-Yahyaee et al. (2011) and Ozo and Arun (2019) confirm these findings in Australia, the UK, Ireland, Greece, New Zealand, Oman and Nigeria, respectively. In a different context, Kalaignanam and Bahadir (2013) also prove that jointly announced corporate name changes and business restructuring are significantly more informative than the sum of their individual effects. Venkatesh and Chiang (1986) investigate the joint announcement effects on the spread-setting behavior of dealers.

They find that information asymmetry does not increase before joint announcements contrary to the strong increase in information asymmetry before subsequent announcements. Overall, these outcomes appear to contradict with the seminal theoretical analysis of Miller and Rock (1985), which reveals that concurrent announcements can serve as perfect substitutes for each other under certain conditions. On the other hand, Nayak and Prabhala (2001) show that dividends and splits are informational substitutes by disentangling the relative importance of dividend announcement effects from that of the other. A majority of previous research employs event study metrics to examine the abnormal returns for different announcement groups and regression metrics to analyze the interaction between announcements. However, in order to produce more robust results in the attempts of separating two types of information, the former methodology generally takes a conditional (e.g. Nayak and Prabhala, 2001) or an alternative (e.g. Anderson, 2009) form of event study, while the latter often makes use of regression analysis (e.g. Lonie et al., 1996; Al-Yahyaee et al., 2011; Ozo and Arun, 2019). Nevertheless, the underlying intuitions in both methodologies are, first, to conclude whether joint announcements convey more important news to the market, and second, to discover which of the two signals is more dominant in terms of its informational content. In cases where the tests of these intuitions show signs of difference in market reactions, the announcements would not be deemed as perfect substitutes.

Within these research streams, the paper most similar, both conceptually and methodologically, to ours is Dasilas et al. (2008). The authors adopt a standard event study approach to explore stock price and trading volume reaction to joint announcements of dividends and earnings and eventually evaluate the magnitude of reactions by means of tests of differences. Being inspired by this study, we adapted the joint announcement notion to our unique corporate governance setting and analyzed the importance of joint announcements of XCORP inclusions and underlying first ever CGR in relation to stand-alone CGR announcements made subsequently. Subsequent CGR, hereby, can be conceptualized as the successor CGR obtained at the nearest time following the year of XCORP inclusion.

In this purview, we built our discussion on various dimensions of signaling theory to help explain the influence of information asymmetries associated with the announcements of XCORP inclusion and CGR possession. We did so by distinguishing the signaling effects of one from the other by relying on a unique genre of literature on joint announcements. Our research hypothesis is that XCORP inclusion announcements, which are jointly made with first ever CGR, send signals which have influential power relative to individual subsequent CGR announcements as reflected in stock returns and trading volumes.

## Corporate Governance Requirements in Turkey

Regulatory bodies in most parts of the world have seriously contemplated developing new or adapting generally accepted corporate governance codes or principles in their stock

markets especially in the aftermath of accounting scandals[2]. CGR is one of the key tools used to encourage or enforce firms to align their existing corporate governance practices with the regulatory framework. Since investors -mainly institutional ones- base their portfolio decisions on CGR as well, disclosure of such information is voluntary to a substantial degree; however, it may become the subject of mandatory regulation in order to protect investors -mainly individual ones (Anand, 2006).

Turkey, as an emerging market, is one of the exceptional countries where corporate governance legislation relies on both a "comply or explain" approach and a "binding" set of rules. Nevertheless, that voluntary measures are applied in conjunction with mandatory requirements does not necessarily mean that they are in balance. Indeed, Capital Markets Board (CMB), the standard-setting body, shifted its voluntaristic view in the direction of a more obligatory stance in 2011 by tightening the compliance standards for large listed firms in its corporate governance code (OECD, 2013). This is also the case for CGR provisions. Although it is a discretionary activity carried out on demand, the methodology of ratings must be officially approved and the rating agency must be recognized by CMB. The rating facility not only complements the current legal infrastructure but also provides the basis for the XCORP. Essentially, XCORP acts as an incentive for firms to adopt high corporate governance standards (OECD, 2006). In this regard, when a firm obtains a minimum required rating, it is immediately included in XCORP. Alternatively, firms acquire their first CGR with the inherent intention of XCORP inclusion.

XCORP, by definition, measures the price and return performances of firms traded on BIST markets with a rating of a minimum of 7/10 on aggregate and of a minimum of 6.5/10 per sub-section. These sub-sections are titled as "Shareholders", "Public Disclosure and Transparency", "Stakeholders", and "Board of Directors". Weightings for each title are statutorily assigned by CMB. While original weightings were 25%, 35%, 15%, and 25%, they have been employed as 25%, 25%, 15%, and 35%, respectively, upon a revision that took place in 2014. The CGR service is provided by rating agencies approved by CMB following an in-depth assessment of the agency's level of compliance with corporate governance principles.

## Data and Descriptive Statistics

The first calculation of XCORP dates back to August 31st, 2007 with an initial value of 48,082.17 and its closing price was 77,658.90 as of December 31st, 2018. We set our sampling period as 2007-2018[3]. The source of data utilized in this study is described in Table 1:

2 Please see (OECD, 2017) for a detailed list of national corporate governance codes and principles.

3 Note that no inclusion in XCORP has taken place after 2018.

Table 1
*Source of data*

| Data | Source |
|---|---|
| Share and index price information | Bloomberg |
| CGR announcements | TKYD and PDP |
| XCORP + CGR announcements | Bloomberg and PDP |
| Industry information | PDP |

**Notes:** This table provides information regarding the source of data utilized in our analysis. TKYD denotes for Corporate Governance Association of Turkey, a non-profit organization aiming at developing and promoting adherence to corporate governance standards and guidelines in Turkey; PDP denotes for Public Disclosure Platform, an electronic system through which electronically signed notifications required by CMB and BIST are publicly disclosed.

Table 2 displays information regarding the announcements of index inclusions and CGR throughout the years with industrial specifications. As given in Panel A, the total number of joint announcements was 63, which is composed of simultaneous disclosures on XCORP inclusion and the first ever CGR reports[4]. The total number of CGR announcements, i.e. 461, in Panel B, included both first ever and subsequent CGR reports throughout our sampling period. Apparently, a great majority (about 86%) of both types of announcements pertained to manufacturing and financial firms.

In our sampling process, we ended up with 60 firms after excluding firms which did not have subsequent CGR or which were included in the XCORP multiple times. In this way, we enabled ourselves to compare the joint announcements of XCORP and the first ever CGR with individual announcements of subsequent CGR of the same 60 firms.

Figure 1 portrays the average CGR scores on a year-by-year basis. What catches the eye in the figure is that the average CGR scores experienced a dramatic decline in 2014 due to the regulatory change in weightings of CGR sub-sections. Besides, "Board of Directors" and "Public Disclosure and Transparency" have always been the lowest and highest graded sub-sections, respectively. This explains the reason for the decline in 2014, since regulation simply requires a switch of weights (i.e. 35%-25% to 25%-35%) between the former and the latter.

4 Though not reported, the amount of firms excluded from XCORP was 20. In our study, we ignored exclusions. The main reason is that exclusion of a given firm from XCORP does not stem from the fact that it has unsatisfactory corporate governance practices. Rather, firms are excluded due to delisting, restructuring or even nonrenewal of rating contracts in most of the cases. More concretely, the firms are immediately excluded from the XCORP when they publicly disclose their intention to be delisted or restructured. Even though, their market information is available until the exact date they are delisted or restructured, we prefered not to include them in our analysis for purification purposes.

Table 2
*Announcements Regarding Inclusions to XCORP and Obtaining CGR*

| | | | Industry | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Panel A: XCORP Announcements** | | | | | | | | | |
| **Year** | **Announcement** | **#** | **Manufacturing** | **Wholesale & Retail** | **Mining** | **Construction** | **Transportation & Telecommunication** | **Technology** | **Financial** |
| 2007 | XCORP + CGR | 7 | 5 | | | | | | 2 |
| 2008 | | 6 | 3 | | | | | | 3 |
| 2009 | | 11 | 3 | | | | 1 | 1 | 6 |
| 2010 | | 7 | 2 | | 1 | | | | 4 |
| 2011 | | 6 | 1 | 1 | | | | | 4 |
| 2012 | | 7 | 1 | | | 1 | 1 | 1 | 3 |
| 2013 | | 4 | 1 | | | | | | 3 |
| 2014 | | 5 | 2 | | | | 1 | | 2 |
| 2015 | | 6 | 2 | | | | | | 4 |
| 2016 | | 1 | | 1 | | | | | |
| 2017 | | 2 | | | | | | | 2 |
| 2018 | | 1 | 1 | | | | | | |
| Total | | 63 | 21 | 2 | 1 | 1 | 3 | 2 | 33 |
| **Panel B: CGR Announcements** | | | | | | | | | |
| Year | | | | | | | | | |
| 2007 | CGR | 6 | 5 | | | | | | 1 |
| 2008 | | 12 | 8 | | | | | 1 | 4 |
| 2009 | | 24 | 11 | | | | 1 | 1 | 11 |
| 2010 | | 32 | 13 | 1 | 1 | | 1 | 1 | 15 |
| 2011 | | 37 | 14 | 1 | 1 | | 1 | 2 | 19 |
| 2012 | | 45 | 15 | 1 | 1 | 1 | 2 | 2 | 23 |
| 2013 | | 48 | 16 | 1 | 1 | 1 | 2 | 2 | 25 |
| 2014 | | 52 | 18 | 1 | 1 | 1 | 2 | 2 | 27 |
| 2015 | | 54 | 19 | 2 | 1 | 1 | 2 | 2 | 27 |
| 2016 | | 51 | 18 | 2 | 1 | 1 | 2 | 2 | 25 |
| 2017 | | 51 | 19 | 2 | 1 | 1 | 2 | 2 | 24 |
| 2018 | | 49 | 18 | 2 | 1 | 1 | 2 | 2 | 23 |
| Total | | 461 | 174 | 13 | 9 | 7 | 17 | 17 | 224 |

**Notes:** This table provides information regarding the number of announcements regarding XCORP inclusion and CGR possession in the sampling period of 2007-2018. Panel A gives the number of joint announcements, while Panel B gives CGR announcement only.

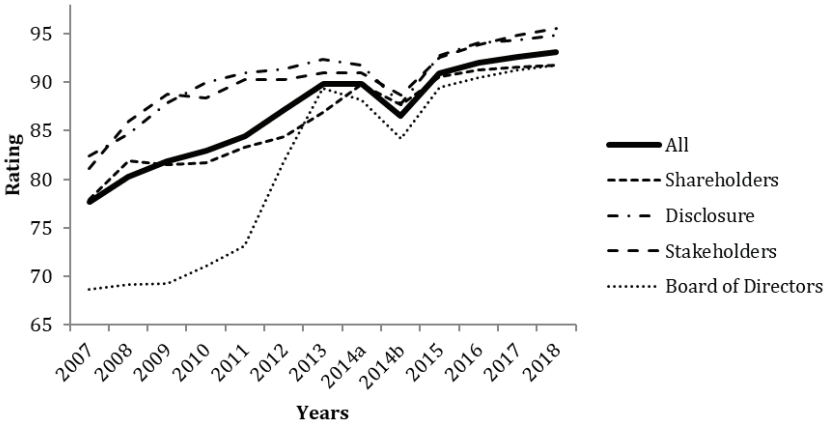


***Figure 1.*** Average corporate governance rating scores over 100. 2014b denotes the rating reports updated in line with the new weighting scheme

When CGR changes were considered, we observed that upgrades in scores by far surpassed downgrades as pointed out in Table 3.

Table 3
*CGR changes*

| Change | Main | (1) | (2) | (3) | (4) |
|---|---|---|---|---|---|
| Upgrade | 355 | 353 | 327 | 333 | 343 |
| Downgrade | 33 | 36 | 61 | 55 | 46 |
| No Change | 9 | 8 | 9 | 9 | 8 |
| N | 397 | 397 | 397 | 397 | 397 |

**Notes:** This table provides information regarding CGR changes throughout the sampling period of 2007-2018. 63 out of 461 reports that constitute the first ever CGR reports were ignored. (1), (2), (3) and (4) correspond to "Shareholders", "Public Disclosure and Transparency", "Stakeholders" and "Board of Directors", respectively.

Descriptive statistics are reported in Table 4. Of the 2,850 trading days, only in rare cases did XCORP exceed and outperform the market, as proxied by BIST 100 index (XU100) [5], in terms of price level (100 days) and cumulative daily returns (90 days). CGR scores ranged between 56.36 and 99.51. The highest correlation was found between the main and "Board of Directors" sub-section scores, while the lowest was between "Stakeholders" and "Board of Directors". Pairwise correlations between scores were all significant at 1%.

5 XU100 was used as the main index for Borsa Istanbul Equity Market. It consists of 100 stocks selected among the stocks of companies traded on the Stars Market, where the companies that have relatively higher market capitalization of shares are traded.

Table 4
*Descriptive statistics*

**Panel A: Preliminary Statistics**

| | Mean | Median | St. Dev. | Min | Max |
|---|---|---|---|---|---|
| Price Level (TL) | | | | | |
| XCORP | 61649.73 | 63,015.80 | 18,587.75 | 19,131.96 | 104,760.00 |
| XU100 | 69,661.32 | 71,609.57 | 21,215.93 | 21,228.27 | 120,845.30 |
| Cumulative Daily Returns (%) | | | | | |
| XCORP | 36.20 | 48.96 | 42.50 | -85.43 | 105.95 |
| XU100 | 50.81 | 62.84 | 43.41 | -76.19 | 123.37 |
| Rating Scores (over 100) | | | | | |
| Main | 88.89 | 90.76 | 5.29 | 70.4 | 97.02 |
| (1) | 87.74 | 88.30 | 6.21 | 57.69 | 97.79 |
| (2) | 92.10 | 92.87 | 4.88 | 73.27 | 99.47 |
| (3) | 91.74 | 93.51 | 6.91 | 66.27 | 99.51 |
| (4) | 84.68 | 88.60 | 9.41 | 56.36 | 97.82 |

**Panel B: Correlation Matrix for Rating Scores**

| | Main | (1) | (2) | (3) | (4) |
|---|---|---|---|---|---|
| Main | 1.00 | | | | |
| (1) | 0.82 | 1.00 | | | |
| (2) | 0.81 | 0.54 | 1.00 | | |
| (3) | 0.70 | 0.49 | 0.56 | 1.00 | |
| (4) | 0.86 | 0.62 | 0.55 | 0.41 | 1.00 |

**Notes:** This table provides information regarding the descriptive features of our data. Panel A shows descriptive statistics for our sample. Panel B presents correlations between CGR scores. (1), (2), (3) and (4) correspond to "Shareholders", "Public Disclosure and Transparency", "Stakeholders" and "Board of Directors", respectively.

## Methodology

We employed the standard event study methodology, which requires the calculation of abnormal returns. However, we extended our investigation to trading volume calculations as well. The analysis simply relies on the concept of market efficiency in that there is good reason to expect that impacts of an event will be reflected in stock prices in a short period in relatively efficient markets (MacKinlay, 1997). By doing so, we were able to detect stock price as well as trading volume reaction upon the announcements of improvements in the corporate governance of firms and test our hypothesis that obtaining CGR for the sake of XCORP inclusion (i.e. attaining corporate governance goals) is more important for investors than obtaining CGR individually (i.e. sustaining corporate governance goals).

On the other side, abnormal return was defined as the deviation from the expected return as formulated in Equation (1) below:

$$AR_{it} = R_{it} - ER_{it} \quad (1)$$

where $AR_{it}$ is the abnormal, $R_{it}$ is the actual and $ER_{it}$ is the expected return of the shares of the firm *i* in time *t*. $ER_{it}$ was calculated by means of the following commonly used market model:

$$R_{it} = a + \beta \, x \, R_{mt} \qquad (2)$$

A proper determination of estimation and event windows is very important in event studies. Armitage (1995) emphasizes the trade-off between a shorter and longer window of estimation and argues that the average range of the estimation period is between 100 and 300 for daily studies. This length justifies a prior suggestion in Peterson's (1989) study in which a period of 20 to 121 days is also recommended for the event window. Previous research is varied in this regard. For instance, with respect to emerging markets, Dasilas et al. (2008) prefer to use a 200-days (100-days) estimation period for returns (trading volume) in the Greek market, while the estimation period of Black and Khanna (2007) is 240 trading days for the Indian market. Fuenzalida et al. (2013), however, choose 214 business days by considering the average number of days that a liquid security quotes in the Peruvian market. Event periods in these studies are set as 41-days [-20,+20], 19-days [-9,+9] and 61-days [-30,+30], respectively. Another, perhaps the most, important aspect of event studies is paying ultimate attention to confounding events during the windows under investigation. The longer the window, the harder it is to handle other events that have an impact on prices (McWilliams and Siegel, 1997). Having acknowledged these concerns and after a careful review of the literature for event studies in the Turkish market[6], we decided to use an estimation period of 100 trading days[7] [-110,+11] and an event period of 21 trading days [-10,+10].

As suggested by Equation (2), we regressed the actual share returns ($R_{it}$) on the market portfolio returns ($R_{mt}$) for the estimation period. We obtained our parameter estimates ($\alpha$ and $\beta$) from these regressions and computed the expected returns ($ER_{it}$) for each day in the event period in line with Equation (1). An XU100 index was used as the market proxy since it represents the whole market in terms of market capitalization. The rate of returns were calculated by dividing the difference between the closing price at a single day and at that of the previous day by the latter, *i.e.* $(P_t - P_{t-1})/P_{t-1}$. Cumulative abnormal returns (CAR), on the other hand, were calculated as follows:

$$CAR_{it} = \sum_{t=1}^{n} AR_{it} \qquad (3)$$

We lastly derived average abnormal returns (AAR) and cumulative abnormal returns (CAAR) by taking the mean of the summed $AR_{it}$ and $CAR_{it}$ of the sample firms in the event period and employing parametric and non-parametric tests for the significance of both returns.

6 Please see Basdas and Oran (2014) and the references therein.

7 This also coincides with the viewpoint of the capital market regulatory body. Indeed, CMB requires a 6-month period in its specific regulations as a proxy for sound and efficient price formation.

With regard to volume, we followed Harris and Gürel (1986) and used market-adjusted abnormal volumes calculated as follows:

$$MATV_{it} = \frac{1}{n}\sum_{,}^{n} TV_i^t \qquad (4)$$

where

$$TV_i^t = \frac{\frac{V_{i,t}}{V_i}}{\frac{V_{m,t}}{V_m}} \qquad (5)$$

In Equation (5), the nominator (denominator) denotes for the daily trading volume of a firm (the market) divided by its average trading volume in the estimation period. This volume ratio enters in the Equation (4) and enables the calculation of mean abnormal trading volumes on each event day as its cross-sectional averages on the same day. Under the null hypothesis of no trading volume effect, the volume ratio has an expected value equal to one.

Although we believe that our periods were long enough to capture the signaling effects as well as short enough to exclude confounding events, we generated abnormal returns and volumes for several event windows with different lengths.

## Results and Discussion

### Price Reactions to Announcements of XCORP Inclusions and CGR

#### *XCORP Inclusions and First Ever CGR*

In Table 5, we report AAR and CAAR alongside their significance tests surrounding the announcement day of XCORP inclusion based on the first ever CGR. We observed a positive (0.20 percent) but statistically insignificant price reaction on the joint announcement day. This was also when the highest level (0.51 percent) of CAAR was attained in the event window. In the pre-event period, a notable positive (0.59 percent) reaction revealed itself six days prior to the announcement date. Despite two consecutive days of negative reaction afterwards, CAAR appeared to build up near Day 0 and turned out to be positive with another significantly positive reaction (0.56 percent) on Day -1. However, these positive reactions were not justified by our non-parametric tests, which considered both the sign and magnitude of abnormal returns. Test results indicate that around 52 percent (Day -6) and 58 percent (Day -1) of the sample firms experienced statistically significant positive reactions. This implies that reported significant abnormal returns may be caused by outliers. To control for this possibility, we diagnosed abnormal returns for various windows. As laid out at the bottom of

Table 5, CAAR in the [-1,0] period was significantly positive in parametric and non-parametric terms. It appears that the possible outlier effects on Day -1 were absorbed in the positive reaction of the market to the joint announcement on Day 0. Our conclusion for the pre-event period is that an information leakage occured before XCORP inclusions. It is worth noting that Bozcuk (2010) also refers to a possibility of such a leakage before the CGR reports are publicly announced.

Table 5
*Abnormal returns around the announcement date of inclusion in XCORP*

| Day | AAR(%) | t(AAR) | CAAR(%) | t(CAAR) | Wilcoxon Test |
|---|---|---|---|---|---|
| -10 | -0.40 | -1.51 | -0.40 | -1.51 | -1.32 |
| -9 | -0.36 | -1.70* | -0.76 | -2.11** | -1.38 |
| -8 | 0.26 | 1.09 | -0.50 | -1.14 | 0.93 |
| -7 | -0.20 | -1.12 | -0.70 | -1.78* | -1.14 |
| -6 | 0.59 | 2.10** | -0.11 | -0.26 | 1.26 |
| -5 | -0.07 | -0.35 | -0.18 | -0.42 | -0.20 |
| -4 | -0.31 | -1.36 | -0.49 | -0.95 | -1.14 |
| -3 | 0.12 | 0.39 | -0.37 | -0.55 | -0.06 |
| -2 | 0.12 | 0.48 | -0.25 | -0.30 | 0.27 |
| -1 | 0.56 | 1.88* | 0.31 | 0.31 | 1.08 |
| 0 | 0.20 | 0.97 | 0.51 | 0.50 | 0.74 |
| 1 | -0.00 | -0.00 | 0.51 | 0.57 | -0.55 |
| 2 | -0.12 | -0.45 | 0.38 | 0.38 | -1.18 |
| 3 | -0.13 | -0.74 | 0.26 | 0.25 | -1.27 |
| 4 | -0.25 | -0.86 | 0.01 | 0.01 | -1.73* |
| 5 | -0.11 | -0.33 | -0.10 | -0.09 | -0.27 |
| 6 | 0.13 | 0.49 | 0.03 | 0.02 | -0.24 |
| 7 | -0.04 | -0.18 | -0.01 | -0.01 | -0.55 |
| 8 | -0.07 | -0.27 | -0.08 | -0.07 | -0.51 |
| 9 | -0.14 | -0.50 | -0.22 | -0.19 | -0.20 |
| 10 | 0.06 | 0.20 | -0.16 | -0.14 | -0.65 |

| | CAAR(%) | t(CAAR) | Wilcoxon Test |
|---|---|---|---|
| [-5,-1] | 0.42 | 0.53 | -0.37 |
| [-2,0] | 0.88* | 1.73 | 1,24 |
| [-1,0] | 0.76** | 2.22 | 1.89* |
| [-1,+1] | 0.76 | 1.53 | 0.89 |
| [0,+1] | 0.20 | 0.39 | -0.22 |
| [0,+5] | -0.41 | -0.50 | -0.93 |
| [+1,+5] | -0.61 | -0.84 | -1.35 |
| [+1,+9] | -0.73 | -0.78 | -0.63 |
| [+1,+10] | -0.67 | -0.72 | -0.68 |

**Notes:** This table displays the return effects of joint announcements of XCORP and first ever CGR. Day 0 is the announcement (event) date. AAR(%) and CAAR(%) abnormal return and cumulative abnormal return on average. t(AAR) and t(CAAR) represent the t statistics. Non-parametric Wilcoxon signed-rank test statistics show whether the z statistic of AAR is significantly different from zero. ** and * denote the significance level at 5% and 10%, respectively. Sample includes 60 observations.

On the other hand, the market showed insignificant reactions for an immediate adjustment in prices after the joint announcement date. Rubach and Picou (2005), Hodgson et al. (2011) and Kavcar and Gümrah (2017) raise the "insignificance" concern for the first ever CGR announcements as well. The authors' reasoning is that "good corporate governance" may not be an issue for investors since they are totally unaware of or unclear about the regulations or, conversely, they have already priced it as most of the rated firms are well institutionalized. However, it is very interesting that almost all of the abnormal returns were negative, even insignificant, in the post-event period dragging down CAAR from its higher levels to negative values. Zhang (2007), Litvak (2007), Daines et al. (2010), Kılıç (2011), Yavuz et al. (2015) and Tuan and Borak (2019) draw attention to the market's negative reaction towards corporate governance improvements in their research. Their findings are generally attributed to high compliance costs, but more importantly and more justifiably for the Turkish case, to the notion that attempts to comply with "good" corporate governance principles are deemed as "good on paper" only, since they are "imposed" to an extent rather than "internalized" properly[8].

Based on our overall findings, we are of the view that XCORP inclusion is an anticipated event. The market already knows that the first ever CGR ends up with XCORP inclusion. As Bozcuk (2010) points out, it seems that this expectation is in line with the firms' outright confidence in attaining a high CGR to ensure XCORP inclusion insomuch that they, otherwise, would not be willing to go through such an onerous assessment. This may also pave the way for a leakage of information into the market. Abnormal returns, however, are likely to die out, even become negative, shortly after the inclusion announcement, which is probably because the announcement per se is not a strong signal at all to increase the awareness or attention of market participants. Instead, XCORP inclusion, as a corollary of the first ever CGR, appears to be considered as an easily imitable and a prerequisite activity in essence which is imposed on firms to obtain certain first-mover advantages[9] granted by regulations (Rubach and Picou, 2005).

8 One could also argue that these negative figures are also contradictory with the literature regarding "index addition" that generally confirm positive reactions after addition [see Yildiz et al. (2017) and the references therein]. We think that inclusion in a corporate governance index such as XCORP is quite different from these stock index inclusions. One of the most important differences is that the body of index inclusion literature mainly explains relevant market reactions by referring to investment funds (particularly index funds) and their portfolio rebalancing activities required to avoid potential deviations from fund strategies. In contrast, this is unlikely to be true for the case of Turkey since there have been no funds established to specifically track the XCORP index so far.

9 In 2009, BIST started to apply a substantial discount on the listing fees of XCORP firms. But this practice was repealed in 2015. Since then, the number of firms included in XCORP has declined and inclusions eventually stopped after 2018 as mentioned in footnote 3. This is one brief indication of why firms would actually like to join XCORP. Yet more interestingly, anecdotal evidence shows that XCORP inclusion is perceived as one of the barriers to effective corporate governance by firm managers (TKYD, 2015: p. 6-7). This is confirmed by Ataman et al. (2017) in the way that there is a low relationship between CGR and management perceptions.

### Subsequent CGR

Market reaction to announcements of subsequent corporate governance ratings, which refer to the same group of 60 firms that have been included in the XCORP, are presented in Table 6. On the announcement day, the reaction was slightly negative and insignificant. In the following days, however, the reaction was positive with some minor exceptions. The only statistically significant positive (0.60 percent) abnormal return was earned on Day +5. CAAR built up positively even before starting from Day +1, but Day +5 is the date when it became persistently significant until Day +10; the date CAAR began losing its significance. As suggested by the results that encompass several windows, it is apparent that one can earn significant CAAR throughout the post-event period. Non-parametric tests provided significant support for these findings as well[10]. These results concur with the ones obtained by Picou and Rubach (2006), Bozcuk (2010), Sakarya (2011), Fuenzalida et al. (2013) and Yapa (2017). Most of all, it is possible to ascribe the 5-day-delayed significant reaction to the lack of elucidation of the substance of CGR in the announcements, which would require some time for investors to obtain relevant information by means of a self-investigation (Picou and Rubach, 2006; Bozcuk, 2010)

In the pre-event period, however, there were no significant abnormal return values other than the marginally negative ones obtained on Day -10 (-0.41) and Day -3 (-0.46). Hence, our analysis suggests that there was almost no information leakage[11] about subsequent CGR announcements, which contrasts with the pattern observed in the case of joint ones. Our inference is that CGR announcements are essentially unanticipated events, i.e. an upgrade or a downgrade is possible. Figure 2 depicts the CAAR data reported in Table 5 and Table 6.

10 Note that subsequent CGR are the successor ones obtained at the nearest time following the year of XCORP inclusion. We repeated our analysis by considering all subsequent CGR obtained throughout the sampling period. The results were qualitatively unchanged. Moreover, we made another robustness check by excluding CGR with downgrades from the analysis. As put in Table 3, CGR scores may also indicate a decrease, rather than an increase. This is worth considering because the market may react to negative news differently (Kouwenberg and Phunnarungsi, 2013). Indeed, CGR updates with respect to the new weightings imposed by CMB in 2014 resulted in significant downgrades and market reaction to the corresponding announcements was found to be consistently negative in the post-event period with high significance levels. Nevertheless, they did not have a significant impact on our results either. Data are available on request.

11 One can argue that the negative abnormal returns in the pre-event period may be associated with downgrades in subsequent CGR. However, as discussed in footnote 10, results remained unchanged when we excluded CGR with downgrades from our analysis.

Table 6
*Abnormal returns around the announcement date of subsequent CGR*

| Day | AAR(%) | t(AAR) | CAAR(%) | t(CAAR) | Wilcoxon test |
|---|---|---|---|---|---|
| -10 | -0.41 | -1.93* | -0.41 | -1.93* | -2.05** |
| -9 | 0.08 | 0.36 | -0.33 | -0.97 | 0.17 |
| -8 | 0.16 | 0.78 | -0.17 | -0.48 | 0.46 |
| -7 | 0.11 | 0.60 | -0.06 | -0.14 | 0.21 |
| -6 | -0.16 | -0.63 | -0.22 | -0.49 | -1.23 |
| -5 | -0.10 | -0.52 | -0.32 | -0.67 | -1.01 |
| -4 | -0.07 | -0.24 | -0.39 | -0.68 | -0.23 |
| -3 | -0.46 | -1.66* | -0.85 | -1.20 | -1.27 |
| -2 | -0.03 | -0.09 | -0.88 | -1.04 | 1.25 |
| -1 | 0.20 | 0.84 | -0.68 | -0.91 | 0.28 |
| 0 | -0.02 | -0.08 | -0.70 | -0.83 | -0.70 |
| 1 | 0.26 | 0.89 | -0.44 | -0.50 | 0.13 |
| 2 | -0.06 | -0.21 | -0.50 | -0.52 | -0.88 |
| 3 | 0.26 | 0.90 | -0.24 | -0.25 | 1.19 |
| 4 | 0.23 | 0.81 | -0.01 | -0.01 | 0.49 |
| 5 | 0.60 | 2.53** | 0.59 | 0.58 | 2.67*** |
| 6 | 0.23 | 0.80 | 0.82 | 0.75 | 0.32 |
| 7 | -0.15 | -0.60 | 0.67 | 0.62 | -0.57 |
| 8 | 0.11 | 0.33 | 0.78 | 0.66 | 0.05 |
| 9 | 0.17 | 0.67 | 0.95 | 0.78 | -0.25 |
| 10 | -0.07 | -0.25 | 0.88 | 0.73 | -0.10 |

| | CAAR(%) | t(CAAR) | Wilcoxon Test |
|---|---|---|---|
| [-5,-1] | -0.46 | -0.78 | 0.12 |
| [-2,0] | 0.15 | 0.41 | 0.33 |
| [-1,0] | 0.18 | 0.53 | 0.07 |
| [-1,+1] | 0.44 | 1.03 | 0.67 |
| [0,+1] | 0.24 | 0.58 | 0.08 |
| [0,+5] | 1.27 | 1.94* | 2.04** |
| [+1,+5] | 1.29 | 2.15** | 2.81*** |
| [+1,+9] | 1.65 | 2.03** | 1.87* |
| [+1,+10] | 1.58 | 1.91* | 2.08** |

**Notes:** This table displays the return effects of single announcements of subsequent CGR. Day 0 is the announcement (event) date. AAR(%) and CAAR(%) abnormal return and cumulative abnormal return on average. t(AAR) and t(CAAR) represent the t statistics. Non-parametric Wilcoxon signed-rank test statistics show whether the z statistic of AAR is significantly different from zero. ***, ** and * denote the significance level at 1%, 5% and 10%, respectively. Sample includes 60 observations.

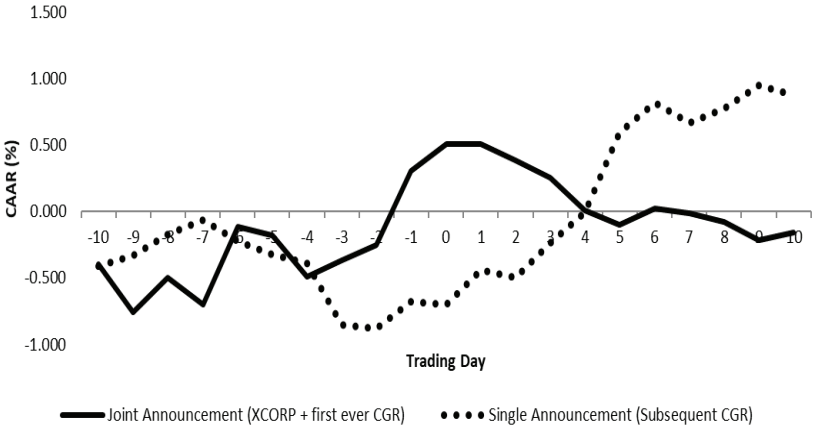


***Figure 2.*** CAAR for the shares as XCORP inclusions along with first ever CGR and subsequent CGR are announced

## XCORP Inclusions and First Ever CGR versus Subsequent CGR

At first sight, our results imply that the share price reaction to joint announcements of XCORP and first ever CGR was stronger than to single announcements of subsequent CGR in the pre-event period, while the situation was reversed in the aftermath of the announcement day. Table 7 presents the mean difference tests between these two types of announcements for a variety of event windows.

Table 7 suggests that abnormal returns associated with joint announcements were generally positive and economically greater than that of single announcements in the pre-event period and on the announcement date. However, the results proved statistically significant in the [-1,0] period only in non-parametric terms. In the post-event period, more profound results were obtained in favor of subsequent CGR announcements both parametrically and non-parametrically. Taken together, our findings suggest the opposite of our preliminary evidence in that joint announcements in fact were not such strong signals when compared to single announcements in statistical terms, since we were able to capture mere significance even in the pre-event period, which disappeared immediately. This translates into suspicion of the entire superiority of subsequent CGR over first ever CGR owing to the fact that XCORP inclusions may have adverse informational effects on investors that act as a neutralizer, even reverser, for a probable overreaction to CGR.

Table 7
*Differences between price reaction of joint and single announcements*

| Day | Joint Announcements | | Single Announcements | | Two tailed t-test | p-value | Wilcoxon test |
|---|---|---|---|---|---|---|---|
| | AAR | CAAR | AAR | CAAR | | | |
| ***[-5,-1]*** | | | | | | | |
| Mean | 0.08 | 0.42 | -0.09 | -0.05 | | | |
| t-stat. | 0.53 | | -0.78 | | 0.89 | 0.38 | 0.35 |
| ***[-2,0]*** | | | | | | | |
| Mean | 0.29 | 0.88 | 0.05 | 0.15 | | | |
| t-stat. | 1.73* | | 0.41 | | 1.16 | 0.25 | 1.04 |
| ***[-1,0]*** | | | | | | | |
| Mean | 0.38 | 0.76 | 0.09 | 0.18 | | | |
| t-stat. | 2.22** | | 0.53 | | 1.21 | 0.23 | 1.85* |
| ***[-1,+1]*** | | | | | | | |
| Mean | 0.25 | 0.76 | 0.15 | 0.44 | | | |
| t-stat. | 1.53 | | 1.03 | | 0.49 | 0.62 | 0.58 |
| ***[0]*** | | | | | | | |
| Mean | 0.20 | 0.20 | -0.02 | -0.02 | | | |
| t-stat. | 0.97 | | -0.08 | | 0.67 | 0.50 | 1.49 |
| ***[0,+1]*** | | | | | | | |
| Mean | 0.10 | 0.20 | 0.12 | 0.24 | | | |
| t-stat. | 0.39 | | 0.58 | | -0.05 | 0.96 | 0.07 |
| ***[0,+5]*** | | | | | | | |
| Mean | -0.07 | -0.41 | 0.21 | 1.27 | | | |
| t-stat. | -0.50 | | 1.94* | | -1.60 | 0.11 | -1.92* |
| ***[+1,+5]*** | | | | | | | |
| Mean | -0.01 | -0.61 | 0.26 | 1.29 | | | |
| t-stat. | -0.84 | | 2.15** | | -2.01** | 0.05 | -2.54** |
| ***[+1,+9]*** | | | | | | | |
| Mean | -0.08 | -0.73 | 0.18 | 1.65 | | | |
| t-stat. | -0.78 | | 2.03** | | -1.93* | 0.06 | -1.92* |
| ***[+1,+10]*** | | | | | | | |
| Mean | -0.07 | -0.67 | 0.16 | 1.58 | | | |
| t-stat. | -0.72 | | 1.91* | | -1.81* | 0.07 | -1.89* |

**Notes:** This table displays the mean differences in average and cumulative abnormal returns for the joint announcements of XCORP and first ever CGR and single announcements of subsequent CGR with respect to several event windows. Two-tailed test statistics indicate the mean differences between abnormal returns induced by joint and single announcements. The next column is the p-value of this test. The last column stands for non-parametric tests measuring the significance of signs of parameters. ** and * denote the significance level at 5% and 10%, respectively. Sample includes 60 observations.

## Volume Reactions to Announcements of XCORP Inclusions and CGR

### XCORP Inclusions and First Ever CGR

We employed the same methodology for announcement effects on trading volumes. The outcome of our analysis with respect to the joint announcements of XCORP inclusions and first ever CGR is portrayed in Table 8. The mean abnormal trading volume was greater than one in the [-1,1] period but not statistically significant. This is broadly consistent with our

findings regarding abnormal returns in Table 5. Similarly, this positive reaction faded away immediately after Day +1. One significantly positive volume reaction (1.004) occurred on Day -4 next to a negative reaction (0.982) on the previous Day -5. Throughout the event window, we observed various days of abnormal volumes lower than one implying negative volume effects in the market. These results were, by and large, in parallel with the literature in that return and volume effects moved in the same direction (Bildik and Gülay, 2008). Nevertheless, the weak nature of volume effects are considered as signs of irrelevance of XCORP inclusions on the awareness of investors and on the liquidity in the market.

Table 8
*Abnormal volumes around the announcement date of inclusion in XCORP*

| Day | MATV | t(MATV) | TV≥1 (%) | p-value |
|---|---|---|---|---|
| -10 | 1.003 | 0.34 | 49.15 | 0.60 |
| -9 | 1.001 | 0.09 | 44.07 | 0.85 |
| -8 | 1.003 | 0.32 | 49.15 | 0.60 |
| -7 | 1.009 | 0.89 | 50.85 | 0.50 |
| -6 | 0.994 | -0.72 | 47.46 | 0.70 |
| -5 | 0.982 | -1.69** | 42.37 | 0.90 |
| -4 | 1.004 | 0.54 | 59.32 | 1.00* |
| -3 | 0.993 | -0.66 | 38.98 | 0.97(*) |
| -2 | 0.993 | -0.59 | 40.68 | 0.94(*) |
| -1 | 1.001 | 0.10 | 45.76 | 0.78 |
| 0 | 1.009 | 1.07 | 47.46 | 0.70 |
| 1 | 1.010 | 0.91 | 44.07 | 0.85 |
| 2 | 0.996 | -0.38 | 42.37 | 0.90 |
| 3 | 0.995 | -0.58 | 49.15 | 0.60 |
| 4 | 0.987 | -0.97 | 38.98 | 0.97(*) |
| 5 | 1.002 | 0.26 | 45.76 | 0.78 |
| 6 | 1.009 | 0.82 | 49.15 | 0.60 |
| 7 | 1.009 | 0.65 | 44.07 | 0.85 |
| 8 | 0.999 | -0.04 | 40.68 | 0.94(*) |
| 9 | 1.000 | -0.01 | 45.76 | 0.78 |
| 10 | 1.000 | -0.03 | 40.68 | 0.94(*) |

**Notes:** This table displays the volume effects of joint announcements of XCORP and first ever CGR. Day 0 is the announcement (event) date. MATV is the mean abnormal trading volume. t(MATV) represents the one-tailed t statistics for mean values of abnormal volume. ** denotes the significance level at 5%. 4th column shows the percentages of the abnormal volumes greater than 1. Last column reports the p-values which tests whether the volume ratio is greater than 1. * and (*) denote the significance level at 10% for the p-values of that volume ratio is greater and lower than 1, respectively. Sample includes 60 observations.

## Subsequent CGR

In Table 9, volume reactions to subsequent CGR announcements are displayed. Similar to the results given in Table 6, a positive, but insignificant, abnormal trading volume was observed on Day +5. However, a striking finding was that most of the negative abnormal volumes, particularly significant ones, were clustered around the announcement date. This pattern started on Day -5 and lasted for nine consecutive days until Day +5 when it died out.

This does not properly coincide with Table 6 where positive data in abnormal returns are observed within the same interval (i.e. 0.20, 0.26, 0.26 and 0.23 on Day -1, Day +1, Day +3 and Day +4, respectively) and implies that some abnormal returns may have been attained with low levels of trading, partly explaining possible outliers in our data. But, as an extension to our concerns regarding the volume effects of XCORP inclusions above, it is more plausible to argue that CGR announcements were not widely followed in the market and they did not contribute to the liquidity of stocks either.

Table 9
*Abnormal volumes around the announcement date of subsequent CGR*

| Day | MATV | t(MATV) | TV≥1 (%) | p-value |
|---|---|---|---|---|
| -10 | 0.997 | -0.43 | 44.07 | 0.85 |
| -9 | 0.992 | -0.86 | 35.59 | 0.99(**) |
| -8 | 1.003 | 0.32 | 44.07 | 0.85 |
| -7 | 1.005 | 0.71 | 50.85 | 0.50 |
| -6 | 1.006 | 0.66 | 45.76 | 0.78 |
| -5 | 0.985 | -2.15** | 35.59 | 0.99(**) |
| -4 | 0.997 | -0.32 | 40.68 | 0.94(*) |
| -3 | 0.996 | -0.41 | 44.07 | 0.85 |
| -2 | 0.983 | -1.63* | 33.90 | 1.00(***) |
| -1 | 0.982 | -2.02** | 37.29 | 0.98(**) |
| 0 | 0.982 | -1.65* | 35.59 | 0.99(**) |
| 1 | 0.994 | -0.52 | 33.90 | 1.00(***) |
| 2 | 0.983 | -1.66* | 38.98 | 0.97(*) |
| 3 | 0.998 | -0.18 | 45.76 | 0.78 |
| 4 | 0.985 | -1.65* | 42.37 | 0.90 |
| 5 | 1.003 | 0.34 | 47.46 | 0.70 |
| 6 | 1.000 | -0.04 | 40.68 | 0.94(*) |
| 7 | 0.996 | -0.32 | 40.68 | 0.94(*) |
| 8 | 1.004 | 0.36 | 40.68 | 0.94(*) |
| 9 | 0.982 | -1.55* | 42.37 | 0.90 |
| 10 | 1.000 | 0.03 | 47.46 | 0.70 |

**Notes:** This table displays the volume effects of joint announcements of subsequent CGR. Day 0 is the announcement (event) date. MATV is the mean abnormal trading volume. t(MATV) represents the one-tailed t statistics for mean values of abnormal volume. ** and * denote the significance level at 5% and 10%, respectively. 4th column shows the percentages of the abnormal volumes greater than 1. Last column reports the p-values which tests whether the volume ratio is greater than 1. (***), (**) and (*) denote the significance level at 1%, 5% and 10% for the p-values of that volume ratio is lower than 1, respectively. Sample includes 60 observations.

## XCORP Inclusions and First Ever CGR versus Subsequent CGR

Table 10 demonstrates the results of tests of differences in means between the abnormal volumes related to joint and single announcements. It is evident that the signaling effects of joint announcements on abnormal volume were economically stronger than that of single ones at all event periods. The results are statistically significant one day around the announcement date, predominantly in the period of [-1,0] and on Day 0 as revealed by both parametric and non-parametric tests.

Table 10
*Differences between volume reaction of joint and single announcements*

| Day | Joint Announcements | Single Announcements | Two tailed t-test | p-value | Wilcoxon test |
|---|---|---|---|---|---|
| ***[-5,-1]*** | | | | | |
| Mean | 0.995 | 0.989 | | | |
| t-stat. | -0.66 | -1.79* | 0.55 | 0.59 | 0.56 |
| ***[-2,0]*** | | | | | |
| Mean | 1.001 | 0.983 | | | |
| t-stat. | 0.13 | -2.06** | 1.46 | 0.15 | 1.43 |
| ***[-1,0]*** | | | | | |
| Mean | 1.005 | 0.983 | | | |
| t-stat. | 0.57 | -2.07** | 1.82* | 0.07 | 1.85* |
| ***[-1,+1]*** | | | | | |
| Mean | 1.007 | 0.986 | | | |
| t-stat. | 0.76 | -1.64 | 1.66* | 0.10 | 1.56 |
| ***[0]*** | | | | | |
| Mean | 1.009 | 0.983 | | | |
| t-stat. | 1.07 | -1.65 | 1.95* | 0.05 | 2.36** |
| ***[0,+1]*** | | | | | |
| Mean | 1.010 | 0.988 | | | |
| t-stat. | 1.06 | -1.20 | 1.60 | 0.11 | 1.66* |
| ***[0,+5]*** | | | | | |
| Mean | 1.000 | 0.991 | | | |
| t-stat. | 0.01 | -1.19 | 0.81 | 0.42 | 0.52 |
| ***[+1,+5]*** | | | | | |
| Mean | 0.998 | 0.993 | | | |
| t-stat. | -0.21 | -0.94 | 0.48 | 0.64 | 0.08 |
| ***[+1,+9]*** | | | | | |
| Mean | 1.001 | 0.994 | | | |
| t-stat. | 0.11 | -0.82 | 0.63 | 0.53 | 0.49 |
| ***[+1,+10]*** | | | | | |
| Mean | 1.001 | 0.995 | | | |
| t-stat. | 0.09 | -0.76 | 0.57 | 0.57 | 0.35 |

**Notes:** This table displays the mean differences in abnormal trading volumes for the joint announcements of XCORP and first ever CGR and single announcements of subsequent CGR with respect to several event windows. Two-tailed test statistics indicate the mean differences between abnormal volumes induced by joint and single announcements. The next column is the p-value of this test. The last column stands for non-parametric tests measuring the significance of signs of parameters. ** and * denote the significance level at 5% and 10%, respectively. Sample includes 60 observations.

Finally, we summarize the findings that indicate the effects of XCORP inclusion and CGR announcements on return and volume of the stocks in Table 11.

Table 11
*Summarized findings*

| Time period | XCORP inclusion and first ever CGR (1) | | Subsequent CGR (2) | | Difference (1)-(2) | |
|---|---|---|---|---|---|---|
| | Abnormal return | Abnormal volume | Abnormal return | Abnormal volume | Abnormal return | Abnormal volume |
| Pre-event | + * | ↑ | − | ↓ ** | (1) > (2)* | (1) > (2)* |
| Event day | + | ↑ | − | ↓ ** | (1) > (2) | (1) > (2)** |
| Post-event | − | ↓ | + ** | ↓ * | (2) > (1)** | (1) > (2) |

**Notes:** This table displays the summarized findings of the impact of announcements regarding XCORP inclusion and CGR on stock returns and trading volumes. ** and * denote the significance level at 5% and 10%, respectively. Sample includes 60 observations.

Overall, one can easily realize that abnormal return and volume reactions to the joint announcements of XCORP inclusions and first ever CGR outweighed, though still with low significance, the reactions to the single announcements of subsequent CGR in the pre-event period and on the announcement day. In the post-event period, while abnormal return reactions were stronger for subsequent CGR announcements, their volume reactions were fairly weaker. We critically interpreted these periodic differences between first ever (joint announcements) and subsequent CGR (single announcements) as resulting from the suppressive effects of XCORP inclusion. Conceptually speaking, the anticipated feature of XCORP inclusion may be obscuring the value creating potential of CGR activity alone. The market typically expects XCORP inclusion since it is perceived as a formal announcement of a regulatory action rather than a voluntary corporate one (Binder, 1998). This is reasonable because regulatory changes (e.g. development of XCORP, incentives to be granted etc.) are often debated in investment circles over time and any accompanying wealth effects generally would gradually be incorporated into the value of a firm as the probability of the change being adopted increases (MacKinlay, 1997; Kothari and Warner, 2007). Apart from this, the reason why the market reaction to corporate governance announcements in Turkey as a whole is not so strong is mainly based on the general irrelevance of CGR for investor attention and market liquidity. This is probably due to the fact that CGR activity is so imitable that it cancels out first-mover advantages and firms are pressured into adopting corporate governance principles regardless of their performance effects (Rubach and Picou, 2005). One of the issues may be due to the statutory weightings for corporate governance subsections, which may be imposing certain restrictions on the professional judgments of rating agencies to some extent (Tsipouri and Xanthakis, 2004) and even may create inconsistency among investors that attach weights different than the statutory ones (Bhagat et al., 2008).

## Conclusion

Corporate governance rating activity converges the complicated nature of corporate governance mechanism to a single figure. This service is a commercial one, voluntarily utilized by firms, primarily in order to attract investors. However, as more and more firms are rated

over time, voluntary practices may become the norm. A special index, i.e. XCORP, designed for firms with acceptable rating scores in Turkish capital markets provides a unique experience in that respect. Investors are able to follow the price and return performances of their investments included in this specific index in comparison with the ones of non-rated firms.

We intend to answer the question of whether these investors attribute more importance to jointly announced XCORP inclusions with the first ever CGR or to individually announced subsequent CGR. Following an event study methodology, we found that joint announcements were associated with stronger positive abnormal returns and volumes in the pre-event period. The occurrence of such an information leakage is likely because XCORP inclusion is partially expected in the market beforehand. On the other hand, post-event period results revealed that subsequent CGR, which are unexpected as a matter of course, had the potential to create value for investors since abnormal returns were positive even though this was not reflected in volumes. Nevertheless, the relatively weak significant results obtained in our tests were attributable to current legislation and market practices, which appear to blur the relevance of CGR activity for investors.

Our findings offer at least two key policy implications: (1) enhancing corporate governance systems especially in emerging markets by means of effective regulations on CGR and index inclusion facility in their jurisdictions, (2) creating index funds that track XCORP or CGR of firms. For the former, regulations regarding CGR methodology should be based on prudence rather than firm obligations. For instance, statutory weightings for corporate governance subsections may hinder the required flexibility in rating business. Weights should be assigned by rating agencies upon professional judgment made with respect to certain firm characteristics. Otherwise, rating grades would show an increasing and converging trend in order to succeed in getting high scores particularly for subsections for which regulations attach more importance. This would inevitably trivialize the CGR activity in the eyes of investors. Furthermore, statutory weights may not be consistent with the weights used by market participants in assessing the relation between governance and firm performance. Hence, they may lead to incorrect inferences by investors. For the latter, institutional investors such as index funds and exchange traded funds, which track XCORP or are engaged with CGR, should be activated to create impact on the stock market. These investors would be more willing to have their investments maintain high CGR since they have to stick to their portfolio strategies. One important progress in this respect is the recent regulation that obligates at least 10% of the state contribution in pension funds to be invested in stocks included in specific indices such as XCORP. Undoubtedly, the presence of like initiatives would enhance investor awareness and market liquidity.

This study is not without its limitations. First, we were only able to uncover the importance of joint announcements relative to single announcements. However, we lacked empir-

ical data to provide an answer as to which of the parts of the joint announcements is more dominant. This is predominantly because corporate governance requirements in Turkey, as discussed earlier, do not allow us to compare firms jointly announcing the XCORP inclusion and the first ever CGR with the firms announcing CGR without an intention for XCORP inclusion. Hence, we confine ourselves to make an empirical comparison between the joint (i.e. XCORP and CGR) and single (i.e. CGR) announcements of the same firms rather than comparing the subject firms with each other. In other words, our analytical framework was based solely on the measurement of an overall reaction in lieu of assessing the exact contribution of XCORP inclusion and the first ever CGR separately with a more robust, e.g. a conditional event study or regression technique. Another limitation is pertinent to the small sample size. Although a considerable amount of CGR data exists, XCORP inclusions are relatively rare. This constitutes a natural constraint on the number of joint announcements as opposed to an abundance of single CGR announcements. Finally, yet importantly, our results are subject to the usual limitations of event studies. For instance, although we put in place relevant controls, there could still be some noise due to confounding events. We leave further analyses focusing on disentangling the informational content of two events as well as possible effects of CGR activities on liquidity and volatility for future research.

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RESEARCH ARTICLE

# The Effect of R&D Expenditures on Earnings Management: A Research on Bist-All Shares

**Yasar Bayraktar[1], Asiye Tutuncu[2]**

**Abstract**
R&D expenditures are important in increasing the level of information and technological development. Efficiency in production, cost reduction and competitive advantage are achieved with the added value created by successful R&D activities. However, in the process of accounting and reporting the R&D expenditures, some manipulative applications can be implemented by the business management for achieving personal or corporate targets. The purpose of this research is to reveal the effect of R&D expenditures on earnings management. In this context, from 2007 to 2018, 65 companies that made R&D expenditures included in BIST-All Shares Index were examined. The earnings management effect calculated on the Modified Jones Model, taking into account the current period, one-year and two-year time lag of R&D expenditures was tested with panel data analysis. As a result of the research, it was determined that R&D expenditures negatively affect earnings management in the current period and positively in lagged periods. In addition, while size and leverage have negative effects on earnings management in the current period, one-year and two-year time lag, no statistically significant relationship was found in terms of return on assets.

**Keywords**
R&D Expenditures, Earnings Management, Panel Data Analysis

## Introduction

Research and Development (R&D) activities are the basis of scientific and technological developments. The inventions and innovations that arise as a result of these activities are commercialized and benefits can be provided to the relevant stakeholders. However, R&D activities are generally seen by stakeholders as investments involving high levels of uncertainty and information asymmetry. Therefore, it can be stated that current and prospective investors do not have exact information on whether these investments can provide output that can create added value. This situation paves the way for managers to use earnings management practices during the recognition and reporting of R&D expenditures (Aboody & Lev, 2000; Cristin, 2014).

1 **Corresponding author:** Yasar Bayraktar (PhD.), Karadeniz Technical University, Faculty of Economics and Administrative Sciences, Department of Business, Trabzon, Turkey. E-mail: ysr_bayraktar@hotmail.com ORCID: 0000-0002-6974-5292

2 Asiye Tutuncu (Asst. Prof.), Kastamonu University, Faculty of Economics and Administrative Sciences, Department of Banking and Finance, Kastamonu, Turkey. E-mail: ttncasiye@gmail.com ORCID: 0000-0001-9473-9401

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*Earnings management* is expressed as the accounting manipulations that managers perform to make financial statements and reports presented to information users look different than they appear in order to achieve personal interests (Schipper, 1989; Mulford & Comiskey, 2002). Managers can use earnings management practices in order to avoid earnings decreases and losses, achieve targeted profitability, increase the company's market value, create a strong financial structure image among stakeholders, meet expectations, eliminate the threat of displacement, and take advantage of tax benefits. (Burgstahler & Dichev, 1997; Dechow & Skinner, 2000; Shah, Butt & Tariq, 2011; Dinh, Kang & Schultze, 2016).

As a matter of fact, within the framework of earnings management practices managers can adopt the most appropriate approach of capitalization or expensing in the accounting treatment of R&D expenditures in minimizing capital cost (Burgstahler & Dichev, 1997), achieving earnings targets (Perry & Grinaker, 1994; Mande, File & Kwak, 2000; Roychowdhury, 2006), eliminating the restrictive obligations of debt contracts, smoothing income (Tucker & Zarowin, 2006; Guidara & Boujelbene, 2015), obtain managerial bonuses, reduce target dividend pressures and ease the company's tax burden (Mande et al., 2000). The selection of the appropriate approach can prepare the ground for the perception that earnings can be manipulated in the presence of stakeholders (Dinh et al., 2016).

On the other hand, the success or failure of the R&D activities is important for the sustainability of the company and it can affect the interests of the stakeholders, including both shareholders and managers. In addition, this situation can be considered as a criterion in the evaluation of executive performance (Grabińska & Grabiński, 2017). It is stated in the literature that the effect of R&D investments on company profitability can be seen as delayed on average for *two* years (Lome, Heggeseth & Moen, 2016), but this delay may change in the sectoral context (Pakes & Schankerman, 1984). These delays include the time from the start of an R&D project to the commercialization of the output at the end of the project (Pakes & Schankerman, 1984). Considering the *R&D intensity*, the successful completion of the projects is important in terms of manager reputation. Within this context, it is also stated that earnings can be managed in order to reveal the success of the manager or hide the failure situation (Grabińska & Grabiński, 2017).

R&D intensity is expressed as an indicator of scientific and technological development and superiority. It is an important indicator of R&D expenditures on micro and macroeconomic basis. The magnitude of the R&D intensity on macroeconomic basis is calculated by proportioning R&D expenditures to gross domestic product (Hughes, 1988). In this context, Turkey's R&D intensity has been calculated as 1.03% as of 2018 and this rate is increasing over the years. In 2018, R&D spending magnitude of 29% is observed compared to the previous year (0.96 %). In terms of the overall average of OECD countries, the R&D intensity for 2018 is approximately 2.40% (OECD, 2020). Turkey is below the average of developed

countries and OECD average in terms of R&D intensity. The magnitude of the R&D intensity on microeconomic basis is calculated by proportioning R&D expenditures to Total Assets (Oswald, 2008; Persson & Fuentes, 2011; Grabińska & Grabiński, 2017) or R&D expenditures to Net Sales (Osma & Young, 2009; Guidara & Boujelbene, 2015; Lome et al., 2016; Grabińska & Grabiński, 2017). Considering the R&D intensity, private sector has a higher share in R&D expenditures compared to other sectors. In addition, while the private sector R&D expenditure was 37% in 2006, it reached 60.4% in 2018 (TUBITAK, 2019).

Earnings management is an intentional interference in the financial reporting process to reach specific goals. Although earnings management practices can lead to benefits for managers in the short run, it may cause serious problems in the long run. Since it directly affects the economic and operational efficiency which threatens the firms' sustainability. Besides, it causes a decrease in the accounting information quality. For these reasons, the importance of R&D expenditures effect on earnings management should be taken into consideration. Therefore, it is essential to shed light on R&D effect in terms of earnings management. In this context, the purpose of this research is to reveal the effect of R&D expenditures on earnings management. For this purpose, the earnings management effect calculated on the Modified Jones Model, taking into account the current period, one-year and two-year time lag of R&D expenditures was tested with panel data analysis. Through this study, the researchers can examine whether R&D expenditures have an effect on earnings management. Thus, a wide range of information users such as shareholders, investors, market participants, financial analysts can make better rational strategic decisions. In the following sections of this study, the literature, methodology, findings and conclusion will be included.

## Literature

In the literature, on the one hand it is stated that capitalization may cause earnings management and therefore should be expensed directly. On the other hand, it is emphasized that R&D expenditures are investments related to intangible assets that can create added value and therefore should be capitalized (Healy, Myers & Howe, 2002). In the adoption of the capitalization approach in accounting for R&D expenditures; *leverage, size, earnings variability* (Daley & Vigeland, 1983; Landry & Callimaci, 2003; Oswald, 2008), *return on assets* (Markarian, Pozza & Prencipe, 2008; Persson & Fuentes, 2011), *benchmarking* (Dinh et al., 2016) can be effective. It is also stated that the capitalization approach contributes to the presentation of information with a high level of value relevance for current and prospective investors (Aboody & Lev, 1998; Healy et al., 2002; Dinh & Schultze, 2011; Kumari & Mishra, 2019; Khidmat, Wang & Awan, 2019). On the other hand, the R&D expensing can enable companies to reduce their tax burdens (Hirschey & Weygandt, 1985; Percy, 2000; Mande et al., 2000). Adopting the capitalization approach contributes to the increase in the

company's asset size; it can also expand its financing opportunities. However, the failure of R&D projects may cause the management to lose reputation. In addition, the expensing of R&D causes lower profits to be reported in the relevant period. Thus, it can create a prejudice against innovative investments and prepare the ground for not allocating sufficient resources. Therefore, it is emphasized that both approaches can affect the company value positively/negatively (Oswald & Zarowin, 2007; Seybert, 2010). In the light of these explanations, a number of international studies listed chronologically about the effect of R&D expenditures on earnings management are shown below.

Mande et al. (2000) examined whether Japanese managers adjust R&D expenditures to smooth income in terms of R&D expensers and capitalizers. They found that less profitable, smaller, more leveraged and R&D intensive firms intend to capitalize R&D expenditures for earnings management purposes. They also stated that Japanese managers adjust their R&D budget for income smoothing and manage firms' earnings.

Landry and Callimaci (2003) investigated the effects of management incentives and cross-listing status on R&D accounting treatment for Canadian R&D intensive firms. By using logistic regression model, they examined the determinants of R&D capitalization/expensing. They found that capitalization probability increases for firms that are more mature, leveraged and have higher operation cash flows. Besides, for larger and more profitable firms intend not to capitalize R&D. They suggested that the decision about to expense or capitalize R&D can be used as an earnings management tool for smoothing income and meeting debt covenants.

Markarian et al. (2008) examined whether Italian listed firms' decision to capitalize R&D expenditures are affected by earnings management. They aimed to test the decision to expense *(when flexibility is available)* or to capitalize R&D expenditures affected by income smoothing and debt contracting motives. Their results show that firms which have higher ROA *(return on assets)* are more likely to expense while firms which have lower ROA are more likely to capitalize. This result is consistent with income smoothing purposes. However R&D capitalization is not used to decrease the risk of violating debt covenants. They also stated that R&D capitalization is an effective signal for potential investors who utilize financial statements in terms of value relevance.

Persson and Fuentes (2011) examined whether Swedish firms use R&D accounting treatment *(to capitalize or to expense)* as a tool for smoothing income. They aimed to determine the relationship between R&D accounting treatment classification and earnings management incentives. By using multiple regression analysis, they found that high level of ROA variation gives managers more incentives to apply earnings management. They also stated that R&D accounting treatment can be used for income smoothing.

Guidara and Boujelbene (2014) examined whether discretionary R&D accounting treatment can be affected by earnings management purposes. As a result of the research carried out in 410 French firms it was determined that R&D capitalization isn't used for income smoothing. They also found that earnings management, which is realized by strategically cutting R&D expenditures, is carried out in order to increase financial performance.

Zicke (2014) examined the incentives behind R&D capitalization. As a result of the research carried out in 506 German firms it was determined that the R&D capitalization is used as an indicator of financial success for earnings management purposes. It has been stated that practices such as loss avoidance, earnings decreasing and income smoothing are effective motives in R&D capitalization.

Guidara and Boujelbene (2015) examined whether earning targets affect R&D cut after IFRS adoption. As a result of the research carried out in 800 French firms it was determined that earnings management, which was realized by manipulating R&D expenditures, was carried out in order to smooth income. They also stated that R&D cut is managerial strategic decision to increase performance for earnings management purposes.

Dinh et al. (2016) examined whether R&D capitalization can be applied by managers to signal private information about future economic benefit and can be served as earnings management. They found that R&D capitalization was made for benchmark beating and earnings management. Besides, it has been stated that earnings management will decrease the market value.

Grabinska and Grabinski (2017) examined the impact of R&D expenditures on earnings management. They aimed to analyze the relationship between R&D intensity and earnings management. It was determined that managerial discretion regarding R&D expenditures is intended to earning management. Besides R&D spending is an important determinant of earnings management after a two-year time lag.

Dumas (2017) examined whether reducing R&D spending and R&D capitalization techniques are used to meet earnings thresholds by French firms. It was determined that R&D capitalization and the R&D cut were made by managers in order to meet target earnings. It was also stated that these two approaches are substitutes for each other and can be used as a tool for earnings management.

Considering the previous literature, it became clear that in most of the studies, the effect of the accounting treatment of R&D expenditures on earnings management was examined. Besides, there is no study in Turkey directly addressing the effect of R&D expenditures on earnings management. With this aspect, the study is expected to contribute to the literature.

## Data Set and Methodology

In this study, the effect of R&D expenditures on earnings management is examined. From 2008 to 2018, 65 companies that made R&D expenditures included in BIST-All Shares Index were discussed. In calculating some variables, data related to the previous period is needed. For this reason, the scope of analysis has been expanded and data has been organized since 2007. In this context, it can be stated that the used data set covers 2007-2018 periods and consists of 715 observations.

The data to be analyzed within the scope of the study were obtained from the companies' year-end financial statements *(statement of financial position, comprehensive income statement)* and/or annual reports. It is seen that a significant portion of the companies analyzed within the scope of BIST-All do not have "Development Costs" in the statement of financial position. In addition, it is seen that there is no information on R&D expenditures in the footnotes. Contrary to this situation, it was determined that these expenditures were reported in the comprehensive income statement. Therefore, it can be stated that companies within the scope of the analysis adopt the approach of R&D expensing. However, in this study, the effect of these expenditures on earnings management was analyzed by considering *R&D intensity, size, leverage* and *return on assets (ROA)* rather than accounting approaches.

In the literature, there are many models developed by Healy (1985), DeAnGelo (1986) and Jones (1991) in calculating earnings management. However, Jones (1991), unlike other models, takes into account the total accruals that have a large place in manipulating profits rather than discretionary accruals. The Jones Model, which is frequently used in the calculation of earnings management, has been modified and developed over time. In this context, by developing Industry Model - Dechow & Sloan (1991), Modified Jones Model-Dechow, Sloan & Sweeney (1995), Larcker-Richardson Model-Larcker & Richardson (2004), Performance Matched Discretionary Accrual Measurement Model - Kothari, Leone & Wasley (2005) contributed to the literature in the calculation of earnings management.

In this study, earnings management was calculated using the ***Modified Jones Model*** developed by Dechow et al. (1995). There are several reasons for the preference of this model due to the assumptions of other models. The Industry Model (Dechow et al., 1995), based on the assumption that the companies operating in the same sector, the discretionary determinants of accrual are similar, were not used due to the firms operating in different sectors. On the other hand, in the Larcker-Richardson Model, the profit obtained from the operating activities is added to the Modified Jones Model (Larcker & Richardson, 2004). Currently, this variable is also included in the total accruals calculated by the equation (1). Finally, the return on assets *(ROA)* variable included in the Performance Matched Discretionary Accrual Measurement Model is added to the model as a control variable in examining the effect of R&D expenditures on earnings management. The fact that the same variable

is included in the calculation of earnings management and model leads to some specification errors. For this reason, this model was not preferred to have healthier results in the study.

In the Jones Model, earnings management is represented by discretionary accruals. In this model, discretionary accruals consist of the difference between total accruals and non-discretionary accruals. In this context, the error terms obtained from the equation (2) solved by the OLS (Ordinary Least Squares) method are used in determining the discretionary accruals.

$$TA_{i,t} = \frac{NIEI_{i,t} - CFO_{i,t}}{A_{i,t-1}} \quad (1)$$

$$TA_{i,t} = \alpha_{1i}\left[\frac{1}{A_{i,t-1}}\right] + \alpha_{2i}\left[\frac{\Delta REV_{i,t}}{A_{i,t-1}}\right] + \alpha_{2i}\left[\frac{PPE_{i,t}}{A_{i,t-1}}\right] + u_{i,t} \quad (2)$$

The results obtained from the Modified Jones Model are more effective than the results obtained from the Jones Model (Dechow et al., 1995; Kothari et al., 2005). In this framework, taking into account ***the receivables***, the Modified Jones Model, which is shown with the equation (3), was used and the discretionary accruals were calculated. By solving the equation with OLS, error terms were determined by the coefficients.

$$TA_{i,t} = \delta_{1i}\left[\frac{1}{A_{i,t-1}}\right] + \delta_{2i}\left[\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}}\right] + \delta_{2i}\left[\frac{PPE_{i,t}}{A_{i,t-1}}\right] + v_{i,t} \quad (3)$$

In equations (2) and (3) $A_{i,t-1}$, is lagged value of total assets; $\Delta$ is the change in variables; $u_{i,t}$ and $v_{i,t}$ are error terms. In addition, other variables in the equations (1), (2) and (3) used in the study are shown in Table 1.

It is stated in the literature that the effects of R&D expenditures on earnings management appear in the future (Grabińska & Grabiński, 2017). In this framework, the equation used by Grabińska & Grabiński (2017) was taken as a basis in order to demonstrate the impact of R&D expenditures on earnings management. In terms of R&D intensity, two different R&D variables were obtained by dividing the R&D by total assets (R&D1) and net sales (R&D2). At the same time, *size, leverage* and *return on assets* as control variables are included in the equations in order to determine the relationship. Regression models created within this framework are as follows:

**Model 1:**

$$EM_{i,t} = \alpha_0 + \alpha_1 R\&D1_{i,t-j} + \alpha_2 SIZE_{i,t} + \alpha_3 ROA_{i,t} + \alpha_4 LEV_{i,t} + \varepsilon_{i,t} \quad (4)$$

**Model 2:**

$$EM_{i,t} = \alpha_0 + \alpha_1 R\&D2_{i,t-j} + \alpha_2 SIZE_{i,t} + \alpha_3 ROA_{i,t} + \alpha_4 LEV_{i,t} + \epsilon_{i,t} \quad (5)$$

Table 1
*Variables*

| Variables | Explanations | Calculation and References |
|---|---|---|
| TA | Total Accruals | (Net Income Before Extraordinary Items - Cash Flows From Operations) / Lagged Total Assets |
| A | Total Assets | (Statement of Financial Position) |
| PPE | Property, Plant and Equipments | (Statement of Financial Position) |
| REV | Net Sales | (Comprehensive Income Statement) |
| REC | Receivables | (Statement of Financial Position) |
| NIEI | Net Income Before Extraordinary Items | (Comprehensive Income Statement) |
| CFO | Operating Cash Flows | (Statement of Cash Flows) |
| SIZE | Firm Size | Logarithm of Total Assets (Landry & Callimaci, 2003; Guidara & Boujelbene, 2015; Dinh et al., 2016; Grabińska & Grabiński, 2017) |
| ROA | Return on Assets | Net Profit/Total Assets (Landry & Callimaci, 2003; Markarian et al., 2008; Dinh et al., 2016; Grabińska & Grabiński, 2017) |
| LEV | Financial Leverage | Total Liabilities/Total Assets (Guidara & Boujelbene, 2015; Dinh et al., 2016; Grabińska & Grabiński, 2017) |
| R&D1 | R&D Intensity | R&D/Total Assets (Oswald, 2008; Persson & Fuentes, 2011; Grabińska & Grabiński, 2017) |
| R&D2 | R&D Intensity | R&D/Net Sales (Osma & Young, 2009; Guidara & Boujelbene, 2015; Lome et al., 2016; Grabińska & Grabiński, 2017) |

EM in the equation (4) and (5) represents the earnings management; $j = 0,1,2$ lagged periods; $\varepsilon_{i,t}$ ve $\epsilon_{i,t}$ error terms. Earnings management was obtained by using the error terms of the total accrual equation (3) calculated by the OLS method. Panel data analyzes were carried out to reveal the current period, one-year and two-year lagged in Model 1 and Model 2, which were designed to measure the earnings management effect of R&D. Hausman Test was used to determine which of the panel data analysis methods in terms of fixed and random effects is valid. Considering the unit properties, *fixed effects model* is used in order to obtain more consistent estimators.

## Findings

The findings obtained as a result of the analyzes carried out within the scope of the study will be presented separately for the results of Hausman Test, followed by Fixed Effects Panel Data Analysis for R&D1 and R&D2 models. In addition, the effect of R&D expenditures on earnings management will be summarized in terms of the current period, one-year and two-year. In the light of these explanations, Hausman Test result related to Model 1 is shown in Table 2.

Table 2
*Model 1-Hausman Test Results*

| Time Lag | Variables | Coefficients | | (b-B) | Diag (V_b-V_B) |
|---|---|---|---|---|---|
| | | FE (b) | RE (B) | | |
| R&D1 Model | R&D1 | -0.1277 | -0.1185 | -0.0091 | 0.0161 |
| | SIZE | -0.1119 | -0.1081 | -0.0038 | 0.0013 |
| | ROA | -0.0009 | -0.0008 | -0.0001 | 0.0007 |
| | LEV | -0.0174 | -0.0151 | -0.0023 | 0.0001 |
| R&D1 (-1) Model | R&D1 (-1) | 0.0939 | 0.0357 | 0.0582 | 0.0166 |
| | SIZE | -0.1097 | -0.1061 | -0.0036 | 0.0011 |
| | ROA | -0.0017 | -0.0016 | -0.0007 | 0.0002 |
| | LEV | -0.0189 | -0.0162 | -0.0028 | 0.0008 |
| R&D1 (-2) Model | R&D1 (-2) | 0.1354 | 0.0562 | 0.0792 | 0.0177 |
| | SIZE | -0.1166 | -0.1115 | -0.0051 | 0.0013 |
| | ROA | 0.0088 | 0.0022 | 0.0066 | 0.0017 |
| | LEV | -0.0202 | -0.0173 | -0.0029 | 0.0099 |
| Hausman Test Statistic | | R&D1 $\chi^2_4$ =15.70 (0.003)<br>R&D1 (-1) $\chi^2_4$ =29.07 (0.000)<br>R&D1 (-2) $\chi^2_4$ =42.25 (0.000) | | | |

As seen in Table 2, R&D1 shows panel data analysis results including current period, R&D1 (-1) one-year lag and R&D (-2) two-year lag. According to the Hausman Test result, $H_0$ hypothesis is rejected, which states that it will be more effective to analyze models that take into account all three time lags by using the random effects estimator. For this reason, the effects of R&D1 variable on earnings management are examined by panel data analysis. In addition, ***robust estimators*** were used to eliminate diagnostic problems. The results of the fixed effects panel data analysis for Model 1, which includes the R&D1 *(R&D/Total Assets)* variable, are shown in Table 3.

As can be seen in Table 3, R&D expenditures negatively affect earnings management at **5%** significance level in the current period; in terms of R&D1 (-1) and R&D1 (-2) models, it has a positive effect on the level of **1%** significance. Hausman Test results of Model 2 which includes the R&D2 *(R&D/Net Sales)* are shown in Table 4.

As in R&D1 models, the $H_o$ hypothesis was rejected because the Hausman Test statistic was smaller than the $X^2$ test statistic in R&D2 models. According to the Hausman Test; when all three time lags are taken into account, it can be stated that the results obtained with fixed effects will be more consistent. Therefore, R&D2 model fixed effects are solved by panel data analysis. These fixed effects panel data analysis results obtained using ***robust estimators*** are shown in Table 5.

Table 3
*Model 1-Fixed Effects Panel Data Analysis Results*

| Time Lag | Independent Variables | Coefficient | Standard Error | t-statistic | p-value |
|---|---|---|---|---|---|
| R&D1 Model | R&D1 | -0.1277 | 0.0603 | -2.12 | 0.038 |
| | SIZE | -0.1119 | 0.0350 | -3.20 | 0.002 |
| | ROA | -0.0009 | 0.0016 | -0.57 | 0.568 |
| | LEV | -0.0174 | 0.0063 | -2.77 | 0.007 |
| | C | 0.0017 | 0.0052 | 0.33 | 0.739 |
| R&D1 (-1) Model | R&D1 (-1) | 0.0939 | 0.0222 | 4.22 | 0.000 |
| | SIZE | -0.1097 | 0.0301 | -3.64 | 0.001 |
| | ROA | -0.0017 | 0.0013 | -1.31 | 0.195 |
| | LEV | -0.0189 | 0.0067 | -2.86 | 0.006 |
| | C | 0.0939 | 0.0047 | 0.06 | 0.951 |
| R&D1 (-2) Model | R&D1 (-2) Model | 0.1354 | 0.0239 | 5.89 | 0.000 |
| | SIZE | -0.1166 | 0.0326 | -3.57 | 0.001 |
| | ROA | 0.0088 | 0.0066 | 1.33 | 0.188 |
| | LEV | -0.0202 | 0.0075 | -2.70 | 0.009 |
| | C | 0.0011 | 0.0057 | 0.20 | 0.843 |
| Diagnostic Tests | | R&D1 $F_{ist}$ =3.25 (0.023); $R^2$ =0.423<br>R&D1 (-1) $F_{ist}$ =5.84 (0.000); $R^2$ =0.445<br>R&D1 (-2) $F_{ist}$ =28.55 (0.000); $R^2$ =0.469 | | | |

Table 4
*Model 2-Hausman Test Results*

| Time Lag | Variables | Coefficients | | (b-B) | Diag (V_b-V_B) |
|---|---|---|---|---|---|
| | | FE (b) | RE (B) | | |
| R&D2 Model | R&D2 | -0.0856 | -0.0674 | -0.0183 | 0.0202 |
| | SIZE | -0.1056 | -0.1021 | -0.0035 | 0.0008 |
| | ROA | -0.0016 | -0.0014 | -0.0002 | 0.0020 |
| | LEV | -0.0182 | -0.0158 | -0.0024 | 0.0007 |
| R&D2 (-1) Model | R&D2 (-1) | -0.0137 | -0.0311 | 0.0174 | 0.0149 |
| | SIZE | -0.1102 | -0.1065 | -0.0038 | 0.0010 |
| | ROA | -0.0017 | -0.0016 | -0.0001 | 0.0002 |
| | LEV | -0.0193 | -0.0166 | -0.0027 | 0.0008 |
| R&D2 (-2) Model | R&D2 (-2) | 0.0392 | -0.0057 | 0.0449 | 0.0166 |
| | SIZE | -0.1173 | -0.1111 | -0.0062 | 0.0014 |
| | ROA | 0.0076 | 0.0015 | 0.0061 | 0.0019 |
| | LEV | -0.0208 | -0.0176 | -0.0031 | 0.0009 |
| Hausman Test Statistic | | R&D2 $\chi^2_4$ =15.73 (0.003)<br>R&D2 (-1) $\chi^2_4$ =16.09 (0.000)<br>R&D2 (-2) $\chi^2_4$ =30.00 (0.000) | | | |

Table 5
*Model 2-Fixed Effects Panel Data Analysis Results*

| Time Lag | Independent Variables | Coefficient | Standard Error | t-statistic | p-value |
|---|---|---|---|---|---|
| R&D2 Model | R&D2 | -0.0856 | 0.0259 | -3.20 | 0.002 |
| | SIZE | -0.1056 | 0.0289 | -3.65 | 0.001 |
| | ROA | -0.0016 | 0.0011 | -1.38 | 0.174 |
| | LEV | -0.0182 | 0.0062 | -2.93 | 0.005 |
| | C | 0.0018 | 0.0044 | 0.39 | 0.695 |
| R&D2 (-1) Model | R&D2 (-1) | -0.0137 | 0.0167 | -0.82 | 0.413 |
| | SIZE | -0.1102 | 0.0303 | -3.63 | 0.001 |
| | ROA | -0.0017 | 0.0013 | -1.35 | 0.181 |
| | LEV | -0.0193 | 0.0066 | -2.91 | 0.005 |
| | C | 0.0018 | 0.0047 | 0.38 | 0.704 |
| R&D2 (-2) Model | R&D2 (-2) | 0.0392 | 0.0442 | 0.89 | 0.379 |
| | SIZE | -0.1173 | 0.0336 | -3.48 | 0.001 |
| | ROA | 0.0076 | 0.0066 | 1.15 | 0.238 |
| | LEV | -0.0208 | 0.0075 | -2.77 | 0.007 |
| | C | 0.0024 | 0.0054 | 0.45 | 0.651 |
| Diagnostic Tests | | R&D2 $F_{ist}$ =6.63 (0.000); $R^2$= 0.463<br>R&D2 (-1) $F_{ist}$ =5.57 (0.000); $R^2$=0.435<br>R&D2 (-2) $F_{ist}$ =13.72 (0.000); $R^2$=0.403 | | | |

As can be seen in Table 5, R&D expenditures only negatively affect earnings management at the **1%** significance level in the current period. In terms of other time lags, a statistically significant relationship could not be determined. However, *size* and *leverage* are the control variables shown in Table 3 and Table 5, where the results of fixed effects panel data analysis in terms of Model 1 and Model 2 are included; in three models including current period, one-year and two-year lag, it was determined that they negatively affected earnings management at 1% significance level. On the other hand, it is determined that the variable of *return on assets* in these models is not effective on earnings management.

The effects of R&D expenditures, which are determined by using the fixed effects panel data analysis in line with Model 1 and Model 2, which differ in the measurement of R&D intensity, are summarized in Table 6.

Table 6
*Effect of R&D Expenditures on Earnings Management*

| Time Lag | R&D1 | R&D2 |
|---|---|---|
| 0 | (-)* | (-)*** |
| 1 | (+)*** | |
| 2 | (+)*** | |

**Note:** ***, * show statistical significance at 1% and 5%, respectively.

As can be seen in Table 6, it was determined that R&D expenditures, Model 1-R&D *(R&D/Total Asset)* and Model 2-R&D2 *(R&D/Net Sales)* negatively affect earnings management in terms of current period. Similarly, Mande et al. (2000), Guidara & Boujelbene (2015)

and Dinh et al. (2016) also revealed that R&D intensity has a negative effect on earnings management. In terms of lagged periods, only the Model 1-R&D1 variable was determined to positively affect earnings management. As a matter of fact, Aboody & Lev (1998) and Percy (2000) state that R&D intensity has a positive effect on earnings management.

On the other hand, considering firm size and leverage in terms of control variables in Model 1 and Model 2; it is seen that three models, including the current period, one-year and two-year lag, negatively affect earnings management at 1% significance level. Similarly, Daley & Vigeland (1983), Aboody & Lev (1998), Percy (2000), Landry & Callimaci (2003), Wang & D'Souza (2006), Persson & Fuentes (2011), Guidara & Boujelbene (2015), Dinh et al. (2016) and Grabińska & Grabiński (2017), *size*; Mande et al. (2000), Markarian et al. (2008), Persson & Fuentes (2011) and Grabińska & Grabiński (2017) revealed that the *leverage* negatively affects earnings management. In terms of *return on assets*, considering the current period and time lags, Aboody & Lev (1998), Landry & Callimaci (2003), Markarian et al. (2008), Persson & Fuentes (2011) and Dinh et al. (2016) contrary to their results, a statistically significant relationship could not be determined.

## Conclusion

Since R&D investments contain more uncertainty and are risky compared to other investments, it is important for all stakeholders that the expenditures made within this scope create economic added value to meet the expectation level. In this context, managers as a stakeholder can make financial statements look different than they appear with a number of earnings management practices in order not to lose reputation due to the failure of R&D projects. As a result of the study, it was determined that R&D expenditures negatively affect earnings management in the current period, while it positively affects lagged periods. In terms of control variables, considering size and leverage; it was seen that the three models including the current period, one-year and two-year lag negatively affect earnings management at 1% significance level. In terms of return on assets *(ROA)* variable, a statistically significant relationship could not be determined. Thus, it can be stated that R&D expenditures are effective on earnings management.

In this context, increasing the quality of auditing, performing financial reporting regarding these activities in line with the principle of transparency, achieving the faithful representation and relevance in reporting, making internal control systems effective and improving corporate governance approach can be effective in reducing earnings management practices. Moreover, it is important to take measures for improving the competencies of auditing and accounting members who are responsible for detecting the financial information manipulation. So, it is necessary to raise awareness about the risks originating from earnings management practices and its adverse outcome on accounting information quality. On the other hand, The Capital Markets Board of Turkey should take measures to ensure that companies

pay maximum attention to compliance with Corporate Governance Principles. In addition, the Capital Markets Board should ensure that matters relating to non-compliant principles are reasonably explained and measures taken against conflicts of interest that may arise due to non-compliance with the principles.

In the research, the data were drawn from the annual financial statements and reports. For this reason, the possibility of errors in hand-collected data can be expressed as a constraint. In addition, the number of observations is less compared to the researches in the international literature. However, this situation stems from the fact that R&D activities are carried out by certain companies and can be explained by the fact that the faithful representation and fair presentation was not realized during the reporting period of the R&D expenditures. In future research, the effect of accounting approaches of R&D expenditures on earnings management can be evaluated. In addition, by making comparisons before and after TAS/TFRS, the effect of accounting standardization on earnings management can be measured.

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RESEARCH ARTICLE

# Financial Openness and Financial Development: Evidence from Emerging Countries

**Mehmet Umutlu[1], Melis Gultekin[1], Hakan Özkaya[2]**

**Abstract**

We investigate the potential relation between financial openness and financial development for 27 emerging countries for the period between 1996 and 2016. We focus on three dimensions of financial openness: capital account openness, trade openness, and stock-market openness. In this study, we propose alternative measures for capital account and trade openness. Moreover, we offer capital flow and valuation-based measures for stock-market openness as a potential determinant of financial development. Our findings indicate that capital account openness and trade openness are the key drivers of financial development. These results are not sensitive to the use of alternative financial openness and financial development measures, and are robust after being controlled for institutional quality and its components. Our results have implications for policymakers in emerging countries who try to increase the depth of their financial markets for an easier and cheaper access to funds.

**Keywords**

Financial Development, Trade Openness, Capital Account Openness, Stock Market Openness

## Introduction

A growing line of research documents a positive link between economic growth and financial development in developed and emerging countries and reports that countries that have developed their financial systems tend to grow faster (Levine, Loayza & Beck, 2000; Valickova, Havranek & Horvath, 2015). This research question is especially important for policymakers in emerging countries trying to develop their financial system to raise much-needed capital to finance economic growth. Moreover, financial development decreases poverty and inequality by widening access to finance for the poor and powerless groups, increases investments and enhances productivity. (World Bank, 2017). Financial development is also important for the survival of small and medium-sized enterprises (SMEs) as these enterprises can raise funds

1 **Corresponding Author:** Mehmet Umutlu (Assoc. Prof. Dr.), Yasar University, Faculty of Business, Department of International Trade and Finance, Izmir, Turkey. E-mail: mehmet.umutlu@yasar.edu.tr ORCID: 0000-0003-1353-2922

2 Melis Gultekin (Res. Asst.), Yasar University, Faculty of Business, Department of International Trade and Finance, Izmir, Turkey. E-mail: melis.gultekin@yasar.edu.tr ORCID: 0000-0003-3510-1330

3 Hakan Özkaya (Asst. Prof. Dr.), Dokuz Eylul University, School of Applied Sciences, Department of International Trade, Izmir, Turkey. E-mail: hakan.ozkaya@deu.edu.tr ORCID: 0000-0001-7810-5943

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from more diverse fund sources and at reasonable costs in the presence of a well-established financial system. SMEs are labour intensive rather than capital intensive and therefore create most of the jobs especially in emerging economies that host numerous SMEs. Finally, a well-functioning financial system shaped by strong financial sector policies avoids financial crises or at least attenuates the deteriorating effects of such a crisis. In sum, due to the vital effects of financial development on several dimensions of an economy, understanding how to achieve and maintain sustainable financial development is of great importance for financial policy makers in emerging countries.

This study examines the potential relationship between financial openness and financial development by employing a panel of 27 emerging countries for the period 1996 to 2016. In search of such a relationship, we use the fixed effect least-squares dummy variable (LSDV) approach, which accounts for time-invariant country-specific effects. The LSDV model enables heterogeneity among countries by allowing each country to have its own intercept value (Gujarati and Porter, 2009). We offer several measures both for financial openness and for financial development. The three building blocks of financial openness we focus on are; capital-account openness, trade openness and stock-market openness. To proxy financial development, we use four different measures such as the ratios of stock market capitalisation, liquid liabilities, and private credits to GDP, and a multi-dimensional measure of financial development. The main objective of this study is to find out whether financial openness stimulates financial development and, if so, which types of financial openness are more important for establishing a deeper financial system.

The studies so far have embarked on the importance of only two dimensions of financial openness which are trade openness and capital-account openness. For instance, Rajan and Zingales (2003) argue that trade openness fosters financial development, which enlarges investment opportunities and increases competition in the economy by bringing foreign investors to domestic markets. Huang and Temple (2005) show that if the degree of trade openness for the goods market increases, financial development will improve. Law (2009) states that trade openness and capital flows are important drivers of financial development in emerging countries. Law and Habibullah (2009) emphasise that trade openness supports the development of financial markets.

It is also discussed that enhancing capital account openness plays an essential role for successful financial development. Chinn and Ito (2006) concentrate on the effects of capital account openness on financial development for emerging markets. They report that removing capital controls enables foreign and domestic investors to diversify their portfolios internationally. Due to the global pricing of assets, stemming from international diversification, expected returns and thus the cost of capital can decrease. This increases the likelihood of projects ending up with net profits. Klein and Olivei (2008) show a positive link between the

degree of capital account openness and the level of financial development, indicating that liberalising capital accounts triggers financial development.

In addition to the well-known dimensions of financial openness such as trade openness and capital account openness, stock-market openness can also be an important component of financial development. A well-functioning stock market can lower the cost of equity by providing an easy access to funds, which in turn increases returns and investment, especially in emerging markets (Stulz, 1999; Bekaert & Harvey, 2000; Henry, 2000a, 2000b; Bekaert, Harvey & Lundblad, 2005; Kim & Singal, 2000; Jayasuriya, 2005). Stock market liberalisation can attract foreign investors to take part in the local financial system of a country and to finance profitable local projects, which leads to financial deepening. From this perspective, the degree of stock-market openness can be a potential factor in the transition from an emerging to an advanced financial system. On the other hand, if stock market openness is not binding, it can have no impact on financial development. Due to the political instability and economic policies of emerging countries, foreign investors may not prefer to trade local stocks even when the stock market is liberalised for foreign investment. In summary, it can be difficult to determine whether stock-market openness affects financial development or not. Therefore, clarifying this issue is an empirical matter. Interestingly, as far as we are aware, there are no studies investigating the association between stock market openness and financial development. In this study, we try to fill this gap. We proxy stock-market openness by capital flow-based and valuation-based measures. More specifically, the capital flow-based measure suggested by Umutlu, Akdeniz and Altay-Salih (2010) is calculated as the ratio of foreign equity liabilities in a stock market to market capitalisation of that stock exchange. On the other hand the valuation-based measure suggested by Bekaert, Harvey, Lundblad and Siegel (2011) indicates the degree of segmentation of a stock market with respect to the world market, which is the opposite of the degree of stock-market integration.

This study further adds to the current literature by using alternative measures for trade openness and capital account openness, which are composite trade share and an alternative measure of capital account openness measure of Chin and Ito (2006), respectively. Composite trade share blends two components: i) Trade share, showing the volume of exports and imports of goods and services divided by GDP, and ii) World trade share, showing the total trade with respect to the total world trade. In the construction of an alternative measure of capital account openness, we use binary coding for restrictions on capital accounts presented in 13 subcategories in the IMF's Annual Reports on Exchange Arrangements and Exchange Restrictions (AREAER). We take the average of the binary values for 13 subcategories to obtain a restriction-based measure and then subtract the average from one to convert the restriction-based measure to a measure for capital accounts openness.

We find that out of three financial openness measures, trade openness and capital account openness play the most significant roles in promoting financial development. We check the

robustness of our results by using alternative financial openness and financial development measures and obtain similar results. Moreover, our results remain unchanged after controlling for institutional quality and its components. Our results are also valid for a longer sample period, which is obtained by dropping some alternative measures with fewer time-series observations. We further show that the global financial crisis caused a contraction in the availability of liquid liabilities and private credit whereas it had an increasing impact on share prices in emerging markets. The effect of the crisis lasted for two years. Our results have implications for policymakers in emerging markets who try to increase the depth of their financial markets for gaining an easier and cheaper access to funds. For instance, policymakers can take steps to facilitate trade and capital account openness at the highest priority.

This paper adds to the literature in the following ways. Our first contribution is the examination of stock market openness as a potential determinant of financial development. We use both a capital flow-based variable and a valuation-based variable separately to measure stock market openness. The ratio of foreign equity liabilities to the market capitalisation of the stock exchange *(FEL)* is the capital flow-based measure while the degree of segmentation of a stock market *(SEG)* is the valuation-based measure. To the best of our knowledge, there is no other study that uses these measures to explain financial development. Our second contribution is the use of alternative measures of trade openness and capital account openness, which are composite trade share and an alternative measure of capital account openness and use them to examine the reliability of our results.

The remainder of the study is outlined as follows. Section 2 surveys the literature. Section 3 defines data sources and variables. Section 4 shows the model specification and methodology. Section 5 presents findings and a discussion of the results. The final section provides concluding remarks.

## Literature Review

As the improvement in the level of financial development and economic development go hand in hand, ways of achieving financial development has become an interesting subject in emerging countries. Many researchers conducted studies on the determinants of financial development and found that financial openness is a strong determinant of financial development. The studies reporting a link between financial openness and financial development can be categorised into two groups. The first group of studies proxy financial openness as trade openness.

For instance, Huang and Temple (2005) studied the relationship between trade openness and financial development by using both time series and cross-country variation in openness. They used panel data for 81 countries between the years 1960 and 1999. Their results show that there is a positive relationship between goods market openness and financial depth. Kim,

Lin, and Suen (2010) analysed the effects of trade openness on financial development for 88 countries in the period of 1960 to 2005 and found that trade openness has a significant role in promoting financial development. Motelle (2011) examined the effects of remittances on financial development in Lesotho and showed that both in the short and long run, trade openness and inflation have significant impacts on financial development. Results also show that remittances affect financial development only in the long run.

The second group of studies measures financial openness as capital account openness. The most widely known study in this group is that of Chin and Ito (2006). Chin and Ito (2006) considered the potential relationship between capital account liberalisation and financial development in a model that controls for the level of legal/institutional development, particularly in equity markets. They used panel data analysis, which included 108 countries between the years 1980 and 2000. Their findings demonstrate that shareholder protection levels are important for financial development and creditor protection influences financial development in equity and banking sectors. Their results also showed that capital account openness contributes to equity market development once a threshold level of legal/institutional development is attained especially in emerging markets. In addition, they found out that an improvement in trade openness is a prerequisite for capital account openness and thus for financial development.

Klein and Olivei (2008) examined whether there is a relationship between capital account openness and financial development in a cross-section of developed and developing countries for the periods between 1976–1995 and 1986–1995, respectively. They demonstrated that the countries allowing capital account openness have more developed financial markets than the countries restricting capital accounts. Ahmed (2013) also investigated the role of capital account openness on financial development and economic growth in Sub-Saharan African countries (SSA) over the period of 1981 to 2009. Their results showed that capital account openness has a positive impact on financial development in the SSA region.

Additionally, Rajan and Zingales (2003) used panel data regression to examine 24 industrialised countries over the period 1913 to 1999. They indicated that opening both trade and capital accounts at the same time are the key factors for being successful in financial development. In other words, trade openness promotes financial development especially when the capital flow has free mobility across countries. They also indicate that trade openness without capital account openness is unlikely to boost the financial development of a country. In the light of the findings of Rajan and Zingales (2003), Baltagi et al. (2009) tried to answer the question of whether trade and capital account openness can jointly explain the recent progress in financial development. They employed data from both developing and industrialised countries. Their results showed that both trade and capital account openness are statistically significant determinants of the development of banking sectors. Moreover, they showed that

capital account openness and trade openness are negatively related to each other. That is the capital account openness decreases the benefits of trade openness and vice versa. Their results also showed that comparatively closed economies benefit more by opening up their capital accounts and/or trade accounts. In spite of being able to achieve more by opening both trade and capital accounts, the countries in their study still obtain gains by opening up one without the other in the banking sector. In other words, Baltagi et al. (2009) did not find any evidence supporting the view that having only one type of openness without the other has a negative effect on financial sector development.

This paper adds to the literature in the following ways. Our first contribution is the examination of stock market openness as a potential determinant of financial development. Although the relationship between stock market openness and several variables such as cost of capital, return volatility, liquidity etc. are investigated previously (Chari and Henry, 2004; Umutlu, Altay-Salih, and, Akdeniz, 2010; and Bayar and Önder, 2005), whether stock market openness is associated with financial development has not been examined yet. We both use a capital flow-based variable and a valuation-based variable to measure stock market openness. The ratio of foreign equity liabilities to the market capitalisation of the stock exchange *(FEL)* is the capital flow-based measure while the degree of segmentation of a stock market with respect to the world market *(SEG)* is the valuation-based measure. To the best of our knowledge, this paper is the first to use these measures to explain financial development. Our second contribution is the use of alternative measures of trade openness and capital account openness, which are composite trade share and an alternative measure of capital account openness and we use them to check the robustness of our results.

## Data and Variables

Because of its extensive scope, it is not easy to quantify financial development (Rajan & Zingales, 2003). Although there is no single correct variable to represent financial development, some standard quantitative variables like the relative size of stock market, liquid liabilities, and private credits by banks with respect to the size of economy have been commonly used to represent financial development in many empirical studies. In line with the literature, we employ these three different proxies for modelling financial development. More specifically, these measures are Private Credit by Deposit Money Banks, Stock Market Capitalisation and Liquid Liabilities all of which are expressed as a share of GDP. Private Credit is defined as credits or loans granted by banks to the private sector (Levine et al. 2000). Stock Market Capitalisation to GDP shows the relative size of stock markets with respect to the size of the overall economy and is calculated as the ratio of the value of all listed shares to GDP. Liquid Liabilities to GDP shows currency plus demand and interest-yielding liabilities of all financial intermediaries as a percentage of GDP. It is briefly known as broad money and generally used for the measurement

of financial depth (Beck, Demirgüç-Kunt & Levine, 2010). The data for these measures are provided by the World Bank's Global Financial Development Database (GFDD).

We use Institutional Quality and its components separately as control variables in our regression specifications to examine whether our results are robust. The components of Institutional Quality include; Control of Corruption, Government Effectiveness, Political Stability and Absence of Violence/Terrorism, Regulatory Quality, Rule of Law, and Voice and Accountability. Each component represents a different aspect of governance. Control of Corruption acquires perceptions of how much public power is being used for private gain, comprising the "seizure" of the state by personal and elite interests. Government Effectiveness includes perceptions about the quality of public and civil services, which is not affected by political oppression. It also involves policy creation and implementation quality of the government. Political Stability and Absence of Violence/Terrorism indicates the political instability of a country and/or violence that is politically supported. Regulatory Quality shows the government's aptitude for systemizing and applying principles and strategies that allow and foster the development of the private sector. Rule of Law shows how much society complies with the rules, how society is bound up with rules and whether the enforcement is equal to all members of societies. Voice and Accountability describe the independence of association and expression as well as free media tools in a country where citizens can take part in the election of their government (World Governance Index, 2018). The data for six components of institutional quality are obtained from the World Governance Index (WGI) on a scale of -2.5 to +2.5. We take the average of these six components to construct the combined Institutional Quality (*INST_QUAL*) measure. We either use Institutional Quality measure alone or its components in different regression specifications.

## Variables for Financial Openness

One of the aims of this paper is to find out which types of financial openness are more important for financial depth. We use three financial openness measures, which are Trade Openness *(TO)*, Capital Account Openness *(KAOPEN)* and stock market openness measured as Foreign Equity Liabilities *(FEL)*. We use those variables as the base-case financial openness measures in regression specifications.

Trade Openness *(TO)* is described as exports plus imports of goods & services (BoP, current US$) divided by GDP (current US$). *TO* data is taken from World Development Indicators (WDI).

Chinn and Ito (2006) introduce an index called the Financial Openness Index of Capital Account Openness *(KAOPEN)*. We use the normalised version of the *KAOPEN* Index that ranges between zero and one, and the data is obtained from Chinn and Ito (2006). The *KAOPEN* index is derived from four dummy variables; multiple exchange rates, restrictions on

current account transactions, restrictions on capital account transactions, and the requirement of the surrender of export proceeds, which are taken from the IMF's Annual Reports on Exchange Arrangements and Exchange Restrictions (AREAER). Chin and Ito (2006) take the reverse of these binary variables to indicate the degree of financial openness. Hence, *KAOPEN* takes higher values if there are cross-border financial transactions.

Lane and Milesi-Ferretti (2007) used a capital flow-based measure to explain the extent of financial liberalisation. Their measure demonstrated the sum of foreign equity assets and liabilities and the foreign direct investment assets and liabilities of a country as a share of the GDP. Umutlu, Akdeniz, Altay-Salih (2010) introduced a modified version of the Lane and Milesi-Ferretti measure that concentrates on the extent of openness of a stock market to foreign equity investment. They defined a new measure called Foreign Equity Liabilities *(FEL),* which is computed as the ratio of equity liabilities portfolio to the market capitalisation of the stock exchange.

$$FEL = \frac{PortfolioEquityLiabilities}{MarketCap.ofLocalStockExchange} \qquad (1)$$

We employ *FEL* as the measure for stock market openness. The data for *FEL* is retrieved from Lane and Milesi-Ferretti (2007).

**Alternative Variables for Financial Openness**

We try to explain the association between financial openness and financial depth by using alternative measures of financial openness. For each of our base-case variables *(TO, KAOPEN*, and *FEL),* their corresponding alternatives are used to examine whether the main results are sensitive to different definitions of financial openness measures.

Our alternative measure for trade openness is Composite Trade Share *(CTS)* offered by Squalli and Wilson (2011). *CTS* combines two dimensions of trade: Trade Share and World Trade Share. The first dimension, Trade Share *(TS),* is calculated as the volume of exports and imports of goods and services of a country divided by its GDP.

*TS* is computed as below:

$$TS_i = \frac{(X+M)_i}{GDP_i} \qquad (2)$$

where X is exports and M is imports of goods and services. *TS* lies in the range of zero and positive infinity.

The second dimension of *CTS*, World Trade Share *(WTS),* is calculated by the volume of exports and imports of goods and services of a country, divided by the total world export and import.

$$WTS_i = \frac{(X+M)_i}{\sum_{i=1}^{n}(X+M)_i} \qquad (3)$$

*i:* country*, n:* number of countries in the world in year *t*.

*WTS* shows the ratio of country *i*'s total trade to the total world trade.

Finally, Squalli and Wilson (2011) combined *TS* and *WTS* to construct *CTS*:

$$CTS_{it} = \frac{(X+M)_i}{\frac{1}{n}\sum_{i=1}^{n}(X+M)_i}\frac{(X+M)_i}{GDP_i} \qquad (4)$$

We calculate *CTS* for each country and for each year and use it as an alternative to the *TO* measure. The data to construct *CTS* is from WDI.

Our second alternative measure is *ALT_KAOPEN*. We use the AREAER to calculate *ALT_KAOPEN*, which is an alternative to the Chinn-Ito *KAOPEN* index. The AREAER provides information on the presence or lack of 13 restraints for capital accounts, which allows us to track the overall capital account openness for a country. AREAERs are publicly available on the official website of the IMF. We employ a binary coding to identify restrictions in a country. More specifically, we assign one if there is a restriction for a restriction category and zero otherwise. Next, we calculate the average of all binary values belonging to 13 categories. This average represents the degree of restrictions. In the last step, we deduct the average from 1 so that we obtain an openness (not a restriction) measure for capital accounts. We name this variable as *ALT_KAOPEN.* Our measure is similar to that of Miniane (2004), in the sense that both measures use binary coding for restrictions. *ALT_KAOPEN* differs from Miniane's measure in the number of restriction categories used. We use 13 categories for capital restrictions and dropped the 14th category used by Miniane (2004), which reflects multiple exchange rate arrangements as we only focus on restrictions. Our measure is also different from that of Miniane (2004) as it is a measure for openness whereas Miniane's measure indicated the degree of restrictions. Furthermore, we extend the index of Miniane (2004), which ends in 2000, to 2016 for the emerging countries in our sample.

We calculate *ALT_KAOPEN* for all countries and for all years from 1996 to 2016 by manually collecting the data on restriction categories from IMF's annual reports on AREAER. We cannot construct *ALT_KAOPEN* before 1996 as the annual reports have a different report format before this date and do not document 13 subcategories.

Finally, our alternative measure for stock market openness is the World Equity Market Segmentation *(SEG),* which was first proposed by Bekaert et al. (2011). A country's degree of segmentation is the opposite of its degree of integration. If the market is more segmented, it means that it is less open to foreign investors and thus less diversified in terms of fund

sources. Therefore, we expect a negative association between segmentation and financial development. Bekaert et al. (2011) defined *SEG* as the absolute difference between local and global earnings-to-price ratios of industries. This measure reflects the contributions of both time-series and cross-sectional variations in segmentation.

Equity Market Segmentation for country *i* in year *t* is defined as:

$$SEG = \sum_{j=1}^{N} IW_{i,j,t} \left| EY_{i,j,t} - EY_{w,j,t} \right| \qquad (5)$$

*i:*country, *j:* industry, *t:* year, *w:* global market, *N:* number of industries

where $IW_{i,j,t}$ indicates the weight of industry *j* in country *i* at year *t* and $|EY_{i,j,t} - EY_{w,j,t}|$ indicates the absolute value of the difference between earnings-to-price ratio of industry *j* in country *i* ($EY_{i,j,t}$) and that in global market portfolio ($EY_{w,j,t}$).

The idea behind the *SEG* measure rests on the following argument. If financial markets are fully integrated, then the same industries around the world should provide similar earnings yield, therefore the difference between earnings yields should converge to zero. Oppositely, if the markets are segmented local industries, they will provide a different earnings yield depending on the local conditions and the difference between the earnings yield will divert from zero. In summary, the *SEG* shows to what extent countries are actually integrated or segmented.

We calculate the *SEG* in the following manner. First, we assume that each country index is the weighted average of N industries for each year and define the weight of industry *j* in country *i* as the ratio of the market capitalisation of the industry to that of country $IW_{i,j,t.}$ Then, we calculate $EY_{i,j,t}$ as the reciprocal of price-to-earnings ratio for industry *j* in country *i*. Next, we calculate $EY_{w,j,t}$ similarly for the Global market portfolio. Finally, we compute the weighted average of the absolute value of differences between local and global earnings-to-price ratio for each country and for each year in the sample period.

Our sample of equity industries involves twenty different sectors, which are Automobile & Parts, Banks, Basic Resources, Chemicals, Construction and Materials, Financial Services 3, Financial Services 4, Food & Beverages, Health Care, Industrial Goods & Services, Insurance, Media, Oil & Gas, Personal & Household Goods, Real Estate, Retail, Technology, Telecom, Travel & Leisure and Utilities. We calculate the *SEG* for 27 emerging countries for the period between 1996 to 2016, using an annual price-to-earnings ratio and market value data for industries from DataStream and add it to our regressions to examine its potential relationship with financial development.

Table 1 shows descriptive statistics for all variables including the dependent and independent variables employed in the analysis for 27 emerging countries listed in Appendix from 1996 to 2016. Table 2 provides information about variables' data availability and data source.

Table 1
*Basic Statistics*

| | Mean | Median | Std. Dev. | Max | Min | Observation |
|---|---|---|---|---|---|---|
| Market Cap. | 0.4920 | 0.3391 | 0.4637 | 3.2808 | 0.0001 | 758 |
| Liquid Liab. | 0.4553 | 0.3745 | 0.2856 | 1.9781 | 0.0575 | 1282 |
| Private Credit | 0.3698 | 0.2774 | 0.2749 | 1.6321 | 0.00223 | 1263 |
| TO | 0.6914 | 0.5669 | 0.4246 | 2.5109 | 0.0908 | 994 |
| CTS | 0.8277 | 0.4087 | 1.1692 | 8.2436 | 0.0209 | 939 |
| FEL | 0.2160 | 0.1369 | 0.7906 | 15.8558 | 0 | 709 |
| SEG | 0.0776 | 0.0277 | 0.1968 | 1.5997 | 0.0026 | 632 |
| ALT_KAOPEN | 0.2924 | 0.2307 | 0.2484 | 0.9230 | 0 | 567 |
| KAOPEN_N | 0.0755 | -0.1355 | 1.5576 | 2.3599 | -1.9104 | 1141 |
| KAOPEN | 0.4650 | 0.4156 | 0.3647 | 1 | 0 | 1141 |
| INST_QUAL | 0.0574 | -0.0042 | 0.5605 | 1.2870 | -1.1782 | 513 |

In previous literature, it is documented that trade openness and capital account openness play important roles in triggering financial development. Therefore, we expect positive signs for trade openness and capital account openness measures *(TO, CTS, KAOPEN, ALT_KAOPEN*). In addition, a strong institutional environment can facilitate financial development so we anticipate a positive correlation between *INS_QUAL* and financial deepening. The *FEL* indicates the degree of integration of stock markets whereas market segmentation *(SEG)*, as the name implies, shows the opposite of integration, therefore, we anticipate the *FEL* and the *SEG* to move in opposite directions. Hence, the *FEL* is anticipated to be positively linked to financial development while the *SEG* is expected to exert a negative influence.

Table 2
*Summary of Variables*

| Variables | Period | Data Source |
|---|---|---|
| Stock Market Capitalization | 1975-2017 | GFDD |
| Liquid Liabilities | 1960-2016 | GFDD |
| Private Credit | 1960-2016 | GFDD |
| SEG | 1973-2018 | DataStream |
| CTS | 1960-2017 | WDI |
| ALT_KAOPEN | 1996-2016 | IMF (AREAER) |
| FEL | 1975-2015 | Lane-Milesi Ferretti |
| TO | 1960-2017 | WDI |
| KAOPEN | 1970-2016 | Chin-Ito |
| INST_QUAL | 1996-2017 | WGI |

## Model Specification and Methodology

We investigate whether financial openness exerts any impact on financial depth in emerging countries. Our empirical model includes trade openness *(TO),* capital account openness *(KAOPEN)* and stock market openness *(FEL)* as the base-case variables of financial openness. As a robustness test, we employ the alternative versions of *TO, KAOPEN,* and *FEL*,

which are *CTS, ALT_KAOPEN,* and *SEG*, respectively. In addition to independent variables of interest, we used several control variables including the components of institutional quality. Besides these individual quality measures, we also use a single overall quality measure (*INST_QUAL*) by averaging the individual measures.

The dependent variable, financial development, is proxied by three alternative indicators: Stock Market Capitalisation to GDP, Liquid Liabilities to GDP, and Private Credit by Deposit Money Banks to GDP. For each dependent variable, we estimate four different regression specifications and provide the results for panel regressions including i) base-case variables, ii) alternative variables, and iii) a combination of both.

Since our sample has both time-series (years) and cross-sectional (countries) dimensions, we use panel data regression in our study. We use the fixed effects model to cope with country effects.

In the first set of regression specifications, we estimate the following models of financial development with base-case variables of financial openness in Eqs. (6), (7), and (8). In each of these equations, an alternative definition of the dependent variable is used.

$$MarketCap_{it}=\propto+\beta_1 FEL_{it}+\beta_2 TO_{it}+\beta_3 KAOPEN_{it}+\beta_4 CC_{it}+\beta_5 GE_{it}+\beta_6 PS_{it}+\beta_7 RQ_{it} +\beta_8 VA_{it}+\beta_9 RL_{it}+\varepsilon_{it} \quad (6)$$

$$LiquidLiab_{it}=\propto+\beta_1 FEL_{it}+\beta_2 TO_{it}+\beta_3 KAOPEN_{it}+\beta_4 CC_{it}+\beta_5 GE_{it}+\beta_6 PS_{it}+\beta_7 RQ_{it} +\beta_8 VA_{it}+\beta_9 RL_{it}+\varepsilon_{it} \quad (7)$$

$$Private_{it}=\propto+\beta_1 FEL_{it}+\beta_2 TO_{it}+\beta_3 KAOPEN_{it}+\beta_4 CC_{it}+\beta_5 GE_{it}+\beta_6 PS_{it}+\beta_7 RQ_{it} +\beta_8 VA_{it}+\beta_9 RL_{it}+\varepsilon_{it} \quad (8)$$

*i:*country*, t*=year

In the second set of specifications, we estimate panel regressions with base-case variables for financial openness along with the combined institutional quality measure, *INST_QUAL*, as shown in Eqs. (9), (10), and (11).

$$MarketCap_{it}=\propto+\beta_1 FEL_{it}+\beta_2 TO_{it}+\beta_3 KAOPEN_{it}+\beta_4 INST\_QUAL_{it}+\varepsilon_{it} \quad (9)$$

$$LiquidLiab_{it}=\propto+\beta_1 FEL_{it}+\beta_2 TO_{it}+\beta_3 KAOPEN_{it}+\beta_4 INST\_QUAL_{it}+\varepsilon_{it} \quad (10)$$

$$Private_{it}=\alpha+\beta_1 FEL_{it}+\beta_2 TO_{it}+\beta_3 KAOPEN_{it}+\beta_4 INST\_QUAL_{it}+\varepsilon_{it} \quad (11)$$

Next, we estimate the modified version of Eqs. (6) to (11) in which financial openness is measured by alternative measures of *CTS, ALT_KAOPEN*, and *SEG.* Lastly, we estimate the analogs of the above-mentioned equations in which alternative variables of *SEG* and *CTS*, and the base-case variable of *KAOPEN* are simultaneously used along with the control variable of *INST_QUAL*.

Before proceeding further, we perform some diagnostic checks. Firstly, we examine whether multicollinearity problem exists for the estimated models. Variance Inflation Factors (VIF) are scattered around 1 for most of our base case variables. VIF estimates of the variables ranging between 1 for *CTS* and 9.73 for the *Control of Corruption* variable are below the common cutoff threshold of 10 (Hair et al., 2009) and show that there is no serious multicollinearity problem in our models. Next, we investigate the cross-section dependency of the variables by using the Pesaran (2004) CD test. CD-test statistics ranging between -2.04 (for the *Regulatory Quality* variable) and 81.10 (for the *Overall Financial Development Index* variable) indicate that the null hypothesis of cross-section independence is rejected for the variables except *INST_QUAL* (CD-test statistics 0.41 with a p-value of 0.685), *Government Effectiveness* (CD-test statistics -0.11 with a p-value of 0.914), and *Rule of Law* (CD-test statistics 0.76 with a p-value of 0.444). Finally, we check the slope homogeneity for each of the estimated models by using the Peseran and Yamagata (2008) test. The adjusted delta values for every model estimated range from 4.271 to 23.339 and reject the null hypothesis that the slope coefficients are homogeneous. In light of these tests, we employ the cross-section SUR setting as an alternative estimation approach that allows for contemporaneous correlation between cross-sections clustering by periods. As this framework requires a balanced panel, there is a considerable loss of observations from both the cross-section and the time-series dimensions. However, the results obtained from this approach are qualitatively the same with the results obtained from the panel data estimation with the least squares method, and the quantitative results are even stronger. Therefore, we employ the main estimation approach utilising the full set of observations and report the results based on this approach in the forthcoming sections.

## Findings and Discussion

### Results of the Base-Case Regression Specification

Table 3 reports the results of regressions including the base-case variables of financial openness for three alternative dependent variables. Each panel shows the results for a different dependent variable. The coefficients of the *FEL* in Panel A are negative and insignificant while they are positive and significant in Panels B and C. The inconsistent slope estimates on

the *FEL* in different specifications do not provide strong evidence in favour of a relationship between the *FEL* and financial development. On the other hand, the *TO* and the *KAOPEN* have significantly positive coefficients in all of the specifications in which they are included, suggesting that they are exerting a positive influence on the dependent variable. These findings indicate that both trade openness and capital account openness are important drivers of financial deepening even after controlling for other financial openness and institutional quality variables.

The institutional quality components provide mixed results in the different panels of Table 3. The coefficients on some of these variables either change sign in different panels or are not consistently significant in all of the regression specifications. Because of the mixed results provided by these control variables, we combine them into one variable and use Institutional Quality *(INST_QUAL)* as a standalone control variable. The results of regressions including *INST_QUAL* are presented in Specification (2) of all panels.

Table 3
*Results of Panel Regressions with Base-Case Variables for Financial Openness*

| | **Panel A** Stock Market Cap. / GDP | | **Panel B** Liquid Liabilities / GDP | | **Panel C** Private Credit / GDP | |
|---|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(1)** | **(2)** | **(1)** | **(2)** |
| FEL | -0.0948 | -0.0917 | 0.1215[c] | 0.1294[c] | 0.1337[c] | 0.1430[c] |
| | (-0.74) | (-0.70) | (1.86) | (1.87) | (1.73) | (1.82) |
| TO | 0.2050[a] | 0.2754[a] | 0.1131[a] | 0.1145[a] | 0.1591[a] | 0.1500[a] |
| | (2.60) | (3.46) | (2.80) | (2.72) | (3.35) | (3.15) |
| KAOPEN | 0.1318[c] | 0.1803[a] | 0.0880[b] | 0.1185[a] | 0.1763[a] | 0.1976[a] |
| | (1.87) | (2.70) | (2.45) | (3.35) | (4.17) | (4.95) |
| INST_QUAL | - | 0.0556 | - | -0.0516 | - | 0.0768 |
| | | (0.69) | | (-1.21) | | (1.59) |
| Control of Corruption | -0.1504[b] | - | -0.0017 | - | 0.0346 | - |
| | (-2.00) | | (-0.04) | | (0.76) | |
| Government Effectiveness | 0.1022 | - | 0.2120[a] | - | 0.0412 | - |
| | (1.38) | | (5.62) | | (0.92) | |
| Political Stability | 0.1093[a] | - | -0.0579[a] | - | 0.0052 | - |
| | (2.97) | | (-3.08) | | (0.23) | |
| Regulatory Quality | 0.2125[a] | - | -0.1162[a] | - | -0.0460 | - |
| | (3.11) | | (-3.32) | | (-1.12) | |
| Voice and Accountability | -0.0620 | - | -0.0892[a] | - | -0.1419[a] | - |
| | (-0.92) | | (-2.61) | | (-3.52) | |
| Rule of Law | -0.2357[b] | - | 0.1254[a] | - | 0.1951[a] | - |
| | (-2.50) | | (2.61) | | (3.44) | |
| Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.8324 | 0.8231 | 0.9074 | 0.8955 | 0.8628 | 0.8565 |
| Observation | 416 | 416 | 413 | 413 | 416 | 416 |
| Sample Period | 1996-2015 | 1996-2015 | 1996-2015 | 1996-2015 | 1996-2015 | 1996-2015 |

a, b, and c show regression parameters that are significant at 1%, 5%, and 10% .

The effects of the *TO, the KAOPEN,* and the *FEL* on financial development remain unchanged after controlling for *INST_QUAL*. While *the FEL* has inconsistent slope estimates,

the *TO* and the *KAOPEN* continue to have significantly positive slopes regardless of how financial development is measured as evident in Panels A, B, and C. The slope on *INST_QUAL* is indistinguishable from zero in each of the three panels. This is not surprising as the components of *INST_QUAL* were found to provide mixed results in the Specification (1) of each panel in Table 3.

## Results of Regressions with Alternative Financial Openness Variables

The analyses in the previous subsection employ various measures for financial development. This subsection employs alternative variables for explanatory variables. Table 4 reports the results of regressions with alternative variables of stock market openness (*SEG*), trade openness (*CTS*), and capital account openness (*ALT_KAOPEN*). Institutional characteristics are represented by six different variables in Specification (1), while the combined version of institutional characteristics (*INST_QUAL*) is used in Specification (2).

Table 4
*Results of Panel Regressions with Alternative Variables for Financial Openness*

| | **Panel A** Stock Market Cap. / GDP | | **Panel B** Liquid Liabilities / GDP | | **Panel C** Private Credit / GDP | |
|---|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(1)** | **(2)** | **(1)** | **(2)** |
| SEG | -0.2512[c] (-1.78) | -0.2451[c] (-1.71) | -0.0553 (-0.75) | -0.0417 (-0.55) | -0.0361 (-0.39) | 0.0053 (0.05) |
| CTS | 0.0755[a] (5.39) | 0.0815[a] (6.13) | 0.0543[a] (7.44) | 0.0687[a] (9.80) | 0.0442[a] (4.83) | 0.0505[a] (5.88) |
| ALT_KAOPEN | 0.1694[b] (2.14) | 0.1986[b] (2.51) | -0.0342 (-0.84) | -0.0029 (-0.07) | 0.1700[a] (3.34) | 0.1845[a] (3.64) |
| INST_QUAL | - | 0.0592 (0.82) | - | -0.0748[b] (-2.02) | - | 0.0391 (0.85) |
| Control of Corruption | -0.1592[b] (-2.09) | - | -0.1154[a] (-3.02) | - | -0.0816[c] (-1.69) | - |
| Government Effectiveness | -0.0223 (-0.29) | - | 0.1773[a] (4.54) | - | -0.0071 (-0.14) | - |
| Political Stability | 0.1123[a] (3.12) | - | -0.0515[a] (-2.78) | - | -0.0042 (-0.18) | - |
| Regulatory Quality | 0.2576[a] (3.75) | - | -0.0798[b] (-2.25) | - | 0.0274 (0.61) | - |
| Voice and Accountability | -0.0157 (-0.24) | - | -0.0477 (-1.41) | - | -0.0944[b] (-2.21) | - |
| Rule of Law | -0.2268[b] (-2.48) | - | 0.1206[a] (2.62) | - | 0.1850[a] (3.18) | - |
| Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.8470 | 0.8394 | 0.9147 | 0.9077 | 0.8556 | 0.8556 |
| Observation | 414 | 414 | 418 | 418 | 422 | 422 |
| Sample Period | 1996-2016 | 1996-2016 | 1996-2016 | 1996-2016 | 1996-2016 | 1996-2016 |

a, b, and c show regression parameters that are significant at 1%, 5%, and 10% .

As shown in Table 4, *SEG* has a marginally negative significant slope with a t-statistic of -1.78 in Panel A while it has no longer a significant impact on financial development in Panels

B and C. These findings suggest that the alternative stock market openness measure *SEG* is not capable of explaining financial development. This result supports the previous result that stock market openness based on the *FEL* is not a reliable determinant of financial development. The alternative trade openness variable of the *CTS* persistently explains financial development no matter how financial development is measured as evidenced by significant slopes on the *CTS* in all panels. Moreover, the *CTS* produces positive significant slopes in all the regression specifications it is included in , suggesting that it explains financial development. This result reinforces the previously obtained result that trade openness based on the *TO* is significantly associated with financial development. The alternative capital account variable *ALT_KAOPEN* yields positive significant slopes in all the panels except Panel B where the dependent variable is the Liquid Liabilities to GDP ratio. Apart from this finding, the slopes on capital account openness in Tables 3 and 4 are alike. Finally, just like the results in Table 3, the slopes on six components of institutional quality are not consistent in the different panels of Table 4 and do not point out a reliable link between institutional quality measures and financial development.

The regression results when institutional quality measures are represented by one single variable are shown in the second specifications of Table 4. The signs and significance levels of slopes on the *SEG, the CTS,* and the *ALT_KAOPEN* in Table 4 are very similar to those on the *FEL*, the *TO* and the *KAOPEN* in Table 3. The *SEG* has a negative significant slope in Panel A whereas it has insignificant slopes in Panels B and C. *The CTS* has persistently positive significant slopes in all the specifications and in all the panels. The *ALT_KAOPEN* produces positive significant slopes in Panels A and C. Supporting the results in Table 3, *INST_QUAL* generates mixed results about the association between institutional quality and financial development. Overall, the similar results obtained in Table 3 and Table 4 indicate that using alternative explanatory variables does not materially change our main results.

**Results of Regression Specifications Combining Base-case and Alternative Variables**

In this part, we present the results of panel regressions obtained by mixing the base-case variables with alternative variables for financial openness. We mainly focus on the impact of openness measures on the dependent variable. In the full specification, we employ the base-case variable *KAOPEN* and the alternative variables *SEG* and *CTS*.

The results in Table 5 show that using base-case variables and alternative variables in different combinations does not change our results. As found earlier, stock market openness is not linked to financial development whereas trade openness and capital account openness are strongly associated with financial development no matter how the financial openness variables are measured.

Table 5
*Results of Panel Regressions Obtained by Combining Base-Case Variables with Alternative Variables*

| | Panel A<br>Stock Market Cap. / GDP | Panel B<br>Liquid Liabilities / GDP | Panel C<br>Private Credit / GDP |
|---|---|---|---|
| SEG | -0.2406[c] (-1.68) | -0.0419 (-0.56) | 0.0099 (0.11) |
| CTS | 0.0792[a] (5.96) | 0.0655[a] (9.35) | 0.0454[a] (5.41) |
| KAOPEN | 0.1809[a] (3.09) | 0.0765[b] (2.46) | 0.2249[a] (6.08) |
| INST_QUAL | 0.0398 (0.55) | -0.0927[b] (-2.51) | 0.0110 (0.24) |
| Fixed Effect | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.8407 | 0.9091 | 0.8591 |
| Observation | 414 | 418 | 422 |
| Sample Period | 1996-2016 | 1996-2016 | 1996-2016 |

a, b, and c show regression parameters that are significant at 1%, 5%, and 10% .

## Robustness Tests

To uncover whether our results are time specific, we extend the research period by removing the variables that have time constraints. The data for *INST_QUAL* was available on the WGI official web site only after 1996. It is also not possible to calculate an alternative measure for the *KAOPEN* for the pre-1996 period because the data for 13 sub-categories do not exist in AREAER. Therefore, we remove the variables of *INST_QUAL* and *ALT_KAOPEN* from our analyses and re-run panel regressions with variables that have longer time-series data.

Specification (1) of Table 6 presents the results of panel regressions including base-case variables *(FEL, TO, and KAOPEN)* for a longer research period. The results in Table 6 can be summarised as follows. Both Trade Openness *(TO)* and Capital Account Openness *(KAOPEN)* have both positive and significant effects on financial development in all specifications and in all panels. However, the coefficient on *FEL* is insignificant in Panel A and significant in Panels B and C.

Table 6
*Results for a Longer Sample*

| | Panel A<br>Stock Market Cap. / GDP | | Panel B<br>Liquid Liabilities / GDP | | Panel C<br>Private Credit / GDP | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (1) | (2) | (1) | (2) |
| FEL | 0.1140 (1.48) | - | 0.1657[a] (4.40) | - | 0.1520[a] (3.77) | - |
| TO | 0.5851[a] (9.68) | - | 0.2555[a] (8.59) | - | 0.3277[a] (10.32) | - |
| KAOPEN | 0.1498[a] (3.25) | - | 0.0543[b] (2.39) | - | 0.1236[a] (5.10) | - |
| SEG | - | -0.3126[b] (-2.27) | - | -0.0290 (-0.49) | - | -0.0835 (-1.17) |
| CTS | - | 0.1029[a] (8.09) | - | 0.0860[a] (15.57) | - | 0.0743[a] (11.31) |
| KAOPEN_N | - | 0.0440[a] (3.60) | - | 0.0048[a] (0.92) | - | 0.0405 (6.42) |
| Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.6954 | 0.7253 | 0.8349 | 0.8852 | 0.8013 | 0.8314 |
| Observation | 680 | 571 | 677 | 577 | 679 | 580 |
| Sample Period | 1975-2015 | 1977-2016 | 1975-2015 | 1977-2016 | 1975-2015 | 1977- 2016 |

a, b, and c show regression parameters that are significant at 1%, 5%, and 10% .

In the second specifications of Table 6, we only use two of the alternative variables *(SEG and CTS)* that were used before. Instead of *ALT_KAOPEN*, we use Chin and Ito (2006)'s non-normalised version of the Financial Openness Index of Capital Account Openness *(KAOPEN_N)*, which has longer time-series data. The results show that *CTS* and *KAOPEN_N* are persistently and positively associated with financial development whereas *SEG* continues to yield mixed results. These findings confirm our main results. In short, the results in Table 6 show that our main results are not time specific and robust to the use of a longer research period.

## Further Tests

As a further robustness check, we also use an alternative measure of financial development recently developed by Svirydzenka (2016), which is also known as the IMF index of financial development. Svirydzenka (2016) creates three sub-indices based on depth, access, and efficiency to determine to what extent financial institutions and financial markets are developed. Aggregating these three sub-indices for financial institutions and financial markets separately, she created two indices, namely the development index of financial institutions and the development index of financial markets. In the final step, these two higher-level indices are aggregated to form the overall financial development index of a country. The strong side of this measure over the traditional ones is that it accounts for several different aspects of financial development. Hence, this multi-dimensional measure aims to capture financial development more comprehensively.

Table 7
*Results of Panel Regressions with Base-Case Variables for Multi-dimensional Indices of Financial Development*

| | **Panel A Overall financial development index** | **Panel B Development index for financial institutions** | **Panel C Development index for financial markets** |
|---|---|---|---|
| FEL | 0.0809[b] (2.00) | 0.0869[b] (2.17) | 0.0731 (1.24) |
| TO | 0.0746[a] (3.03) | 0.0654[a] (2.69) | 0.0822[b] (2.29) |
| KAOPEN | 0.0881[a] (4.28) | 0.0586[a] (2.87) | 0.1158[a] (3.86) |
| INST_QUAL | -0.0204 (-0.82) | -0.0431[c] (-1.75) | 0.0026 (0.07) |
| Fixed Effect | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.7870 | 0.8285 | 0.6839 |
| Observation | 416 | 416 | 416 |
| Sample Period | 1996-2015 | 1996-2015 | 1996-2015 |

a, b, and c show regression parameters that are significant at 1%, 5%, and 10% .

We employ an overall financial development index, the development index for financial institutions and the development index for financial markets as dependent variables in panel regressions and report the results in Panels A, B, and C of Table 7 respectively. The results indicate that our main message remains unchanged. Trade openness measured by the *TO* and capital account openness measured by the *KAOPEN* are the most important determinants of financial development no matter how financial development is defined as evident by significant coefficients in all regression specifications. Stock market openness proxied by *FEL* is significantly associated with financial development in Panels A and B, but not in Panel C.

Table 8
*Results of Panel Regressions with Year Dummies*

| | Panel A<br>Stock Market Cap. / GDP | Panel B<br>Liquid Liabilities / GDP | Panel C<br>Private Credit / GDP |
|---|---|---|---|
| FEL | -0.1402 (-1.08) | 0.1076 (1.50) | 0.1253 (1.54) |
| TO | 0.2333[b] (3.03) | 0.1350[a] (3.17) | 0.1734[a] (3.61) |
| KAOPEN | 0.1612[b] (2.50) | 0.1139[a] (3.19) | 0.1872[a] (4.66) |
| INST_QUAL | 0.0688 (0.87) | -0.0459 (-1.08) | 0.0873[c] (1.81) |
| Year2007 | 0.2466[a] (6.43) | -0.0371[c] (-1.75) | -0.0443[c] (-1.85) |
| Year2008 | 0.0706[c] (1.78) | -0.0189 (-0.86) | -0.0052 (-0.21) |
| Year2009 | 0.0479 (1.22) | 0.0380[c] (1.76) | 0.0542[b] (2.22) |
| Fixed Effect | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.8400 | 0.8967 | 0.8588 |
| Observation | 416 | 413 | 416 |
| Sample Period | 1996-2015 | 1996-2015 | 1996-2015 |

a, b, and c show regression parameters that are significant at 1%, 5%, and 10% .

Lastly, we examine the behaviour of financial development during the global financial crisis spanning from 2007 to 2009. The financial system can be seriously affected during a crisis and it is natural to ask which dimensions of financial development were most affected and how long it took the financial sector to recover. To answer these questions, we include time dummies for the years 2007, 2008, and 2009 in panel regressions. The results with time dummies are presented in Table 8 show that liquid liabilities and private credit were the most negatively influenced dimensions of financial development during the crisis. The time dummies for 2007 are significantly negative for these two measures of financial development while the time dummies for 2008 are negative but not significant any more. The positive 2009 time dummies indicate that the deteriorating effects of the financial crisis on liquid liabilities and private credit were recovered in 2009. Interestingly, the significant rise in Stock Market Cap. to GDP ratio in the years 2007 and 2008 suggests a share price appreciation in emerging markets. This is probably due to the flow of hot capital from developed markets, which were the epicentres of the global financial crisis, to emerging markets that remained relatively stable during the crisis. In 2009, share price appreciation stopped as evidenced by an insignificant coefficient on the time dummy. To sum up, the global financial crisis caused a contraction in the availability of liquid liabilities and private credit whereas it had an increasing impact on share prices in emerging markets. The effects of the crisis lasted for two years.

## Concluding Remarks

Emerging markets need foreign investment to boost their economies more than developed markets do. Desperately searching for foreign funds, policymakers in emerging markets may not care much about the way they attract these foreign resources. This paper aims to reveal some clues on how to prioritise various forms of financial openness to improve financial development that is expected to attract foreign funds.

We test whether a relation between financial openness measured in three different forms and financial development exist by using a panel of 27 emerging markets spanning the period of 1996-2016. Examining the determinants of financial development is especially crucial for policymakers in emerging markets trying to develop their financial system for a broad and low-cost access to funds.

In this study, we employ stock-market openness as another proxy for financial openness along with the widely used proxies of trade openness and capital account openness. We measure stock-market openness both with a capital flow-based and a valuation-based variable. Although these variables and their variants were used before to examine their link with aggregate total volatility, economic growth and market returns, their relationship with financial development was not investigated previously.

Moreover, we use an alternative variable for trade openness offered by Squalli and Wilson (2011), which was not used to explain financial development before. We also form an alternative measure of capital account openness in the sense of Miniane (2004), using the binary coding provided for capital account restrictions in the annual reports of the IMF. Again, this alternative variable of capital account openness was not used to determine financial development before. Moreover, we employ several metrics of financial development to check the robustness of our results.

Our results indicate a statistically positive and significant effect of trade openness and capital accounts openness on financial development. We do not detect a robust and consistent impact of stock-market openness on financial development. These results are not sensitive to the alternative definitions of financial openness and financial development. Furthermore, these results are robust to the addition of control variables such as institutional quality and its components. Our results also hold for a longer research period obtained by dropping the variables with a fewer number of time-series observations. Lastly, we show that the global financial crisis caused a deterioration in the availability of liquid liabilities and private credits but led to share price increases probably due to the flow of hot capital from the severely affected stock markets of developed markets to the relatively less affected stock markets of emerging markets. The crisis effects were apparent in emerging markets for a period of two years extending from 2007 to 2008.

Our results have implications for policymakers. Since stock-market openness is not as important as other forms of financial openness for a deeper financial system, policymakers can first focus on establishing and maintaining trade openness and capital account openness.

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# APPENDIX

Appendix 1
*Country list (27 countries)*

| | | |
|---|---|---|
| Argentina | Indonesia | Philippines |
| Bahrain | Israel | Poland |
| Brazil | Korea | Qatar |
| Chile | Kuwait | Russia |
| China | Malaysia | South Africa |
| Czech | Mexico | Thailand |
| Egypt | Morocco | Turkey |
| Hungary | Oman | UAE |
| India | Pakistan | Vietnam |

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RESEARCH ARTICLE

# The Effects of Audience's Attitudes on Actor, Character, Movie and Product Placement on the Brand Attitude

**Elif Ülker-Demirel**[1], **Erkan Yıldız**[2]

**Abstract**
In recent years, there has been a shift in consumers' media consumption preferences from traditional to digital platforms. Adblocker applications used by consumers who do not want to be exposed to advertising and the digital platforms that offer ad-free content make it increasingly difficult for brands to reach audiences in a highly saturated advertising environment. In this environment, product placement remains essential in reaching the target audiences due to the advantages it offers to brands compared to traditional advertisements. The aim of this study, being distinctly different from previous research, is to test the effects of attitude toward actor and character on attitude toward movies, product placement, and brand. Furthermore, it is aimed to investigate the serial mediating effect between these attitudinal constructs. The data obtained from 300 participants were analyzed with SmartPLS 3.2.8 using partial least squares path analysis (PLS-SEM). As a result, the attitude toward the actor, character, and movie has direct and indirect effects on product placement and attitude toward the brand. Furthermore, the effect of the attitude toward movies and product placement has a serial mediating effect on the relationship between the attitude toward the actor, the character and the brand.

**Keywords**
Product Placement, Attitude, Actor, Brand, PLS-SEM

## Introduction

Traditional advertising media and messages are skipped without being watched by consumers, therefore making it challenging to reach target consumers. Considering today's consumers, who have a low average attention span, want to access the content they want to watch quickly and smoothly, and skip what they are not interested in without watching it, product placements in videos, movies, and TV series have become more critical and preferred for brands. People can choose whether or not to consume ads, just like products (Tuchman, Wen-Ko, & Liu, 2018).

According to Deloitte's research on ad-blocking behaviors of audiences on various platforms in 2017 (Deloitte, 2017), approximately three-quarters of Americans use at least one

1 **Corresponding author:** Elif Ülker Demirel (Asst. Prof. Dr.), Trakya University, Faculty of Applied Sciences, Edirne, Turkey. E-mail: elifulker@trakya.edu.tr ORCID: 0000-0002-5805-0452

2 Erkan Yıldız (Asst. Prof. Dr.), Başkent University, Kahramankazan Vocational School, Kahramankazan, Ankara, Turkey. E-mail: eyildiz@baskent.edu.tr ORCID: 0000-0002-4565-779X

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ad-blocker app, while a smaller subset of about 10% – which is called "adlergic", a combination of two words, "advertising" and "allergic" – often block ads on platforms in four or more traditional and digital media. When the findings of traditional TV advertising were examined, about 50% of the participants in the United States and Canada stated that there was a fast-forward feature on their televisions and they used it. However, those who do not have TVs with this feature stated that they changed the channel, muted it, left the room or looked at their phones, computers or tablets. When this is examined specifically with regards to Turkey, approximately more than 60% of the participants expressed that they changed the TV channel. For the sampling of all three countries, these rates indicate that the young population (aged 18-34) tends to be much more "*adlergic*" (Deloitte, 2017).

According to the Association of Advertising Agencies' report on Media and Advertising Investments in Turkey, advertising and media investments increased by 2.9% to 11 Billion TL as of 2018 (Association of Advertising Agencies, 2018). Looking at these figures, particularly for the World and Turkey, it can be said that a significant proportion of these expenditures are directed to digital channels rather than traditional ads. Therefore, the changing trends in general advertising expenditure in the world has caused the change of the platforms the brands preferred to use in the product placement category. In the United States, the product placement market in live and video-on-demand (VOD) television platforms and digital videos increased by 13.7% to 8.78 Billion Dollars as of 2017 (PQ Media, 2018).

Product placement, which is defined as a combination of advertising and promotion designed to impress the audience by adding branded products without attracting attention on platforms such as movies and TV series, without being aware of the intention of persuading the audience (Balasubramanian, 1994), has continued to be seen as an attractive tool different from traditional means of communication, used in order to change the attitudes mentioned above of the audience, raise brand awareness, recall and, most importantly, affect buying behaviors positively.

The potential effects of product placement in movies and TV series, such as affecting the audience's attitudes, increasing their awareness toward brands, enriching and differentiating brand experiences, are explained by drawing on various theories in the literature. (Balasubramanian, et al., 2016). The *Meaning Transfer Model* (McCracker, 1989), one of the theories explaining the relationship between product placement and actor and audience in films, explains the transfer of the cultural meanings from actors or celebrities to products and from products to audiences. However, the characters that actors play are just as important as the actors or actresses to explain the relationship between the audience and the products placed in movies. Horton and Whol's (1956) *The Parasocial Interaction Theory* describes the one-way emotional relationship that the audience develops over time with famous actors or characters in movies or TV series. This relationship increases the emotionally parasocial effect of brands associated with characters represented in a positive context in movies and creates a positive

brand perception (Knoll vd., 2015: 740). Therefore, there seems to be an interaction between the actors/characters in movies and TV series and the brands placed in them.

Therefore, the present study aims to test the effects of consumers' attitudes toward actors and characters on their attitudes toward movies, product placement, and brands, and investigate the serial mediation effects between these attitudinal variables. To suit the purpose of the study, the relations between consumers' attitudes toward actors/actresses and the characters they play, the attitudes toward a movie, the attitudes toward product placement and brand are explained. There are numerous studies published in relation to the product placement practices in different communicational and cultural tools such as movies, TV series and literature and their effect on buying behaviors of individuals (Jin & Villegas, 2007; McKechnie & Zhou, 2003; Barnhardt, Manzano, Brito, Myrick, & Smith 2016), brand recall (Johnstone & Dodd, 2000; Argan, Velioğlu, & Argan, 2007) and the attitudes of the audience (Balasubramanian, Karrh & Patwardhan, 2006; Russell & Stern, 2006; Philips, & Noble, 2007; Cowley & Barron, 2008; Sapmaz & Tolon, 2014; Kırcova & Şirin, 2017). However, there seems to be a scarcity of research focusing on other attitudinal components affecting the audience's attitudes toward product placement, to the best of the authors' knowledge. This research, which was addressed within the framework of Balasubramanian, Patwardhan, Pillai, & Coker's (2014) research on the components that affect the audience's attitudes, aimed to fill the gap in the literature and explain the other attitude components behind the audience's attitudes toward the brands involved in product placement.

## Literature Review

### Product Placement

Product placement, which can be defined as a paid product message in which a trademarked product, product package or logo is placed in a movie or television program in a planned and inconspicuous way to impress the audience (Balasubramanian, 1994), began in the 1930s when American tobacco companies first made payment to movie stars to show their support for their brands (McKechnie & Zhou, 2003).

Product placement, which is the inclusion of branded products and services in mass media (Newell, Salmon, & Chang, 2006), has significantly become a highly preferred practice for marketing professionals and brands in recent years, especially through the increasing diversity in television programs and digital platforms that offer the opportunity to watch movies and TV series over the Internet.

Unlike cable television platforms, Over-the-Top (OTT) viewing, which is referred to as movie or television content that is accessed through a fast Internet connection and does not require any subscription, has become popular especially with applications such as Netflix and

Apple TV as an important platform in this field. The fact that these platforms provide ad-free content is one of the most important reasons for preference for the audience, but it also eliminates the possibility of reaching the audience through television ads by marketing professionals. Therefore, the changing of the audience's media content consumption and streaming platform preferences (Ulker-Demirel, Akyol, & Gölbaşı Şimşek, 2018) has led to a significant change in the direction of the advertising content from traditional media to digital platforms. Along with these platforms offering ad-free content, developments in various media formats have led marketing professionals to prefer alternative advertising forms such as product placement rather than traditional ads. Since the transformation of the audience's habits of entertainment content consumption has changed due to developments in various media formats, marketing professionals face new challenges in the context of brand management strategies (Kim & Shin, 2017).

However, in today's saturated advertising media, hybrid messages such as product placement (Balasubramanian, 1994), may be stronger than traditional ads unless they are perceived by consumers as persuasive messages (Russell, 2002). Therefore, product placement is largely used in the promotion of products through the development / acquisition of individual attitudes of the audience (Su, Huang, Brodowsky, & Kim, 2011). Moreover, the audience, who decides whether or not to watch the ad content in traditional ads, is exposed to and unable to escape the existing content if there is product placement in a movie or TV series. This reveals the most important difference of product placement from traditional advertising tools.

There is an accumulation of literature and an increasing interest in product placement in the literature. Notwithstanding that the current research is based on the recall of the brand being placed (Scott & Craig-Less, 2010; Argan, et al., 2007), consumer attitudes toward the brand (Kırcova & Köse, 2017; Sapmaz & Tolon, 2014), consumer purchase intentions and the effectiveness of product placement (Karrh, Firth, & Callison, 2003; Williams, Petrosky, Hernandez, & Page, 2011), there are also studies on cross-cultural comparisons to examine audience attitudes (McKechnie & Zhou, 2003) and the concepts of *reverse product placement* (Muzellec, Kanitz, & Lynn 2013; Patwardhan & Parwardhan, 2016).

Balasubramanian et al. (2006; 2014) evaluated the attitudes of the audience toward product placement and the factors that could shape the effectiveness of product placement in two categories: stimulus/execution related (prominence, repetition, placement method) and individual difference related (attitude toward practice, specific placement sections, media platform in which the brand is placed, perception of the harmony of the character played by the actor/actress and the product). Since this research focuses on elements that may affect the audience's attitudes and are differentiated individually, the attitude toward the brand will be examined within the framework of the attitudes toward the actor/actress, character, movie, and product placement. Therefore, the effects of attitude toward actor and character on movies, product placement, and finally, brand attitude will be explained, and serial mediation effects between these attitudinal variables will be analyzed.

## Product Placement and Attitudinal Constructs

Product placement, which is considered as a form of advertising, has a commercial meaning and content (Tsai, Wen-Ko, & Liu, 2007; Balasubramanian et al., 2014). Research shows that consumers who have a positive attitude toward advertising, in general, are generally also positive to the advertised brand (MacKenzie & Lutz, 1989). When the audience's attitudes toward product placement were examined, it was seen that they enjoy product placements in movies and TV series because it increased realism, helped in character development, created historical subtexts, and developed familiarity (Nelson & Devanatan, 2006). It is very likely that audiences which show a positive approach to product placement in movies as well as movies where it can be realistically incorporated into the scenario and processed inconspicuously will exhibit positive attitudes toward products for specific product categories. However, this attitude may differ when it comes to products that are considered unethical and need to be restricted, such as cigarettes and alcohol (Gupta & Gould, 1997). Therefore, the attitudes of the audience toward product placement vary according to the media used, target audience and product/service type (Karrh, Mckee, & Pardun, 2001).

Movies as experiential products are considered as brands, because movie sequels are evaluated in the context of brand expansion (Sood & Dreze, 2006). Because movies -like commercial products- have a symbolic dimension, capital, and technological investment, they are released to the market, have intellectual and civil rights, differentiate themselves from other movies, have a strategic asset, and brand value within the brand portfolios of the production companies, for example, the Harry Potter series, The Lord of the Rings Trilogy, Iron Man in Marvel movies, and so on. They are also the values by which 'brand value' can be calculated with box-office returns and by-product revenues, and by which the awareness of the movie brand and recall items can be discussed (O'Reilly & Kerrigan, 2013). Based on these findings, therefore, it is possible to predict that movies as a brand have the potential to affect the attitudes of the audience toward the product placement and the brand being placed.

The attitudes of the audience toward the movie in the literature are significantly and positively related to the prominence of the placement of the brand in the movie in which it appears (Johnstone & Dodd, 2000). Besides, it is predicted that directors and actors/actresses have a significant impact on the creation of the movie brand that in turn can shape the attitude toward the movie. The reason for this is that movies are seen as a brand, which are complex experiential products where the talent and reputation of many elements such as directors, actors, producers, and movie studios come together (Balasubramanian et al., 2014).

### *Attitude Toward Actress / Actor*

In the literature, the audience's interactions with the actor/actress and the character, which have an impact on shaping their attitudes toward the brand in product placement, are explained

within the framework of the meaning transfer model and parasocial theory (Balasubramanian, et al., 2006; Balasubramanian et al., 2014). McCracken's (1989) *meaning transfer model* has been used many times in the literature to explain the use of celebrities in advertising mediums and consumer responses to product placement (Russell, 1998; Kurthakoti, Balasubramanian, & Altobello, 2016). According to McCracken, meaning begins as an established element in the physical and social world, which is constituted with the principles of the culturally dominant culture. Along with the introduction of the generated meaning in the consumer goods, it becomes a part of the daily lives of consumers. Factors such as advertising and fashion play an important role in this transfer between culture, commercial products and consumers. The transfer process begins with deciding which cultural meanings (lifestyle, gender, and so on) or, in its simplest terms, which message should be delivered with the relevant product. It is a bidirectional model that plays a role in transferring the correct meaning both from the actor/actress/celebrity in the movie to the relevant product, and the product to the actor/actress, and thus establishing effective communication with the audience (Balasubramanian et al., 2006).

The meaning transfer model, as a method that can explain the reactions of the audience toward product placement (Srivastava, 2011), is important not only for transferring other attitudinal components that affect the attitudes of the audience toward a brand placed in the movie, but also for the audience to watch content more carefully than traditional ads, and also to be able to naturally transfer the actor/actress's relationship with the placed product by incorporating it into the scenario (Balasubramanian et al., 2014).

### *Attitude Toward Character*

Horton and Wohl (1956) mention a unilateral interpersonal relationship that develops between the audience and the characters on television with parasocial interaction. According to the parasocial theory, the audience develops an affinity and attitude toward the character of the actor/actress in the television programs they watch, and their predictability for that character begins to increase over time (Rubin & McHugh, 1987). The audience begins to recognize and become familiar with those characters, just like their friends, through their appearance, voice, mimics and behaviors over time (Horton & Wohl, 1956).

In terms of product placement, parasocial interaction causes the audience to identify themselves with them and to use them as a model for the right product selection as they get closer to the characters (Russell & Stren, 2006). Therefore, in the light of the parasocial interaction literature, the character of the actor/actress is expected to affect the attitude toward the movie and the TV series and indirectly toward the product placement and the attitude toward the brand where the product placement takes place.

## Methodology

The previous studies on product placement in the literature often focused on the purchasing intentions of the audience (Karrh, Firth, & Callison, 2003; Jin & Villegas, 2007), their attitudes to product placement (Russell & Stern, 2006; Cowley & Barron, 2008), and the effect of product placement on the attitudes of the audience toward a brand (Kırcova & Köse, 2017). However, there may be some other factors influencing people's attitudes and behaviors toward product placement. The meaning transfer model suggests that the audience's attitudes toward brands can be influenced by the interactions between audiences, brands, and the celebrities with whom the audience interacts (McCracker, 1989). Similarly, the parasocial interaction theory posits that the audience's attitudes toward actors and characters in movies or TV series may be influenced by the emotional relationship they develop over time. Drawing from these two theories, the celebrities in movies and TV series, the characters they play, and the audience seem to be closely linked to the audience's attitude toward the movies because the actors and the characters they play affect the audiences' movie preferences to a great extent (Ulker-Demirel et al., 2018). Therefore, we hypothesize that the attitudes toward actors and characters could affect the attitudes toward the movie, the product placement in the movie, and, thus, the brand.

### Conceptual Model and Hypotheses Development

As a result of the current literature review, the research model and hypotheses based on the variables used in the literature in accordance with the purpose of the research are given below**.**

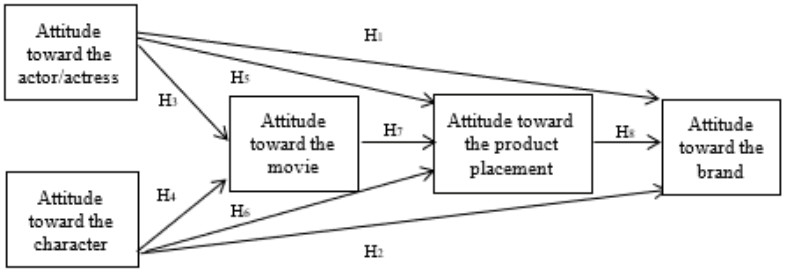


***Figure 1.*** Research Model

**$H_1$:** Attitude toward the actor/actress has a positive effect on attitude toward the brand

**$H_2$:** Attitude toward the character has a positive effect on attitude toward the brand

**$H_3$:** Attitude toward the actor / actress has a positive effect on attitude toward the movie

**$H_4$:** Attitude toward the character has a positive effect on attitude toward the movie

**$H_5$:** Attitude toward the actor / actress has a positive effect on attitude toward the product placement

**$H_6$:** Attitude toward the character has a positive effect on attitude toward the product placement

**$H_7$:** Attitude toward the movie has a positive effect on attitude toward the product placement

**$H_8$:** Attitude toward the product placement has a positive effect on attitude toward the brand

**$H_9$:** Attitude toward the movie and attitude toward product placement have a serial mediating effect on the relationship between attitude toward the actor/actress and attitude toward the brand**.**

**$H_{10}$:** Attitude toward the movie and attitude toward product placement have a serial mediating effect on the relationship between attitude toward the character and attitude toward the brand**.**

## Measurement of Constructs

Studies in the literature were used to measure the variables of the research. The attitude toward the actor was taken from Ohanian's (1990) study and measured 15 items, while the attitude toward the movie was taken from d'Astous & Touil's (1999) study and used 4 items. For attitudinal variables toward the character, brand and product placement, Balasubramanian et al.'s (2014) study was used and they were measured using 5, 4 and 4 items, respectively.

## Sample and Procedure

This study aimed to connect with audiences who watch movies/TV series. Participants, who are young people watching movies/TV series at least once a week, were recruited because young audiences' subscription rates, particularly in the X and Y generations, to platforms such as online and paid channels, and the rates of movie and series watching are higher than the older groups (Iqbal, 2020; Westcott et al., 2020; Balasubramanian et al., 2014). Therefore, undergraduate and graduate students with different demographic backgrounds made up the sample of the study. Due to population size, time, and cost constraints, the research data was instantly collected using the non-probability convenience sampling technique.

A survey, which included closed-end and pre-prepared questions, was used as the data collection method in the research. The survey consisted of three sections and 40 questions. In the first section, the participants were asked to specify the name of the movie/TV series they had watched in the last week, the brand name they remember, and the sector to which the brand belongs, as well as the name of the actor/actress appearing with the brand. The reason for the limitation to the last week was to enable them to answer the questions correctly in the first section and then to answer other questions on the basis of their responses in this first section. In addition, it is not possible for individuals who have been exposed to product placement to be able to remember the brand for a long time, and therefore the data should be collected within a very short period of time after product placement (Mackay, Ewing, Newton, & Windisch, 2009; Balasubramanian et al., 2014). The second section included 32 items measuring the variables of the research. The participants were asked to evaluate the questions in the survey on the basis of the items with a 5-point semantic differential scale for the items measuring the attitude toward the actor/actress, character, brand, product placement, and the attitude toward the movie. In the last section, their age, gender, education and frequency of watching movies were asked.

The survey was conducted between 15 April and 15 June 2019. Of the 500 face-to-face and online surveys distributed, 357 were answered and returned. The rate of return was 71.4%. The participants were expected to answer the questions completely in the first section of the survey, including the name of the movie/TV series they had watched, the brand name that stuck in their mind, the sector to which the brand belongs, and the name of the actor/actress. In this section, 300 useable surveys were obtained due to the exclusion of those with missing requested information. However, the information obtained was verified from multiple sources, through both movie sites and the website available for the movie or TV series, in order to ensure the accuracy of the movie, brand, sector and actor/actress specified in the surveys for the reliability of the research (e.g. IMDB, sinemalar.com, beyazperde.com). Of the participants, 46.3% were female (N=139) and 53.7% were male (N=161), 67.7% were between the ages of 18-24 (N=203), 85% were doing an undergraduate degree (N=255), 42.3% of the subjects who participated in the research watched movies/TV series several times a week.

## Results

### Measurement Model

Before the analysis of the research model, internal consistency reliability, convergent validity, and discriminant validity were evaluated. For internal consistency reliability, Cronbach's alpha and composite reliability (CR) coefficients were examined. The average-variance-extracted (AVE) values by factor loadings were used to determine convergent validity.

Therefore, factor loadings as ≥0.70, Cronbach's Alpha and composite reliability coefficients as ≥0.70 and also average-variance-extracted value as ≥0.50 were expected (Hair, Black, Babin, Anderson, & Tatham, 2006; Hair, Tomas, Hult, Ringle, & Sarstedt, 2014; Fornell & Larcker, 1981). The results of the constructs within the scope of the research for internal consistency reliability and convergent validity are given in Table 1.

Table 1
*Measurement Model Estimates*

| Construct | Items | Factor Loadings | Cronbach Alpha | CR | AVE |
|---|---|---|---|---|---|
| Attitude toward the Actor/ Actress | ATA6 | 0.737 | 0.894 | 0.912 | 0.511 |
| | ATA7 | 0.773 | | | |
| | ATA8 | 0.742 | | | |
| | ATA9 | 0.760 | | | |
| | ATA10 | 0.778 | | | |
| | ATA11 | 0.674 | | | |
| | ATA12 | 0.665 | | | |
| | ATA13 | 0.674 | | | |
| | ATA14 | 0.709 | | | |
| | ATA15 | 0.616 | | | |
| Attitude toward the character | ATC1 | 0.813 | 0.847 | 0.891 | 0.621 |
| | ATC2 | 0.807 | | | |
| | ATC3 | 0.801 | | | |
| | ATC4 | 0.786 | | | |
| | ATC5 | 0.729 | | | |
| Attitude toward the movie | ATM1 | 0.903 | 0.910 | 0.937 | 0.789 |
| | ATM2 | 0.810 | | | |
| | ATM3 | 0.932 | | | |
| | ATM4 | 0.903 | | | |
| Attitude toward the product placement | ATP1 | 0.894 | 0.856 | 0.904 | 0.703 |
| | ATP2 | 0.920 | | | |
| | ATP3 | 0.815 | | | |
| | ATP4 | 0.711 | | | |
| Attitude toward the brand | ATB1 | 0.912 | 0.916 | 0.941 | 0.799 |
| | ATB2 | 0.903 | | | |
| | ATB3 | 0.924 | | | |
| | ATB4 | 0.834 | | | |

According to Hair et al. (2014), factor loadings should be ≥0.70. The authors suggest that items with factor loadings below 0.40 should be excluded from the measurement model and items with factor loadings between 0.40 and 0.70 should be excluded from the measurement model in cases of an increase in AVE or CR values. Therefore, items 4 and 5 of the attitudes toward the actor/actress with factor loadings below 0.40 and the items 1, 2, and 3 of AVE values with the same scale below the threshold value were excluded from the measurement model. Since the calculated AVE and CR values were higher than the threshold values after the items were removed, the other items with a factor loading below 0.708 were not excluded

from the scale. It can be stated that the internal consistency reliability of the constructs was demonstrated because the Cronbach's Alpha coefficients are between 0.847 and 0.916, and the CR coefficients are also between 0.891 and 0.941. When the values in the table were examined, it is possible to state that convergent validity was demonstrated, since the factor loadings were between 0.616 and 0.932, and the AVE values were between 0.511 and 0.799. The mean scores of constructs ranged from 3.95 (attitude toward product placement) to 4.35 (attitude toward the movie). It can be stated that the participant perceptions toward the research constructs were generally higher than the average value (according to a 5-point Likert). The descriptive statistics of constructs are illustrated in the table given in Appendix A.

The criteria proposed by Fornell & Larcker (1981) and the Heterotrait-Monotrait Ratio (HTMT) criteria proposed by Henseler, Ringle, & Sarstedt (2015) were considered in order to determine the discriminant validity. According to Fornell & Larcker's (1981) criteria, the square root of the AVE values of the constructs in the research should be greater than the correlations between the construct in the research. Therefore, Table 2 shows the analysis results according to Fornell & Larcker's (1981) criteria.

Table 2
*Comparison of Square Roots of AVE's and Correlations to Assess Discriminant Validity*

| | **ATM** | **ATC** | **ATB** | **ATA** | **ATP** |
|---|---|---|---|---|---|
| ATM | (0.888) | | | | |
| ATC | 0.357 | (0.788) | | | |
| ATB | 0.225 | 0.469 | (0.894) | | |
| ATA | 0.351 | 0.454 | 0.468 | (0.715) | |
| ATP | 0.393 | 0.478 | 0.601 | 0.440 | (0.839) |

The values in parentheses in Table 2 are the square root values of AVE. When these values were examined, the square root of average-variance-extracted of each construct was higher than its correlation with other constructs.

According to Henseler, et al.,'s (2015) criteria, HTMT expresses the ratio of the average of the correlations of items of all variables in the research (the heterotrait-hetero-method correlations) to the geometric means of the correlations of items of the same variable (the monotrait-hetero-method correlations). The authors stated that the value of HTMT should be less than 0.90, but it should be below 0.85 as content for the concepts far away from each other. HTMT values are summarized in Table 3.

Table 3
*Values of discriminant validity according to HTMT Criteria*

| | ATM | ATC | ATB | ATA | ATP |
|---|---|---|---|---|---|
| ATM | | | | | |
| ATC | 0.400 | | | | |
| ATB | 0.243 | 0.529 | | | |
| ATA | 0.391 | 0.522 | 0.508 | | |
| ATP | 0.450 | 0.551 | 0.666 | 0.481 | |

When Table 3 is examined, it is seen that HTMT values were below the threshold value. Based on the findings in Table 2 and Table 3, it is possible to say that the discriminant validity was determined.

## Structural Model

The structural equation modeling developed to test the hypotheses of the research is shown in Figure 2.

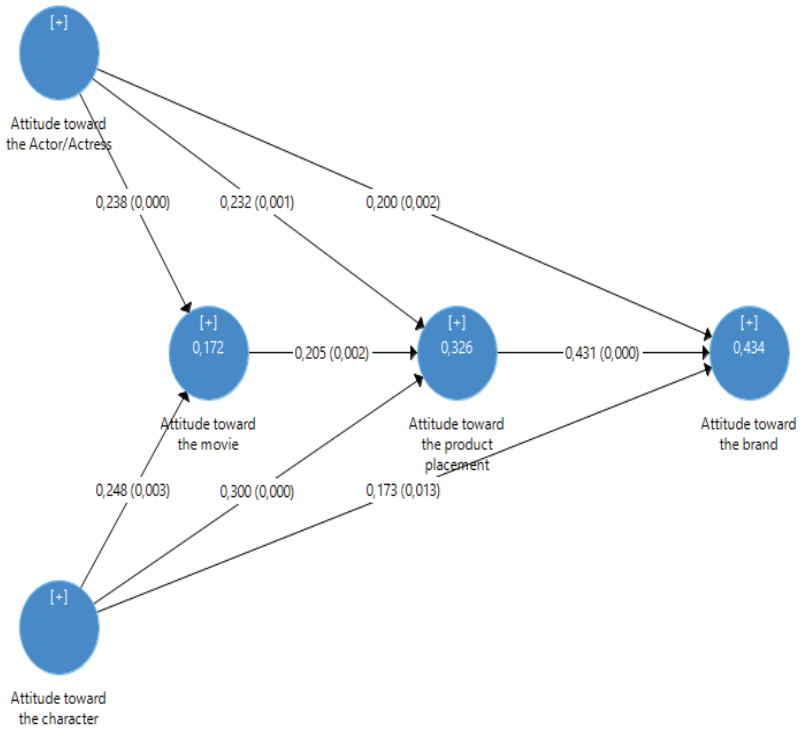


***Figure 2.*** Structural Model

The partial least squares structural equation modeling (PLS-SEM) was used to analyze the research model, and the data obtained were analyzed using SmartPLS 3.2.8 statistical program (Ringle, Wende, & Becker, 2015). It was preferred to use PLS-SEM, as the existence of two mediator variables in the research model and the serial mediation effect were wanted to be tested. As part of the research model, the PLS algorithm was used for calculating linearity, path coefficients, $R^2$, and effect size ($f^2$) and Blindfolding analysis for estimating power ($Q^2$). Bootstrapping was used to assess the significance of the PLS path coefficients and to take 5000 subsamples for the sample to calculate their t-values. The $R^2$, $f^2$, $Q^2$, and VIF values of the research results are given in Table 4.

Table 4
*The Results of the $R^2$, $f^2$ and $Q^2$*

| **Constructs** | | **VIF** | **$R^2$** | **$f^2$** | **$Q^2$** |
|---|---|---|---|---|---|
| ATA | ATM | 1.260 | 0.172 | 0.054 | 0.122 |
| ATC | | 1.260 | | 0.059 | |
| ATA | ATP | 1.328 | 0.326 | 0.060 | 0.211 |
| ATC | | 1.334 | | 0.100 | |
| ATM | | 1.208 | | 0.052 | |
| ATA | ATB | 1.371 | 0.434 | 0.052 | 0.321 |
| ATC | | 1.433 | | 0.037 | |
| ATP | | 1.410 | | 0.233 | |

When the VIF (Variance Inflation Factor) values between variables were examined, it was seen that they had a threshold value below 5, so there was no collinearity issue among the constructs (Hair et al., 2014).

When the $R^2$ values of the model were examined, it was found that the attitude toward the movie was explained as 17%, the attitude toward product placement as 33%, and the attitude toward the brand as 43%. For the effect size coefficient ($f^2$), $\geq 0.02$ was considered as low, $\geq 0.15$ as medium and $\geq 0.35$ as high (Cohen, 1988). Sarstedt, Ringle, & Hair (2017) also stated that there was an effect in cases where the coefficient was less than 0.02. When the effect size coefficient ($f^2$) was examined, it was found that the attitude toward the actor/actress and character had a low effect on the attitude toward the movie, the attitude toward the actor/actress, character and movie had a low effect on the attitude toward product placement, the attitude toward the actor/actress and character had a low effect on the attitude toward the brand, and the attitude toward product placement had a medium effect on the attitude toward the brand.

When the calculated estimating power coefficients of the endogenous variables ($Q^2$) are greater than 0, it shows that the research model has an estimating power for the endogenous variables (Hair et al., 2014). As the $Q^2$ values in Table 4 are greater than 0, it can be stated that

the research model has the estimating power for the attitudinal variables toward the movie, product placement and brand.

Table 5 shows the results of hypothesis testing and structural relationships. The model was tested by excluding the mediating variables from it to calculate the total effect of the attitude toward the actor/actress and character on the attitude toward the brand. As a result of the test, it was found that there was an effect of the attitude toward the actor/actress on the attitude toward the brand ($\beta$=0.327; $p<0.01$) and the attitude toward the character on the attitude toward the brand ($\beta$=0.324; $p<0.01$). Based on this result, hypotheses $H_1$ and $H_2$ of the research were supported.

In the second stage, the mediating variables were included in the model to test the significance of the path coefficients. It was seen that there were significant effects of the attitude toward the actor/actress ($\beta$=0.238; $p<0.01$) and character ($\beta$=0.248; $p<0.01$) on the attitude toward the movie, the attitude toward the actor/actress ($\beta$=0.232; $p<0.01$), character ($\beta$=0.300; $p<0.01$) and movie ($\beta$=0.205; $p<0.01$) on the attitude toward product placement, and the attitude toward product placement on the attitude toward the brand ($\beta$=0.431; $p<0.01$). In the light of these findings, hypotheses $H_3$, $H_4$, $H_5$, $H_6$, $H_7$, and $H_8$ of the research were supported.

Table 5
*The Results of Hypothesis Testing and Structural Relationships*

| Constructs | Standardize β | Std. Deviation | t Value | p | %95 Confidence Int. |
|---|---|---|---|---|---|
| $H_1$: ATA ATB | 0.327 | 0.066 | 4.978 | 0.000 | 0.186; 0.445 |
| $H_2$: ATC ATB | 0.324 | 0.069 | 4.700 | 0.000 | 0.189; 0.455 |
| $H_3$: ATA ATM | 0.238 | 0.059 | 4.014 | 0.000 | 0.114; 0.347 |
| $H_4$: ATC ATM | 0.248 | 0.082 | 3.020 | 0.003 | 0.075; 0.402 |
| $H_5$: ATA ATP | 0.232 | 0.072 | 3.213 | 0.001 | 0.077; 0.360 |
| $H_6$: ATC ATP | 0.300 | 0.080 | 3.730 | 0.000 | 0.135; 0.448 |
| $H_7$: ATM ATP | 0.205 | 0.067 | 3.044 | 0.002 | 0.076; 0.343 |
| $H_8$: ATP ATB | 0.431 | 0.067 | 6.465 | 0.000 | 0.301; 0.560 |

Baron and Kenny's procedures for mediation analyses, which Zhao et al. (2010) proposed, were used. The results for the serial mediation effect are presented in Table 6. When the findings of the table were examined, the total indirect effects were found to be significant between the attitudes toward the actor/actress and the brand ($\beta$=0.121; $p<0.01$), as well as the attitudes toward the character and the brand ($\beta$=0.151; $p<0.01$). According to Zhao et al. (2010), the relationship between the attitude toward the actor and character, and the attitude toward the brand, has a complementary mediating effect. The Variance-Accounted-For (VAF) coefficients were calculated for the total indirect effects because indirect effects were detected (Dogan, 2018). As the calculated VAF coefficients between the attitudes toward the actor/actress and the brand were 0.27, and 0.32 between the attitudes toward the character and the brand, it can be stated that the attitude toward the movie and product placement has a serial

mediating effect on the relationship between the attitude toward the actor/actress and the character and the attitude toward the brand. For the model without any mediating variable, $R^2$ of the attitude toward the brand was 31%, while there was an increase of 43% in $R^2$ for the model with mediating variables, which could be considered as proof of the mediating role of the attitude toward the movie and product placement. In line with these findings, hypotheses $H_9$ and $H_{10}$ of the research were supported.

Table 6
*Results of the Serial Mediation Effect*

| Constructs | Standardize β | Standard Dvt. | t Value | p | 95% Confidence Interval |
|---|---|---|---|---|---|
| ATA ATB (Total Indirect Effect) | 0.121 | 0.039 | 3.110 | 0.002 | 0.051; 0.202 |
| ATA ATP ATB | 0.100 | 0.036 | 2.764 | 0.006 | 0.036; 0.175 |
| ATA ATM ATP ATB | 0.021 | 0.010 | 2.142 | 0.032 | 0.007; 0.048 |
| ATC ATB (Total Indirect Effect) | 0.151 | 0.037 | 4.072 | 0.000 | 0.088; 0.238 |
| ATC ATP ATB | 0.129 | 0.038 | 3.410 | 0.001 | 0.063; 0.215 |
| ATC ATM ATP ATB | 0.022 | 0.011 | 1.920 | 0.055 | 0.007; 0.055 |

## Conclusions and Future Directions

This study, which addressed the attitude toward the actor, character, and movie as attitudinal components that may affect the attitude toward product placement and brand, aimed to explain the effect of the variables that shape the attitudes of the audience toward the brand being placed. Nowadays, consumers' preferences for a movie and TV series viewing platform are shifting toward digital media and service providers that offer ad-free content, so product placement becomes much more critical for brands, as it is a practice that maintains this advantage. Therefore, it is necessary to understand the attitudes of the audience toward product placement and brand and to consider the factors shaping these attitudes in order to create a competitive advantage.

Actors/Actresses can be considered as one of the main variables shaping the audience's attitude toward a movie, as they are an essential element of its box office success (Elberse, 2007). This is an important finding for both production companies and brands because it can be predicted that besides the effect of the actor/actress on the box-office return, its interaction with the brand being placed can indirectly affect the attitude toward the movie and thus the attitude toward the product placement and the brand. For marketers, actors and actresses not only influence the box office success but also shape the audience. Actors and actresses are effective in shaping the attitudes of the audience, recalling, as well as creating a buzz. The audience cannot judge a movie without seeing it; however, the actors may successfully shape

perceptions of the audience and contribute to the formation of a marketing buzz acting as "connector" between the audience and the movie (Mohr, 2007). Therefore, influential placements, prolonged air-time and visibility often lead to higher levels of brand recall (Brennan et al., 1999; Wilson & Till, 2011: 394).

The attitude toward the character has a direct effect on the attitude toward the movie, and an indirect effect on the attitude toward the brand. The characteristics of the character in the watched movie or TV series and its relationship with the brand or product being placed affect the attitudes of the audience toward the brand. Especially if the character's attitude toward the product being placed is positive, the character affects the audience's attitude toward the relevant product (Russell & Stern, 2006). Identifying brands with actors/actresses and characters in movies plays an essential role in increasing credibility for viewers (Morton & Friedman, 2002). Therefore, a product placement compatible with the character has the potential to create awareness for the relevant brand, and positively affect the brand image. However, the critical point that should be considered for marketing managers is that the image and values created by the characters in the movie or series must be fitted with the brand's values.

Consistent with the findings of Balasubramanian et al. (2014), the general attitudes of the audience toward the movie affect the attitudes toward product placement and thus to the brand. When the audience enjoys a movie or TV series, has a positive approach, or follows a movie series or TV series, their attitudes toward product placement in that movie or TV series are generally affected, thereby causing them to exhibit a similar assessment for the brand.

When the findings of the research were examined, product placement in movies and TV series, as supported by the literature, has an impact on the attitude toward the brand being placed (MacKenzie & Lutz, 1989; Balasubramanian, 2014). Therefore, in today's intense advertising and competitive environment, it is possible to predict that a brand that is correctly and inconspicuously incorporated into the scenario will create audience awareness and shape their attitudes toward the brand. However, it should be taken into consideration that an audience who has a negative attitude toward product placement can also reason out the relevant brand in this manner. Thus, it is essential to implement a strategic plan for the process. In the light of the aim of the communication strategy, product placements need to be integrated into the overall communications strategy, and integrated into the media plan as a new medium (Russell & Belch, 2005). Besides, importance should be placed on the fit of actors or characters' images with the brand's image and the meaning transfer between them.

One of the most critical limitations of this research was that the participants were asked to recall and specify information about the movie they have watched in the last week, the brand being placed, the actor/actress, the character and the sector to which the brand belongs. This situation corresponds to a significant limitation for the research, as well as correctly answering specific questions about variables and contributing to finding reliable results for the

research. The exclusion of surveys with missing information led to the fact that a significant portion of these surveys was also not addressed in this context, although many of them were obtained. Therefore, limited data were studied. Longer time intervals in future research may contribute to a study with more surveys.

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# Appendix A.

Descriptive Statistics of Constructs

| | N | Min. | Max. | Mean | SD | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Statistic | Std. Error | Statistic | Std. Error |
| Att. Actor | 300 | 1,00 | 5,00 | 4,0090 | ,79918 | -,804 | ,141 | ,326 | ,281 |
| Att. Character | 300 | 1,00 | 5,00 | 4,1880 | ,77563 | -1,291 | ,141 | 2,193 | ,281 |
| Att. Movie | 300 | 1,00 | 5,00 | 4,3542 | ,85496 | -1,598 | ,141 | 2,465 | ,281 |
| Att. Placement | 300 | 1,00 | 5,00 | 3,9475 | ,96031 | -,969 | ,141 | ,516 | ,281 |
| Att. Brand | 300 | 1,00 | 5,00 | 3,9808 | ,99762 | -1,097 | ,141 | ,920 | ,281 |
| Valid N (listwise) | 300 | | | | | | | | |

İSTANBUL ÜNİVERSİTESİ YAYINEVİ

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RESEARCH ARTICLE

# Sustainable Digital Talent Ecosystem in the New Era: Impacts on Businesses, Governments and Universities

**Tugba Karaboga[1], Yonca Deniz Gurol[2], Ceylan Merve Binici[3], Pınar Sarp[4]**

**Abstract**
Future work will become more digital-oriented and the term digital talent will become the essence of the future workforce. In a digital work design, digital talents, digital fluency, digital networks, and digital platforms will be the most pronounced words. As a result of the rapid digital transformation effort all over the world, the huge increase in the demand for digital skills has led to a worldwide digital talent gap. To close this gap and to expand the digital talent ecosystem in a country, corporations, governments, and higher education institutions should act together. Universities have to understand the digital capability needs of employers to prepare digitally employable graduates for digitally dominated business environments. Governments should attract digital talents to simplify and digitize their services and operations. Corporations should attract digital talents to succeed in digital transformation and gain a competitive advantage. In this study, we emphasized the effect of digital transformation and digital talent shortage on governments, corporations, and universities. Then we highlighted the importance of their collaboration to develop and sustain digitally talented people in a country. We hope this study will be an encouraging guide to enhance partnerships between governments, corporations, and universities to better manage the digital talent shortage.

**Keywords**
Digital talent management, digital transformation, government role, corporation role, university role

## Introduction

The information age reshaped all societies, economies, cultures and organizations in the 21st century (Castells, 2011). Digital social networks started to create organizational and structural changes in every aspect of our lives and works (van Dijk, 2016). This rapid digitalization gives way to a digitally advanced and connected world (Bell, 2011). The rising amount of information in the technology age has made digital skills vital assets for organizations (van Deursen & van Dijk, 2011). Especially, advances in big data and AI technologies have changed the nature of jobs and the way of performing work tasks. The concept of talent

1 **Corresponding author:** Tugba Karaboga (Res. Asst.), Yildiz Technical University, Faculty of Economics and Administrative Sciences & TUBITAK PhD Scholarship, Istanbul, Turkey. E-mail: hidirlar@yildiz.edu.tr ORCID: 0000-0003-3830-3536

2 Yonca Deniz Gurol (Prof. Dr.), Yildiz Technical University, Faculty of Economics and Administrative Sciences, Istanbul, Turkey. E-mail: gurol@yildiz.edu.tr ORCID: 0000-0002-0618-5750

3 Ceylan Merve Binici (PhD Student), Yıldız Technical University, Faculty of Economics and Administrative Sciences, Istanbul, Turkey. E-mail: ceylan@yildiz.edu.tr ORCID: 0000-0002-7672-5185

4 Pınar Sarp (Res. Asst.), Istanbul Kultur University, Faculty of Economics and Administrative Sciences, Istanbul, Turkey. E-mail: p.sarp@iku.edu.tr ORCID: 0000-0003-3022-5182

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management has also developed in parallel with the information age and has caused people to become the most valuable capital in creating competitive advantage (Altınöz, 2018).

Digital transformation refers to changes in society and industries as a result of the rising use of digital technologies (Agarwal, Gao, DesRoches, & Jha, 2010). For companies, it refers to leveraging digital technologies to improve business processes, enhance customer experience, create new business models and increase firm performance (Piccinidni, Hanelt, Gregory, & Kolbe, 2015). The increasing exploitation of digital technologies such as big data, real-time analytics, artificial intelligence (AI), internet of things, virtual reality and cloud systems also affects talent management systems of organizations. According to Manyika et al. (2017), the developments in big data and AI technologies reduce the importance of traditional jobs and create new job opportunities. Changing workplaces have already created flexible and independent jobs such as freelancers, independent contractors and self-employed individuals especially in the technology-dependent sectors. Most of the independent job workers report higher job satisfaction than traditional job workers because of the higher job flexibility, creativity and variety in the workplace.

Traditional talent management is defined as "strategies and protocols for the systematic attraction, identification, development, and deployment of individuals with high potential who are of particular value to an organization" (Tansley & Sempik, 2008). The changing expectations of digitally talented employees create challenges for traditional ways of talent management and workplace designs. Talent management is important for achieving an organization's strategic goals (Collings & Mellahi 2009). In the digital age, while businesses are trying to realize digital transformation of business processes, it will be inevitable for talent management to become digital. In the literature digital talent management has not a common definition. Generally digital talent management can be defined as attracting, motivating and retaining digitally talented workers depending on digital talent markets with various digital platforms or developing existing talents' skills and capabilities according to newly emerging digital skill needs of companies (Kiron et al., 2016).

The concept of digital talent is one of the most important subjects for the future of the work environment. Digital talent has become popular in the management literature with a great focus on digital transformation studies. Although there is not a common definition for the term "digital talent", it is used to refer to digital technology-oriented skills and capabilities for a specific job. A joint survey of Capgemini and Linkedin (2017) indicates that organization-wide digital talent gap has become a big challenge that affects both competitiveness and digital transformation progress negatively. More than half of the companies stated that the talent gap both in hard and soft digital skills damages their business progress. Hard digital skills emerge with the latest technological advances. Cybersecurity, cloud computing, analytics, web development, mobile application design, big data, AI and robotics are highly demanded

hard digital skills. Soft digital skills are related to people's mindset and ability to understand and direct human beings. Customer-centricity, passion for learning, collaboration, data-driven decision making and comfort with ambiguity are highly demanded soft digital skills. This report also states that digital talents prefer organizations where flexible work-life balance, flat organizational structure, collaborative workplace, career development and training programs, agile culture and digital transformation programs are welcomed.

In this study, digital talent shortage, which is one of the biggest global workforce challenges, is handled from different perspectives. Digital brains are the most valuable assets for a country and technology is not enough to develop it alone. It is only possible by understanding the technological innovations in the most accurate way and taking advantage of know-how and skills at the maximum level through the workforce. It is also argued that digital talent shortage is not only a business concern. Governments, educational institutions and businesses in a country should work together to prepare and implement strategic digital plans on what a country can do to cover the digital talent gap. In the rest of the paper, action plans for governments, educational institutions and corporations are provided depending on literature review, reports of global consulting firms and worldwide examples. Firstly, the impact of digital transformation and digital talent shortage on governments, educational institutions and corporations is discussed. Then, collaborations between state, educational institutions and businesses to fill the digital talent gap in a country are mentioned. Finally, recommendations for these three groups are given to prepare themselves for the coming digital talent war.

## The Impact of Digital Transformation on Businesses, Governments and Universities

It is clear that digital technologies are reshaping jobs, workplaces and workforces in all sectors. Especially most of the administrative, routine and repetitive tasks are realized by automated systems and machines without human interaction. Today, digital transformation is in the agenda of every industry and many global consulting firms. Academicians and researchers are investigating the digital transformation from various perspectives. Depending on various readings from global consulting firms and academic research papers (e.g. Kane et al., 2015; Hess, Matt, Benlian, & Wiesböck, 2016; Kane et al., 2016; Kiron et al., 2016; Mura, 2018; Das, 2017; Aybek, 2017; Bughin et al., 2017; Hanna, 2018; Cukier, 2019; BHEF, 2019; BCG, 2019) the following table is created in which corporations, educational institutions, and governments are investigated to understand how digital transformation is shaping them and what success strategies are needed to reshape them as digital entities (see Table 1).

Table 1
*Success Strategies for Digital Transformation of Corporations, Governments and Universities*

| **Businesses** |
|---|
| - Establish a digital transformation strategy and apply it to all business functions.<br>- Create a digital awareness and a digital culture by communicating the vision and integrating the people.<br>- Create a digital workplace where flexibility, remote work, social networks, collaboration, communication, engagement and innovation are welcomed.<br>- Recruit innovative and digital talents to help digital transformation processes.<br>- Cooperate with a strong technological partner to adapt to changing technology faster.<br>- Use digital platforms to integrate all business functions.<br>- Keep the interest of higher education alive by creating new partnerships with universities in the form of research and development (R & D) or pilot projects. |
| **Governments** |
| - Establish a digital transformation strategy and apply it to all public institutions.<br>- Build a digital culture with more flexible and adaptable workplaces.<br>- Collaborate and develop open technological standards and solutions.<br>- Be willing to create technological space for industries (such as; technology park and workshop play).<br>- Increase the number of digital staff by supporting education programs with digital expertise.<br>- Collaborate with public and private sector groups (such as university-industry partnerships) to produce solutions to fill digital talent gaps.<br>- Create special work destinations to attract digital talents.<br>- Facilitate the migration of digital talent from other countries to their home countries and make programs for the return of digital talents settled abroad.<br>- Understand citizens better and provide digital services and operations<br>- Make good marketing campaigns of government services to break biases about public jobs.<br>- Support modernized bureaucracy, flexible rules and flexible compensation packages to attract digital talents.<br>- Create new digital solutions to policy challenges. |
| **Universities** |
| - Introduce digital learning, digital development culture and innovation to the center of the training programs.<br>- Improve University 4.0 programs (such as opening short-term training and certification programs, uninterrupted learning opportunities and talent career management).<br>- Establish innovative and forward-looking educational policies for higher education curriculums.<br>- Support digital and online learning platforms (e.g. MOOCs, Coursera, SimpliLearn, edX, Udemy and Edureka ).<br>- Try to increase the percentage of women in technology.<br>- Prepare instructors to teach hard and soft digital skills in a more project-based environment with active and collaborative learning opportunities.<br>- Develop both global and local strategies with the cooperation of public and private sector organizations. |

As it is understood from the table above, the latest digital technology developments in big data, automation, AI, IoTs and machine learning do not only affect the business world, but also affect governments and educational institutions. Governments, corporations and higher education institutions need urgent action plans and strategies to respond to the benefits and challenges of digital technologies. These three groups have a great interest in digital transformation and they should act together to achieve digital transformation and to fill the digital talent gap in a country. In the rest of the paper, we will investigate how digital technologies are shaping these three groups and how they can support digital talent development for the future workforce.

## Businesses

With the development of the digital world, the areas where companies compete become diverse and more challenging. The scarcity of resources and the increase in the severity of competition forces companies to develop employee skills and capabilities. It is necessary to know potential digital talents, in which position they will be evaluated and how they can be developed within the company. Digital talents should not only come from acquiring new staff for specific jobs, but also come from the development of employees in existing roles. Employees who cannot adapt at this point should be eliminated and new talents who have required capabilities and skills should be recruited and more attention should be given to the development of these employees to meet the needs that will arise with the development of the digital world (Strack, Dyrchs, Kotsis, & Mingardon, 2017).

In 2016, a study by MIT Sloan Management Review and Deloitte found it difficult to retain talented people in existing businesses (Kane et al. 2016). It is seen that approximately 2590 managers emphasize the need for a new and different talent base to survive in the worldwide digital competition. If employers do not provide the opportunity to develop digital skills, it is impossible for companies to retain digitally talented employees. According to this, not only young and less experienced employees, but also middle and high-level managers who have a critical position in a company, can move to digitally advanced companies if they do not have the opportunity to develop themselves in their existing companies (Kane, Palmer, Philips, & Kiron, 2017; Kane, 2015).

Global research companies have investigated the effect of digitalization on workplaces and workforce. For example; a recent survey of Randstad US (2019) indicates that 40 % of employees left a job "because they didn't have access to the latest digital tools". Employee respondents identified factors that influence their decision to join a company such as the company's use of the latest digital tools (80%), an innovative culture (72%), and the company's reputation as a digital leader (62%). Also, 2018 Deloitte Global Human Capital Trends Survey indicated that AI, robotics, and automation technologies have increased the importance of technical skills (65%), complex problem-solving skills (63%), cognitive abilities (55%) and process skills (54%). But again, companies do not have well-established plans to cultivate them.

According to the joint digital business study by MIT Sloan Management Review and Deloitte in 2016, attracting and retaining talent is one of the most serious digital threats and today's talents give importance to digitally mature work environments where they can develop and demonstrate their skills and capacities (Kane et al., 2016). Also, this study highlights two different approaches to attract and retain talent in a digital business environment. One is focusing on digital talent markets based on digital platforms with highly skilled contractors and consultants. Digital talent markets adapt their strategies according to changing tech needs and develop their members' skills and capacities to compete in the market. The second approach

is developing existing employees' skills and capabilities with continuous training programs and career opportunities. (Kiron et al., 2016).

High performing global companies know a lot about attracting, motivating and retaining digital talents. For example; Facebook supports the fulfillment of digital talents by letting them be part of projects that will have a great impact on the world. Also, Facebook supports continuous learning, taking initiative and work-life integration with authenticity, creativity and transparency. Another example is the partnership between P&G and Google to develop digital skills of employees. P&G worked with Google to develop the digital capabilities of employees about how to use and implement digital technologies and platforms. In addition, with the employee exchange program, P&G and Google's employees in marketing teams took part in one another's strategic meetings and programs to gain expertise about digital marketing (Osborne & Winston, 2016)

It is important for companies to reach the digital talents they need and to integrate them. The creation of a dynamic environment that can be called a digital talent market or a digital talent pool will provide advantages for both companies and digital talents. Such environments not only bring companies and talents together but also bring enterprises together with other businesses. The common features of these environments are that they enable the digital market to reach the resources that will meet all the technological needs of any organization with its experts in the most demanded positions and with the most demanded skills. Counselors play an intermediary role in these platforms which aim to achieve mutual benefit by accessing talents. They often reach the characteristics, experience and professional knowledge of digital capabilities and present objective criteria, comments and evaluations as reports to the company.

It is difficult to identify the right paths without understanding the digital employees, who are prone to data-driven decision-making, focus on user-oriented product and service development and creativity, and who have a tendency to work collaboratively and are agile in interdisciplinary teams. Given the skills they have and the needs of the market, it is not possible to attract those people who can find jobs quickly and easily with the traditional recruitment practices. It is necessary to reach these people via virtual environments and mobile applications to enable them to display digital skills. TopCoder, Kaggle, Codility, and HireIQ are some examples of digital platforms allow users and candidates to show their technical skills and Good&Co and HackerRank are examples of digital talent platforms helps companies to match skills requirements of the company with a candidate's skills and capabilities (Bhens, Lau, & Sarrazin, 2006).

In 2016, GM hired not only the Sidecar software but also 20 employees with digital skills and know-how, including the founding and chief technology officer. It should not be forgotten that it is not enough to discover and attract talents to the company, it is also necessary to create an environment in which they want to stay for a long time. Programs and policies that

create personal appreciation, create a positive work-life balance, and develop a collaborative, flexible work environment can help ensure that talented employees remain within the company. Work Market Inc., provides internet-based services in the communications industry. The entrepreneur offers a freelance workforce platform and market space. The company serves in a variety of markets by offering a cloud-based contractor management platform to manage the free workforce, including contract selection and recruitment, distribution, ongoing workforce management, related payments, and legal compliance. Topcoder Inc. provides digital talent management support to companies through project managers, providing access to an almost unlimited talent pool that runs 24/7, including on public holidays. With over one million members in the world, Topcoder enables members to learn more about technology and develop practical skills through specialized communities to increase awareness and adoption of technology. Turkey's largest investment company SoftTech offers consulting services to well-established companies in finance, banking, logistics and real estate sectors and it helps them adapt to the digital world based on the mission "customers to digitize" (Osbome & Winston, 2016).

## HR's Role in Filling Digital Talent Gap

Digital technologies are giving way to the emergence of new jobs which require high digital skills and capabilities. However, digital transformation of businesses is faster than digital capability building. Therefore there is a big talent shortage all around the world. BCG expects a severe digital talent shortfall around the world by 2020 and a Gartner study states that 30% of tech jobs will be unfilled due to digital talent shortfalls (BCG; 2017). Closing the digital talent gap of the companies falls to HR professionals who have profound implications for business functions, should not be underestimated in the adoption of new approaches. HR people can respond to this challenge in two ways (BCG; 2017, 2019). One is attracting outside digital talents by meeting their distinctive demands such as flexibility, mobility, virtual work, connectedness through digital platforms, reduced autonomy and personalized offerings. The other is training and developing potential talents in achieving new digital capabilities and skills around big data, AI, automation, software development, programming, and cybersecurity.

In order to turn organization-wide digital transformation investments into business success, HR people need to improve digital skills and capabilities of their workforce at all levels. Hard digital skills (such as programming, data analytics, machine learning, AI, automation and robotics) depends on technical know-how and soft digital skills (such as learning ability, customer-centricity, collaboration, flexibility, adaptability and comfort with ambiguity) are more human-specific skills and are the most valuable in the digital transformation of organizations because in a transformation and change period, digital talents can lead employee groups by relaxing them about their fears and doubts (Capgemini & Linkedin, 2017; Cukier, 2019).

For business success during the digital transformation process, HR leaders should close the digital talent gap in a company. The role of HR in digital talent management is to promote communication and cooperation beyond creating an environment that supports innovation. In a mixed workforce environment (e.g. full-time employees, freelancers and remote workers) maintaining balance and supporting productivity is possible through HR practices where coordination and management skills are at the forefront. Therefore, the challenges facing HR professionals today are not limited to the ability of gaining and managing digital talents. HR is also responsible for taking care of basic needs such as work and life balance, career perspectives, satisfaction and mobility (Mura, 2018). Recommendations to fill digital talent gap are as follows (Mura, 2018; Das, 2017; Dhanabhakyam & Kokilambal, 2014; Ratten, 2014):

- HR should prepare a well-established digital strategy to attract, develop and retain digital talents. Also, this digital strategy should be the priority of every department as part of their strategic planning for gaining a competitive advantage in the market.

- HR should develop training programs for not only technical skills but also adapting and developing new ways of working in alignment with the organization-wide digital strategy. HR training programs should help employees to adapt and develop new ways of working aligned with newly developed technologies.

- HR should support digital transformation in the organization with a digital culture where employees can continuously learn and upgrade their digital skills.

- HR people should create digital workplaces where digital talents feel flexible while trying on innovative solutions. Social networks to create real-time communication among new talents, peers and mentoring groups are valuable for the retention of talents.

- HR people should find various ways of acquiring digital talents. One is focusing on digital talent markets based on digital platforms with highly skilled contractors and consultants. Mobile-friendly job boards, company career sites, blogs, social media sites and community forums are among the sources organizations are relying on to identify and attract talent. The second approach is developing existing employees' skills and capabilities with continuous training programs and career opportunities.

- HR should analyze employee data regularly to understand training needs as a part of data-enabled talent processes. Data-driven talent management practices are crucial for every step of the employee lifecycle by creating effective hiring, training and coaching. It also helps HR people to identify talent problems early in the process and intervene.

- HR should be able to manage digital talents' career paths and work-life balance with competitive compensation packages. In this way, they can perform their role more efficiently.

## Governments

For governments, there is an urgent need to transform their public services into digital-based applications. However, while private sector organizations have transformed over the past two decades, public sector organizations have still been managed by the early policies such as hard hierarchical ranks, rigid job classifications, high discipline, and centralized structures. This challenge prevents public sector institutions from attracting a talented workforce.

Governments should have the ability to rapidly adapt to changes in their environments and should create systems to understand the latest trend and developments in a country to encourage the adoption of new skills, capabilities and policies (Mergel, Gong, & Bertot, 2018). Attracting digital talent to a country actually contributes greatly to economic success and digital development. The main role of governments should be creating attractive work destinations for digital talents (Hanna, 2018). Otherwise, they can leave their workplaces for better opportunities in other countries and encourage local digital talents to reside in other countries (BCG, 2019).

Countries with high levels of socioeconomic status have access to information and communication technologies, also the speed of obtaining information and the potential for obtaining accurate information is high. Socioeconomic levels of societies reveal the digital gap or digital division. The digital divide, which we can call the levels of access to information and communication technologies of the societies, is one of the factors that affect the speed and prevalence of both countries and individuals. The large differences between the digital gap and the socio-economic situation of the countries play a decisive role in the process of accessing information (Değirmen, Vural & Özbükerci, 2016). This situation affects the digital talent management need of a country.

In order to avoid a digital talent shortage, governments can make strategic workforce plans considering the demand and supply of digital workers. Governments can increase the number of digital staff by supporting education programs with digital expertise (BCG, 2019). They should analyze the skills that enterprises need to determine which new courses are required and compare the results in academic training programs. In this incomplete context, new programs should be added to meet changing skill requirements in areas such as project management and technology-intensive jobs. Practical knowledge and soft skills training must pass through practical learning and the government should encourage universities to teach new topics in digital technologies.

Governments not only support the development of digital talents in a country but also compete with the private sector to attract and retain digital talents to the government body. Today, digital transformation is in the agenda of many governments but they suffer from a shortage of digital professionals which are also highly in demand in private sector corporations. Bureaucracy, rigid rules and policies, lack of flexibility, and non-negotiable compensation are some exam-

ples of issues that limit governments' ability to attract digital talents (Aitken, 2018). The digital transformation of governments is a challenging job. There is a need for digital policies, digital strategies, digital culture and change management with the support of digital professionals in the government staff. Cukier (2019) recommended a digital strategy for the digital transformation of the Canadian public service to create a digitally talented workforce. These recommendations included: building a digitally ready public service to attract world-class digital talents; building a digital culture with more flexible and adaptable workplaces; developing accountability mechanisms with measurable targets; modernizing practices in every stage of HR; training not only hard digital skills but also soft skills including critical thinking, communication, collaboration and decision making; applying gender and diversity lenses through the value chain; supporting public and private partnership to reach talents and new approaches; making good marketing campaigns of government services to break biases about government jobs.

Digital transformation investment in public institutions is more vital than ever before and these recommendations are crucial to overcome digital talent shortfall across every area of government. Competitive digital government strategies can make public sector corporations desirable places to work for digital talents (Hanna, 2018). A digital culture, flexible workplaces, competitive compensation packages, simplified and digitized public services, modernized bureaucracy, training on emerging digital trends, career progression opportunities and high level of transparency, accountability and citizen participation are attractive for digital talents. Therefore, governments should be engaged with their countries' digital ecosystem to compete with the private sector and to attract digital talents in a country.

## Universities

Educational institutions at all levels are important for strengthening the economic development and global reputation of a country. Countries that have succeeded in transforming their educational systems according to the changing needs of the digital era can provide a digital workforce for both private and public sector organizations. Digital talent shortage all around the world makes transformation necessary in educational institutions, especially in higher education systems (Cardenas-Navia & Fitzgerald, 2019). During the transformation process, collaboration among government, business and educational institutions is required to plan changing skills and needs of the upcoming workforce and take action accordingly because most of the specialties gained today through university education will be largely automated in the coming few years. Therefore, adapting higher education programs according to the changing needs of industries, governments and society is crucial for filling the skill gaps and accelerating digital transformation in a country (Bughin et al., 2017).

Rapid digitization brings also uncertainty and complexity. In such a digital environment, the digital capability needs of companies change very fast. To support industries' digital

skill gap, higher education institutions need to introduce digital learning, digital development culture and innovation to the center of the training programs. In the digital age, universities are expected to have a structure that can manage this age by developing both global and local strategies with the cooperation of public and private sector organizations (Aybek, 2017).

According to the results of the 2016/2017 Talent Gap Survey conducted by Manpower Group; Japan (86%), Taiwan (74%) and Hong Kong (73%) are among those in the top ranks of high-tech manufacturing countries where the digital talents are most frequently employed. According to this report, a talent crisis emerges as a result of two important causes: lack of experience and technical insufficiency. The report emphasizes that the education system alone cannot develop the competencies required by the Digital Age in the 21st century. Universities become inadequate to close this gap if the state-private sector-university triangle cannot demonstrate effective cooperation.

What should be considered by universities is how to manage tools and approaches for learning digital skills, how to make these processes more effective, how to sustain lifelong learning, and how to become digitally manageable individuals(Cardenas-Navia & Fitzgerald, 2019). In this context, guidance and measurement assessment strategies should be followed, which can effectively monitor, learn and guide the learners throughout the process by employing digital technologies effectively (Aybek, 2017). Higher educational institutions can provide a digital talent development environment by using new applications such as University 4.0. providing uninterrupted learning opportunities over traditional, blended or multiple different channels; opening short-term training and certification programs to gain various professional digital competencies; supporting programs between industry, researchers and students, increasing scientific researches towards transforming information into reality, providing support for the opening of companies producing advanced technology within the university, establishing communication networks and providing coordination between different subjects (Aybek, 2017).

In curriculum design, innovative and forward-looking educational policies are important for higher education institutions. It is the task of the universities to keep up with digital change, to manage digital change, and to train digital talents that meet the competencies required by the digital age. At this point, STEM (Science, Technology, Engineering and Mathematics) training is noteworthy. The STEM system provides improvements in curricula, educational methods and teacher education to raise individuals who have creative, innovative, analytical, critical thinking and problem-solving skills. Besides, the content of higher education ensures the enrichment of the work environment by meeting the needs and expectations of the business world and by enhancing the cooperation between the university and the industry (Akgündüz et al., 2015).

Digital talent acquisition and internal up-skilling of existing talents require partnerships with higher education institutions. The Business-Higher Education Forum (BHEF) is an or-

ganization comprised of Fortune 500 C-level executives and leading university presidents dedicated to creating innovative education solutions and highly skilled future workforce to increase America's competitiveness. A research from the Business–Higher Education Forum and Burning Glass Technologies (2018) categorizes foundational skills of the digital economy in three groups: human skills, digital building blocks and business enablers. Human skills are related to critical thinking, creativity, communication, analytical skills, collaboration, and relationship building. Digital building blocks skills are critical for many digitally intense jobs and include managing data, analyzing data, software development, computer programming, digital security and privacy. Business enablers' skills have a synthesizing and integrative role in the workplace. Project management, business process, communicating data, and digital design are business enablers' skills which turn theoretical knowledge and skills into practice. According to this study, a "blended digital professional" is someone who combines these three foundational digital skill areas with domain knowledge that is specific to a company, organization, or workforce.

These skill areas are important for academic and higher education programs to prepare digitally skilled new graduates for digitally dominated business environments. Digital skills are not only applicable to tech and STEM majors but also available for all students in all disciplines (Cardenas-Navia & Fitzgerald, 2019). BHEF members from diverse backgrounds work together to create an impactful higher education curriculum and to prepare highly skilled employable graduates to meet changing business demands. Here are some partnerships under BHEF. The City University of New York and IBM partnership supports students in data science and analytics and urban sustainability. The Northeastern University, Raytheon, IBM, and Others partnership integrates work and learning in the industry informed IT and cybersecurity. The Washington University in St. Louis and Boeing partnership provides alternative engineering models for nontraditional students (BHEF, 2019). Depending on strategic business and higher education partnerships, BHEF (2019) has made some recommendations for other businesses and higher education institutions.

- Business-higher education partnerships to support regional talent ecosystems are important to create diverse and sustainable platforms for building successful new career pathways and job-training programs.

- Engaging C-level business and academic leaders is critical for guiding corporate and academic policy with shared goals. Their engagement can encourage others to build STEM and digital-skills pathways for the future development of the workforce.

- Developing a common language among partners is crucial to translate, clarify, and align expectations, responsibilities, and outcomes.

- Supporting and integrating work-based learning programs with talent and recruitment

strategies is important to become well prepared for 21st century digital intensive jobs.

- University partnerships help companies to expand their digital talent strategies.

- Reviewing HR strategies and human-capital planning is vital to signal and recruit diverse STEM and digitally skilled talents.

## The Partnerships between Businesses, Governments and Universities

Digital technologies continue to expand rapidly. Smart machines, robots, digital platforms and intelligent assistants take place in the business environment and as a result, many digital job opportunities have emerged. However, there is not enough digital talent to fill every digital role. Therefore, all countries and all industries are facing this challenge and trying to find new innovative ways to attract and retain digital talent. Collaborations among governments, higher education institutions and businesses can prevent this digital talent crisis by finding ways of developing complementary digital skills for the workforce of the future rather than competing with technology (Bughin et al., 2017). These collaborations are also important to share the resources, risks, and mutual benefits in their pursuit of a common set of goals. Businesses have resources and social impacts (being an example for other ones) that may aid in the development and spread of strategies to close the gap; on the other hand governments have power and influence to alleviate uncertainty and capitalize on the strategic opportunities related to improvements and universities have education opportunities to discover and guide talents early.

The World Economic Forum 2018 report predicts that nearly 75 million jobs will be eliminated as a result of AI technologies by 2025, but it is also expected that nearly 133 million new jobs will be created. At the same time, 54 percent of employees are expected to reskill with digital skills and capabilities to take advantage of these new job opportunities. Therefore, workforce development with digital expertise and gaining and retaining digitally talented employees are the hottest topics of business and HR leaders of today's companies.

Most of the companies are aware that new technologies develop quickly and companies cannot keep up this speed with their long term workforce developments and training plans. In this environment, lifelong and continuous learning become vital both for companies and employees. At the same time, technological advances affect traditional business structures and processes, the way of doing work, value chains of companies and traditional job roles. On the other hand, disruptions in the economy, politics, social life and educational systems have risen dramatically. In this digital transformation environment governments, businesses and higher educational institutions are needed to work together to deepen the regional digital talent pool and develop digital workforce skills needed by today's organizations.

IBM Global Skills Survey in cooperation with Oxford Economics is applied to more than 5,600 global executives from 18 industries and 48 countries to understand the future skills challenges and the future needs to overcome these challenges (King et al., 2016). In this survey, industry leaders are asked to rank institutions according to the responsibility for developing and maintaining workforce skills and capabilities. Respondents believe that governments (78%), higher educational institutions (67%) and private sector (49%) are responsible for developing and maintaining worker skills respectively. But it is not possible for the government, universities and the private sector to succeed on their own. They all have their own strengths and weaknesses. If they act together, they can combine their strengths and move faster by reducing the negative effects of their weaknesses. For example; governments may face higher geopolitical, demographic, economic and social constraints when they act alone. However, if the state assembles higher education and private sector industries around a digital talent development vision, it will accelerate the formation of the digital talent ecosystem by sharing responsibility. Incentives for the private sector and higher education investments for digital skills development programs can be provided by governments. Educational institutions and the private sector can act together to create work-based and practice-based learning programs. Governments can encourage educational institutions and the private sector to update their curriculums and training programs according to technological changes. Industry leaders can work with public and higher education institutions to expand internship and certification programs (King et al., 2016).

The systematic relationship among universities, businesses and governments enables learning and assimilating new technologies, transforming them into production and development ability and adapting this ability to business life, in short, the ability to turn knowledge into information and economic knowledge. At this point, universities manage the process of conducting the necessary research for the production of knowledge and the training of young talents in this field. Businesses enable these talents to turn into a tangible output. The government takes the necessary measures to provide systematic integrity and provides support to institutions. Table 2 is created in the light of various readings from global consulting firms and academic research papers (e.g. Kane et al., 2015; Shmelkova, 2016; Kane et al., 2016; Kiron et al., 2016; King et al. 2016; Mura, 2018; Das, 2017; Aybek, 2017; Bughin et al., 2017; Hanna, 2018; WEF, 2018; BHEF, 2019; BCG, 2019) and summarizes the partnerships among businesses, governments and universities to fill the digital talent gap in a country.

Table 2
*The Partnerships between Corporations, Governments and Universities*

| **University – Business Partnership** |
|---|
| - Supports regional talent ecosystems.<br>- Provides work-based learning experiences (such as apprenticeships, internships, co-operative education) to bridge academic and career success.<br>- Helps students plan their career and discover themselves during their university education.<br>- Creates innovative and forward-looking curriculums for universities.<br>- Facilitates understanding digital skills and capability needs of the private sector.<br>- Prepares digitally skilled new graduates for digital work environments.<br>- Uncovers new digital job opportunities in businesses.<br>- Creates first-mover advantage as a result of a faster response to developing and changing digital technologies.<br>- Expands digital talent strategies of companies with talent-based training. |
| **University – Government Partnership** |
| - Builds a learning society with a digital talent ecosystem.<br>- Develop a digital staff for governments by supporting higher education programs.<br>- Creates technological spaces to attract digital talents.<br>- Supports digital development plans of countries by digitally employable graduates of universities<br>- Provides equal opportunities to train women who are underrepresented in the digital talent population.<br>- Helps to adapt latest technological innovations by the help of university researchers to catch up with the era and to even go beyond it. |
| **Government – Business Partnership** |
| - Accelerates digital transformation in a country by supporting a dynamic digital ecosystem with network systems, digital platforms and digital talents.<br>- Provides employment opportunities to prevent the brain drain of talented young people.<br>- Creates attractive work destinations for digital talents.<br>- Organizes joint programs to attract digital natives from abroad to their own country and national companies.<br>- Accelerates digital transformation of governments with temporary employment from technology partners. |

Governments should have some responsibilities to reinvent a country's educational infrastructure to fill the digital skill gap in a country. The basic priority that should be placed into the education system should be to encourage people to learn continuously. By this way, people can learn by updating their knowledge and skills according to changing technological developments. This is a great success factor in the digital world (Shmelkova, 2016). Second, instructors must be prepared to teach hard and soft digital skills in a more project-based environment with active and collaborative learning opportunities. Third, governments should adopt the latest technological innovations to catch up with the era and to even go beyond it. Fourth, governments should support the expansion of digital and online learning platforms with digital education plans. For example; massive open online courses – MOOCs provide interactive learning tools (such as games and forums) to learn new skills and develop career pathways. Finally, government education policies can provide equal opportunities to all members of society without gender discrimination and special attention should be given to education programs to train women who are underrepresented in the digital talent population.

Jointly, governments should be willing to create technological space for industries. As known, the technology parks and workshops play an important role in helping students to solve work-related problems in technology (BCG, 2017). Also, the collaboration between public and private sector groups (such as university-industry partnerships) can produce solutions to fill digital talent gaps. Governments can create special work destinations to attract digital talents. At the same time, governments should facilitate the migration of digital talent from other countries to their home countries and make programs for the return of digital talent settled abroad (BCG, 2019).

Industries should keep the interest of higher education alive by creating new partnerships with universities in the form of research and development (R & D) or pilot projects. Strong alliances and partnerships with universities are crucial for all companies and industries. As the industry is digitized, the need for new skills will increase. The industry should cooperate with universities, vocational schools and vocational training providers to create an appropriate curriculum for current and future employees. First of all, businesses need to determine which digital skills are needed. Then, to estimate how many people have these skills and they should determine their talent gaps and make effective training planning. Industries and businesses can provide feedback to universities and academicians about urgent digital capabilities needed to plan future curriculums of universities.

## Conclusion and Future Directions

In a digital work design, digital talents, digital fluency, digital networks and digital platforms will be the most pronounced words. As a result of the rapid digital transformation effort all over the world, the huge increase in the demand for digital talent has led to a worldwide digital talent gap. In this study, it is argued that digital talent shortage is not only a business concern. Digital brains are the most valuable assets for a country. Technology alone is not enough to develop a country. It is only possible by understanding the technological innovations in the most accurate way and benefiting from them at the maximum level through the workforce with that know-how and skills. For this reason, governments, higher education institutions, and businesses in a country should work together to prepare and implement strategic digital plans on what a country can do to cover the digital talent gap.

Digital technologies reduce the share of humans in job tasks while increasing the share of machines. There are many factors affecting this situation. As known, supply chains and multinational companies are important in shaping the structure of the global economy. Skilled local talents are considered important in the selection of businesses' locations. In particular, the cost of pure labor in developing economies is an important one. For instance, in the United Kingdom—skilled local talent availability remains the single most important element for job location decisions and additional relevant factors, such as the flexibility of local labor laws,

agglomeration effects in the sector or the proximity of raw materials were considered less important than those related to the availability of skilled local talents and labor costs (WEF, 2018). Therefore, partnerships among universities, businesses and governments are important to support the dynamic digital ecosystem in a country with network systems, digital platforms and digital talents.

Digital talent management in the new age is one of the basic responsibilities of companies. To turn organization-wide digital transformation investments into business success, companies need to improve digital skills and capabilities of their workforce at all levels. The world's largest report on digital talents by BCG (2019) states that digitally talented people are more willing to move to other companies and even to other countries in order to gain work experience and develop their career. According to this report, the US, Germany, Canada, Australia and the UK are the five most attractive destinations for digital talents all around the world and digital experts value good work-life balance, learning and training opportunities, career development, a good relationship with colleagues and financial compensation respectively. Therefore, companies and governments should make strategic plans to attract digital talents and to retain where they are.

Digital talent development for universities is crucial for preparing new digitally skilled graduates for digitally dominated business environments and to strengthen the economic development and global reputation of a country (Aybek, 2017). For government institutions, digital transformation investments and digital talent development are more vital than ever before because citizens demand simplified and digitized public services, modernized bureaucracy, a high level of transparency, accountability and participation in public operations (Mergel, Gong, & Bertot, 2018; BCG, 2019). Therefore, public institutions need to be engaged with their countries' digital ecosystem to compete with the private sector and to attract digital talents to a country.

In this paper, we highlighted the importance of collaboration among governments, businesses, and higher educational institutions to create a digital talent ecosystem in a country to cope with the global digital talent gap. Partnerships between these three groups provide opportunities to assist students, researchers, managers, entrepreneurs, and policymakers for sustainable talent development by giving a chance for the discovery, support, and upbringing of potential digital talents in a country. The common objective of their collaboration is to develop a strong bond among the partners for knowledge, technology and organizational transfer to support digital skills development. We hope that this study will be a guide for the governments, private sector industries and higher education institutions on how to cope with the digital talent gap.

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RESEARCH ARTICLE

# The Effect of Nostalgia Proneness on Ad-Evoked Nostalgia, Brand Attitude and Purchase Intention

**Şeniz Özhan[1], Duygu Talih Akkaya[2]**

**Abstract**

Nostalgia is generally defined as a longing for the past, and from a marketing perspective it can be described as an emotion that drives the purchase behaviors of consumers. Companies have started to make use of the element of nostalgia in their marketing strategies more frequently in order to be more successful than their competitors in today's intensely competitive market. The aim of the study is to examine the effect of nostalgia proneness on ad-evoked nostalgia, attitude and purchase intention as well as to evaluate it with regard to the purchase decision making process of the consumer. The structural equation model was used for testing the developed hypothesis with a sample group comprised of 381 consumers. The study puts forth that sense of nostalgia has a strong effect on ad-evoked nostalgia, attitude and purchase intention. The findings of the study point out to the marketers that nostalgic signs in advertisements may have positive effects on the brand attitude and the purchase intention of the targeted groups.

**Keywords**

Nostalgia Proneness, Nostalgic Advertisements, Ad-evoked Nostalgia, Brand Attitude, Purchase Intention

## The Influence of Nostalgia Proneness on Ad-Evoked Nostalgia, Brand Attitude and Purchase Intention

The primary role of advertisement in marketing is to convey a message related with a product or service to target consumers. In addition, advertisers try to design messages that will attract the attention of consumers or enable them to stand against the strength of their rivals in the market due to the intensive competition in the fields of many products and services. A striking method that advertisers use is nostalgia described as "longing for the past" which is a type of retro marketing. Even though the term nostalgia has been present for centuries, it can be stated that the inclusion of themes of nostalgia in advertisements has increased in recent years.

1 **Corresponding author:** Şeniz Özhan (Asst. Prof. Dr.), Tekirdag Namık Kemal University, Çorlu Vocational School, Tekirdag, Turkey. E-mail: serdem@nku.edu.tr ORCID: 0000-0003-3898-8192

2 Duygu Talih Akkaya (Asst. Prof. Dr.), Yalova University, Yalova Vocational School, Yalova, Turkey. E-mail: duygutalih@gmail.com ORCID: 0000-0002-7514-8347

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It is observed that nostalgia in marketing has transformed into an enchanting and distant nostalgic emotion created by marketers to be perceived by consumers. Nostalgia marketing plays a major role in marketing communication since it is related with the emotions of consumers. Recent studies put forth that nostalgia marketing has made positive impacts on consumer behaviors (Nathasia and Nasution, 2016). There are also studies indicating that the styles that were popular during the youth of consumers may affect their preferences throughout their lives (Holbrook and Schindler 1989; 1994; 1996). Thus, when used properly, nostalgia marketing as a new marketing tool may not only provide significant income to a business but also make important contributions in establishing and sustaining a consistent, loyal consumer base.

It is possible to state that nostalgia for marketers serves as a tool to ascribe a nostalgic meaning to products and to satisfy the spiritual needs as well as the longings of modern consumers. The key element in nostalgia marketing is to expose consumers to the product itself or a nostalgic marketing message thereby revealing positive emotions that enable them to mentally return to past experiences. Nostalgic advertisement creates positive emotions of the past and connects these emotions to the advertised brands (Ju et al., 2016).

Even though it can be dated back to the mid-seventeenth century, the use of nostalgia in marketing is still new (Lefi and Gharbi, 2011). The fact that nostalgia as a reaction that is difficult to be estimated by marketers is a combination of positive and negative emotions means that the general emotional value of a nostalgic event may be ambiguous. While emotions of compassion and happiness can encourage a positive attitude towards a certain message or product, the sense of loss can also result in negative evaluations due to undesired associations and moods (Holak and Havlena, 1998).

The number of studies on the influence of nostalgia proneness on consumer behavior is limited despite the knowledge that nostalgia has an important market potential. Nostalgic consumer behavior integrates both the brand attitude and purchasing intention (Cui, 2015). The aim of nostalgic advertising is to influence consumer behavior with the intention of establishing close relations by developing proper brand attitudes and purchasing intentions (Braun-LaTour et al. 2007). Brand attitude is a direct precursor of purchasing intention. Different from previous studies, it has been asserted in the present study that brand attitude and purchasing intention are probably affected positively from nostalgia tendency in addition to ad-evoked nostalgia. The fact that it has been carried out in Turkey, which is a developing country, is another authentic aspect of the study. Hence, the present study contributes to understanding the effectiveness of nostalgia marketing. When the popularity of nostalgic marketing strategies and their probability of making a positive impact on consumer behaviors are taken into consideration, it is observed that a limited number of studies in literature have examined nostalgia within the context of advertisements. For this reason, the present study may contribute to understanding

nostalgia proneness and the effectiveness of ad-evoked nostalgia. The present study reviews the literature on nostalgia, develops a model for evaluating the influence of nostalgia proneness and ad-evoked nostalgia on purchase intention and tests that model. Moreover, a research suggestion is also presented that is worth examining in the future.

The effects of nostalgia proneness on ad-evoked nostalgia, brand attitude and purchase intention were tested in the present study via structural equation modeling (SEM). Having knowledge of these effects is important for enabling marketing managers to generate positive attitudes in consumers towards the brands in addition to developing effective and innovative strategies that will increase the purchase intentions of consumers.

## Literature Review and Hypothesis Development

### Nostalgia and Nostalgia Proneness

The word 'nostalgia' is derived from "nostos" in Greek meaning "return to the past" and "algos" meaning "longing, desire or sorrow" and evokes feelings of longing for past memories (Hwang and Hyun, 2013). The concept of nostalgia as a fundamental aspect of the human condition has attracted the attention of many disciplines. Other eclectic approaches in history, psychology, sociology, anthropology, environmental psychology and social sciences can be considered among these (Holbrook, 1993). Previous studies in medicine and psychoanalytical literature set forth nostalgia as an indication of psychological distress and melancholia (Sarabi, 2012). The term nostalgia was first coined in 1688 by Johannes Hofer as part of a thesis on medicine for defining the excessive state of homesickness which was quite common among Swiss mercenaries fighting away from their home countries (Reisenwitz, 2001). From a psychiatric perspective, nostalgia is accepted as the longing for an idealized past known as screen memory in psychoanalysis rather than a longing for the past. It is not a real recreation of the past but the combination of many different memories and all negative emotions are filtered during this process (Hirsch, 1992). In consumer behavior literature, nostalgia is considered as part of the consumption preference for goods and experiences rather than a pathologic disorder (Goulding, 2001). Holbrook and Schindler (2003) describe nostalgia as "a choice toward things that were more common (people, places, etc.) when one was younger".

When considered from a marketing perspective, nostalgia is the personal emotion that is triggered by the experiences of the consumers and which effects their present product/service preferences (Hwang and Hyun, 2013). Based on definitions of nostalgia from different disciplines, the five perspectives of emotional, cognitive, attitudinal, behavioral and symbolic perspectives are very important for understanding the concept of nostalgia. The majority of the definitions of nostalgia emphasize one or more of these aforementioned dimensions. Each dimension has a specific role in defining nostalgia in marketing. However, the emotional

and symbolic dimensions of nostalgia play a more important role in comparison with other dimensions when defining nostalgia in marketing. Accordingly, nostalgia in marketing can be defined as a positive feeling enacted by marketers through the use of nostalgic elements in the marketing mix.

Attitudes related with the past have the potential to influence consumer decisions and liking the past increases the chances of purchasing goods as an adult which were also purchased at younger ages (Sierra and McQuitty, 2007). However, even though it is not necessary to assume that the object of nostalgia is more frequent in the past, the relationship with the past creates a network of connection that is not present for other objects. These connections or relations generate a nostalgic response. Therefore, nostalgia can be conceptualized as a complex emotion, sense or mood generated with reflections from things related with the past (objects, people, experiences, ideas) (Holak and Havlena, 1998).

Measuring the nostalgia-proneness of an individual (the proneness for that individual to experience a nostalgic emotion) will enable the researchers to better define consumer marketing sections based on sensuality (Holak et al., 2006). Nostalgia proneness and the attitude towards advertising are two important factors that marketers use for predicting the reactions of consumers targeted for nostalgic marketing strategies (Cui, 2015).

Previous studies on consumer behavior and nostalgia have examined different cognitive and emotional factors. The studied cognitive variables are nostalgia proneness (Holbrook, 1993; Havlena and Holak, 1996; Reisenwitz et al., 2004; Holak et al., 2006; Seehuse et al., 2013), evoked nostalgia (Baker and Kennedy, 1994), longing for the past (Holbrook and Schindler, 1994; Schindler and Holbrook, 2003), attitudes towards advertisements and brands using nostalgic clues (Pascal et al., 2002; Muehling and Sprott, 2004; Sultan et al., 2010; Kessous and Roux, 2010; Muehling and Pascal, 2011; Bartier, 2011; Merchant and Rose, 2013; Ju et al., 2016) and the purchasing intent for nostalgic products (Rindfleisch et al., 2000; Sierra and McQuity, 2007). The examined emotional factors were nostalgia intensity for the past and related emotions (Holak and Havlena, 1992, 1998; Holbrook and Schindler, 2003; Barrett et al., 2010; Madoglou et al., 2017). The present study focuses on the impacts of nostalgia proneness on ad-evoked nostalgia, brand attitudes as well as purchase intention. The research model is shown in Figure 1.

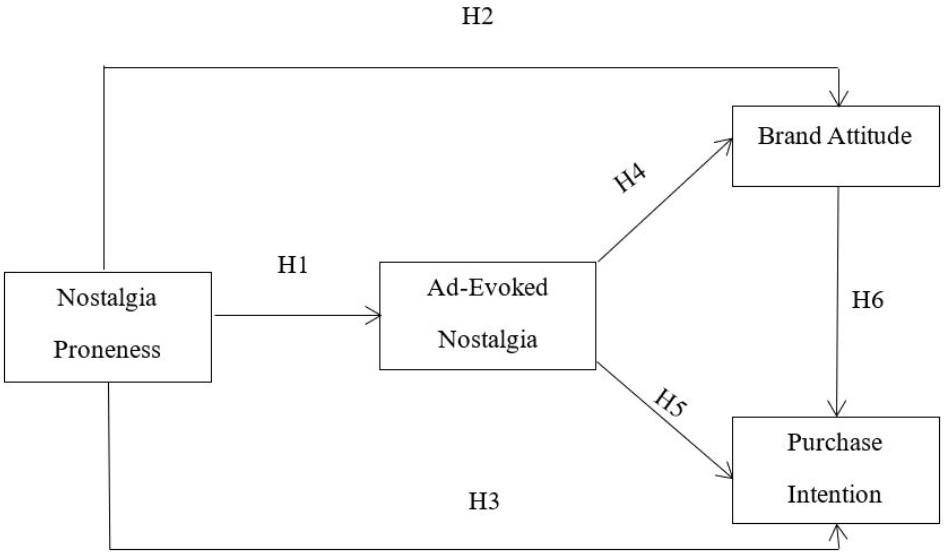


***Figure 1.*** Proposed Model

This study attempts to determine the effect of nostalgia proneness on ad-evoked nostalgia. Studies have put forth that individuals are different with regard to their tendencies to experience nostalgic emotions (Holbrook, 1993). Therefore, nostalgia proneness shall positively affect the consumer's intensity of ad-evoked nostalgia. The intensity of nostalgia can be described as the strength of emotions related with the longing for a sterilized version of a previous time period (Stern, 1992). Reisenwitz et al. (2004) determined in their studies that the nostalgia proneness of consumers is related positively with both the advertisement and the nostalgia intensity towards the advertised brand. The following hypothesis has been put forth based on these opinions:

**$H_1$:** Nostalgia proneness has a significant effect on ad-evoked nostalgia.

Since nostalgia is usually conceptualized as a positive feeling or mood due to things connected with the past (Holak and Havlena, 1998), it is possible to expect that such positive emotions will make a positive contribution to the attitudes towards the advertised brand. Therefore, the following hypothesis has been developed.

**$H_2$:** Nostalgia proneness has a significant effect on the brand attitude.

Nostalgia marketing has a positive effect especially on the purchasing behavior of consumers (Nathasia and Nasution, 2016). For example, Lasaleta et al. (2014) found that when consumers feel nostalgic it decreases their desire for money and that they are willing to pay more for the products. Hence, nostalgia proneness may have a strong effect on the purchase

intention of consumers. Expecting the nostalgia proneness will shape consumer preferences for products related with nostalgia, the following hypothesis was proposed:

**$H_3$:** Nostalgia proneness has a significant effect on purchase intention.

## Nostalgic Advertisements

Nostalgia in marketing is defined as the positive nostalgic feeling instilled in consumers by way of using nostalgic elements in the marketing mix. The term nostalgia marketing is used for carrying out nostalgia related marketing activities in order to enliven the feelings of nostalgia and nostalgic memories of consumers leading to a desire for purchasing. Nostalgia based themes have recently attracted increasing attention among marketing and consumer behavior researchers as a common emotion for developing nostalgia based themes, free time activities and products (Holak et al., 2006). Nostalgia is generally conceptualized as an idealized appearance (Hirsch, 1992) of the past (be it lived or not) and it is almost always believed that the consumers are stimulated by way of positive emotions. That is why, the use of nostalgic themes in advertising is considered as a tool for generating positive reactions. For example, Burger King used classical music from the 1960's and 1970's in its TV advertisements in order to free itself from the chaotic fast-food environment (Pascal et al., 2002). The use of packaging for advertisement is another focus point in nostalgia marketing. For example, Coca-Cola sales increased in double digits after the company redesigned a similar plastic bottle in 1994 of its famous contour bottle (Reisenwitz et al., 2004). These examples support the opinion that nostalgia may be an effective tool with an impact on consumer behavior.

Based on the directedness of nostalgic elements, nostalgia marketing can be classified in two categories - visual and soft. While nostalgia advertising, logo design and store decoration etc. are among the primary methods of visual nostalgia marketing, evoking a sense of nostalgia in the consumer and retro branding are the two most common methods of soft nostalgia marketing. In addition, nostalgia marketing is not only adding a factor of nostalgia to the product; but it is also combining the business and products, finding nostalgic elements with brand potential for the products and using this factor to furnish the product brand with the meaning of appearance or characters (Cui, 2015). It is only in this way that nostalgic emotions can be instilled and encouraged more in consumers thereby leading to better sales results.

The basis of this study is the claim that nostalgic reactions generally consist of positive emotions and senses. Advertisers are of the opinion that nostalgia related stimuli (nostalgic words, pictures, music etc.) may evoke nostalgia in consumers hence leading to the development of a positive attitude with regard to their brands, products and purchasing intention. Results of previous studies (Pascal et al., 2002; Muehling and Sprott, 2004; Muehling and Pascal, 2011; Ju et al., 2016; Morgul, 2017) set forth that the senses evoked by an advertisement contribute to explaining the influences of the advertisement on consumer attitude and

behavioral responses. Therefore, it was assumed in this study that advertisements leading to nostalgic reactions will contribute to making the brand be perceived better and thus result in increased sales probability, and the following hypotheses were developed:

**$H_4$:** Ad-evoked nostalgia has a significant effect on brand attitude.

**$H_5$:** Ad-evoked nostalgia has a significant effect on purchase intention.

The following hypothesis was developed since it was thought and observed in previous studies (Sierra and McQuity, 2007 and Ju et al., 2016) that nostalgic reactions and the attitude towards the brand shall have a statistically significant effect on the purchase intention towards the advertised product.

**$H_6$:** Brand attitude has a significant effect on purchase intention.

## Methodology

### Sample and Data Collection

The target audience of this research comprises of participants in Yalova aged 20 and above. Holbrook and Schindler (1991) reported in their studies that the sensitivity of the participants towards nostalgic emotions start generally around the age of 24. Based on this finding, the sample group was comprised of participants aged at least 20 who are living in Yalova. Data were acquired from participants via the survey method. The participants were first asked to answer the survey questions measuring their nostalgia proneness; afterwards they were asked to watch a 1990's advertisement of a food company that has been active in Turkey since 1973 after which participants were asked to answer the questions in the survey form. The study was carried out with TV advertisements since it has been put forth in various studies (e.g. Weibel et al., 2019) that TV advertisements have a greater instantaneous impact on consumers compared with social media advertisements and that they remain in the minds of consumers for longer periods of time.

Based on TUIK data, the total number of individuals aged 20 and above in Yalova is 182.994 people as of 2018. Since it was desired for the study sample group to represent the main body with regard to age criteria, the sample units were selected via quota sampling from among non-random sampling methods. The required number of questionnaires to be applied to each sample size and age group was determined based on the total population aged 20 and above at the Yalova province. In this context, the questionnaire was applied to 400 consumers and the number of data samples was 381 after clearing out the invalid data. The demographic profile of the participants can be observed in Table 1.

Table 1
*Demographic Profile of the Participants*

| | f | % | | f | % |
|---|---|---|---|---|---|
| **Gender** | | | **Age** | | |
| Female | 173 | 45.4 | 20-29 | 89 | 23.4 |
| Male | 208 | 54.6 | 30-39 | 61 | 16.0 |
| Level of Education | | | 40-49 | 71 | 18.6 |
| Primary | 82 | 21.5 | 50-59 | 70 | 18.4 |
| Secondary | 79 | 20.7 | 60-69 | 51 | 13.4 |
| High school | 133 | 34.9 | 70+ | 39 | 10.2 |
| Upper secondary/ associate degree | 39 | 10.2 | Monthly household income | | |
| Bachelor's degree | 43 | 11.3 | 2000 TRY < | 70 | 18.4 |
| Master's degree | 4 | 1.0 | 2001-4000 TRY | 149 | 39.1 |
| Doctorate | 1 | 0.3 | 4001-6000 TRY | 74 | 19.4 |
| | | | 6001-8000 TRY | 69 | 18.1 |
| | | | 8001-10000 TRY | 18 | 4.7 |
| | | | 10000 TRY > | 1 | 0.3 |
| Number of participants | | | | 381 | 100 |

It can be seen when Table 1 is examined that majority of the participants are female, aged between 20-29, high school graduate and with a monthly family income of 2001-4000 TRY.

## Measurement Instruments and Analyses

Nostalgia proneness was measured via the Southampton Nostalgia Scale by Barrett et al. (2010). Ad-evoked nostalgia was measured by the scale developed by Pascal et al. (2002). Brand attitude and purchase intention were measured by the scale proposed by Spears and Singh (2004).

In order to test the causal links mentioned in the research model, SEM was employed by using maximum likelihood estimation. SPSS 17 and AMOS 24 statistical packages were used to analyze the data.

## Results

The Kruskal-Wallis test and Mann-Whitney U test were applied in order to observe the influence of the demographic profile of the participants on their nostalgia proneness. Table 2 presents the results of the Kruskal-Wallis Test subject to age, education and family income. Table 3 presents the result of the Mann-Whitney U test subject to gender.

Table 2
*Kruskal-Wallis Test Results*

| Variable | | Mean Ranks | Chi-Square | df | p |
|---|---|---|---|---|---|
| Age | 20-29 | 208.73 | | | |
| | 30-39 | 220.97 | | | |
| | 40-49 | 176.83 | 24.178 | 5 | 0.000 |
| | 50-59 | 140.35 | | | |
| | 60-69 | 199.57 | | | |
| | 70+ | 209.17 | | | |
| Level of Education | Primary | 198.60 | | | |
| | Secondary | 168.27 | | | |
| | High school | 189.89 | | | |
| | Upper secondary/ associate degree | 190.68 | 14.523 | 6 | .024 |
| | Bachelor's degree | 232.84 | | | |
| | Master's degree | 122.00 | | | |
| | Doctorate | 1.00 | | | |
| Household income | 2000 TRY < | 200.82 | | | |
| | 2001-4000 TRY | 180.40 | | | |
| | 4001-6000 TRY | 194.51 | 3.396 | 5 | 0.639 |
| | 6001-8000 TRY | 198.80 | | | |
| | 8001-10000 TRY | 190.00 | | | |
| | 10000 TRY > | 303.00 | | | |

According to the values in Table 2, the difference between the nostalgia proneness of the participants is statistically significant with respect to the age and education level of the participants ($p<0.05$). According to the Mean Ranks values; participants in the 30-39 age interval have higher nostalgia proneness compared with other participants. Similarly, participants with a bachelor's degree also have greater nostalgia proneness in comparison with the other participants.

Table 3
*Mann-Whitney U Test Results*

| Gender | Mean Rank | Z | p |
|---|---|---|---|
| Female | 211.03 | -4.560 | .000 |
| Male | 160.38 | | |

It was observed upon examining Table 3 that gender has a statistically significant impact on nostalgia proneness ($p<0.05$). The Mean Ranks values show that women have higher nostalgia proneness in comparison with men. This results supports the prevalent belief among marketing implementers, as well as the findings of researchers such as Holbrook (1993), Sedikides et al. (2015), Stern (1992) etc., that women tend to express their emotions more than men.

This study used SEM to test proposed hypotheses. Firstly, confirmatory factor analysis (CFA) was performed. The results obtained by CFA are as in Table 4 and Table 5.

Table 4
*Results of CFA*

| Item wise constructs | Standardized loading | Average variance Extracted (AVE) | Composite reliability (CR) | Cronbach's alpha |
|---|---|---|---|---|
| Nostalgia proneness | | 0.745 | 0.953 | 0.953 |
| How valuable is nostalgia for you? | 0.856 | | | |
| How important is it for you to bring to mind nostalgic experiences? | 0.891 | | | |
| How significant is it for you to feel nostalgic? | 0.881 | | | |
| How prone are you to feeling nostalgic? | 0.932 | | | |
| How often do you experience nostalgia? | 0.839 | | | |
| Generally speaking, how often do you bring to mind nostalgic experiences? | 0.858 | | | |
| Specifically, how often do you bring to mind nostalgic experiences? | 0.775 | | | |
| Evoked nostalgia | | 0.759 | 0.969 | 0.967 |
| Reminds me of the past. | 0.841 | | | |
| Helps me recall pleasant memories. | 0.874 | | | |
| Makes me feel nostalgic. | 0.858 | | | |
| Makes me reminisce about a previous time. | 0.851 | | | |
| Makes me think about when I was younger. | 0.818 | | | |
| Evokes fond memories. | 0.864 | | | |
| Is a pleasant reminder of the past. | 0.896 | | | |
| Brings back memories of good times from the past. | 0.910 | | | |
| Reminds me of the good old days. | 0.905 | | | |
| Reminds me of good times in the past. | 0.892 | | | |
| Brand attitude | | 0.823 | 0.959 | 0.955 |
| Unappealing/appealing | 0.881 | | | |
| Bad/good | 0.913 | | | |
| Unpleasant/pleasant | 0.933 | | | |
| Unfavorable/favorable | 0.936 | | | |
| Unlikeable/likeable | 0.872 | | | |
| Purchase intention | | 0.821 | 0.948 | 0.947 |
| Definitely do not intend to buy/definitely intend | 0.913 | | | |
| Very low/high purchase interest | 0.902 | | | |
| Definitely not buy it/definitely buy it | 0.909 | | | |
| Probably not/probably buy it | 0.901 | | | |

The results in Table 4 show the standardized regression coefficients (λ) indicating the relationship between items and the related structure, AVE, CR and Cronbach α values. Since standardized regression coefficients represent the correlation coefficient, they may be considered to be quite high. It can be seen from Table 4 that Cronbach α and CR values are above the 0.70 (Hair et al., 2012) and are at acceptable levels.

Table 5
*Fit Indexes for the Research Model*

| Fit Indexes | Calculated Value | Suggested Value |
|---|---|---|
| $\chi^2$/df | 2.288 | ≤5 |
| GFI | 0.884 | ≥0.8 |
| AGFI | 0.855 | ≥0.8 |
| CFI | 0.970 | ≥0.9 |
| TLI | 0.965 | ≥0.9 |
| IFI | 0.970 | ≥0.9 |
| RMSEA | 0.059 | ≤0.08 |

The fit indexes for the model are given in Table 5. The findings indicate that the model satisfactorily fits the data. Construct validity was evaluated via convergent and discriminant validity. As can be seen from Table 4, the AVE values of all factors were above 0.50 while the composite reliability values were determined above 0.70 (Hair et al., 2012). The AVE value calculated for each factor should be greater than the square of the correlations of each factor with other factors in order to ensure discriminant validity for the factors (Fornell and Larcker, 1981). Table 6 presents the correlation table for reliability measurements and discriminant validity. As can be seen, it is possible to indicate that discriminant validity has been attained since the AVE values for each factor are greater than the highest square of correlations between factors.

Table 6
*Discriminant Validity and Correlation between Constructs*

| Factor | CR | AVE | MSV | BA | NP | EN | PI |
|---|---|---|---|---|---|---|---|
| BA | 0.959 | 0.823 | 0.699 | 0.907 | | | |
| NP | 0.953 | 0.745 | 0.536 | 0.610 | 0.863 | | |
| EN | 0.969 | 0.759 | 0.536 | 0.707 | 0.732 | 0.871 | |
| PI | 0.948 | 0.821 | 0.699 | 0.836 | 0.586 | 0.634 | 0.906 |

We tested the research hypotheses with the aid of structural equation modelling using Amos 24. The structural model is shown in Figure 2. The findings of hypothesis tests are shown in Table 7.

Table 7
*SEM Results*

| Hypotheses | | | Estimates | CR | Sig. (p<0.05) |
|---|---|---|---|---|---|
| H1 | Nostalgia proneness | Ad-evoked nostalgia | 0.751 | 15.195 | *** |
| H2 | Nostalgia proneness | Brand attitude | 0.211 | 3.285 | 0.001 |
| H3 | Nostalgia proneness | Purchase intention | 0.122 | 2.210 | 0.027 |
| H4 | Ad-evoked nostalgia | Brand attitude | 0.585 | 8.935 | *** |
| H5 | Ad-evoked nostalgia | Purchase intention | 0.020 | 0.335 | 0.738 |
| H6 | Brand attitude | Purchase intention | 0.773 | 13.909 | *** |

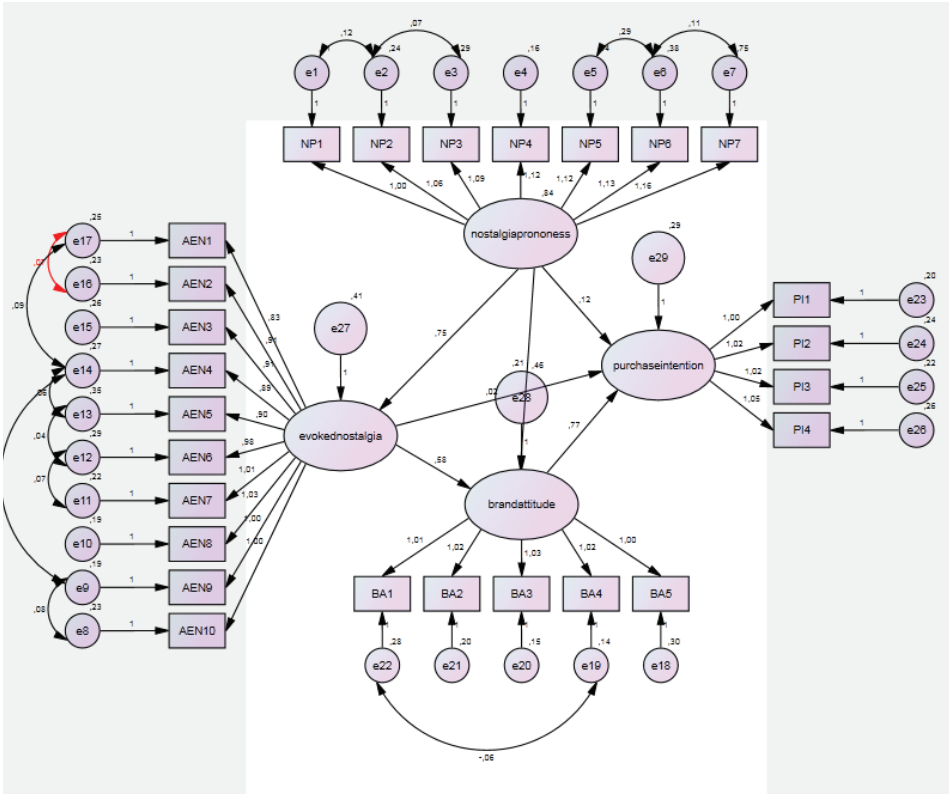


***Figure 2.*** Structural Model

The study results indicate that nostalgia proneness has a strong effect on ad-evoked nostalgia (β=0.751; p <.05). Hence, H1 is supported. Moreover, it was also assumed that nostalgia proneness has a significant effect on the brand attitude (H2) and purchase intention (H3). The results point out that the effects of nostalgia proneness are statistically significant for both the brand attitude and the purchase intention. Thus, H2 (β=0.211; p <.05) and H3 (β=0.122; p> .05) are supported.

It was found that ad-evoked nostalgia has a significant effect on the brand attitude (H4) and purchase intention (H5). The results show that ad-evoked nostalgia has a significant effect on the brand attitude but that its effects on purchase intention are not statistically significant. Therefore, H4 (β=0.585; p <.05) is supported, however H5 (β=0.02; p> .05) is not supported.

H6 states that the attitude towards the brand will have an effect on the purchase intention of participants. The study results put forth that the attitude towards the brand has a strong effect on purchase intention (β=0.773; p <.05). Thus, H6 is supported.

## Conclusion and Discussion

The present research aimed to investigate the effect of nostalgia proneness and ad-evoked nostalgia on the brand attitude and purchase intention. The responses acquired from participants in Yalova were analyzed using SEM.

As a result of the research, it was found that nostalgia proneness has a positive effect on nostalgia for advertisements, parallel to the findings by Reisenwitz et al. (2004) and Morgul (2017). Accordingly, consumers with a high level of proneness to being nostalgic will have stronger feelings towards nostalgic advertisements. It was also determined that in addition to the nostalgia proneness evoked by advertisements; nostalgia proneness has a positive effect on the brand attitude and purchase intention as well.

Parallel to the findings by Pascal et al. (2002), Muehling and Sprott (2004), Muehling and Pascal (2012), Ju et al. (2016), Morgul (2017), the results of the present study point out that while advertisements that result in nostalgic reactions may contribute to positive perceptions regarding the advertised brand, it may not have sufficient direct impact on the probability of the product being purchased more. Contrary to the results of Pascal et al. (2002), the result that the ad-evoked nostalgia has no effect on purchase intention was parallel to the findings of the study by Ju et al. (2016). The fact that the sense of nostalgia evoked will not have sufficient effect on purchase intention because it is short lived may be put forth as a probable reason for this result. However, similar to the findings in literature by Sierra and McQuity (2007) and Ju et al. (2016), it was observed that brand attitude is the variable with the strongest effect on purchase intention.

The findings mean that nostalgia can be a strong tool for advertisers/marketers. Hence, it may be beneficial for advertisers to use the advertisement themes for enacting the desired emotional response (positive brand attitudes) to stimulate a sense of nostalgia. In accordance with the marketing/advertisement literature, the findings of the present research provide an additional support as a theoretical and practical structure that explains the impacts of nostalgia on advertising.

The results of the present study support the current use of nostalgia based advertising themes for companies from an administrative perspective. The findings put forth prooves that ad-evoked emotions may have a positive effect on the brand attitude. This is a very important finding for advertisers and indicates that using nostalgic themes to draw attention and to establish connection with the targeted audience will be more efficient for attainment of their objectives.

Today, marketers have realized that nostalgia is effective for many consumers and that it has become an indispensable part of the marketing efforts for many companies. Marketers

can use the influence of nostalgic marketing on consumers in order to put forth a comprehensive marketing message. Hence, the perceptions on the marketed brand and its products may be improved and purchase intention for the advertised nostalgic product may be increased. The results of the study support the opinion that nostalgia may lead to consumers to "develop a longing for the past" in addition to make them feel the "desire to purchase the products of the advertisers". In conclusion, marketing budgets of businesses will be spent more effectively and it will become a valuable strategy for increasing or earning market share.

Even though the economies of the world and the Turkish economy have undergone various and multidimensional crises in the past, today for the first time, they are all experiencing a significant economic problem that does not result from the internal dynamics of economy and that includes within it the fear of death as the determining factor. An economic crisis ensued in all countries following the Covid-19 pandemic and the majority of small-mid sized businesses have been closed. As a result, unemployment statistics reached a peak point in our country and in the world. The IMF revised the growth expectation of Turkey for the year 2020 from 3.0 % to 5.0 % recession expectation (Karakaya, 2020). The fact that tourism almost came to a halt in Turkey during the pandemic coupled with the decrease in exports prevented the entry of foreign currency into the country which resulted in an increase in the exchange rates leading to a major decrease in the value of Turkish Lira.

The buying behaviors of consumers also varied rapidly during the Covid-19 pandemic. While consumers were able to give more rational decisions prior to the pandemic, the factors of panic, fear and uncertainty of the future due to the pandemic made a psychological impact on consumers. When used properly during this period, nostalgic marketing activities presented the businesses with opportunities that provide earning potential due to the increase in the longing for the past during this period and thus provided a possibility to establish a loyal and sustainable consumer base. This was because during this period, consumers reduced their demands for goods outside of necessity goods while continuing to purchase the brands and products they used and trusted in the past instead of trying out new ones. In addition, internet sales increased significantly during this period due to isolation and staying at home. Even people who avoided shopping online previously have started to meet their needs online. This will most likely have a significant impact on retail sales. Basha et al. (2020) carried out a study as a result of which they put forth that the social media platform is the best platform for companies to market their products and services during the covid19 pandemic and that the companies may use this platform to present new offers to their customers and to establish a brand image. Hence, it seems that sales and marketing will evolve into direct marketing and distant sales in the future.

## Future Research and Limitations of the Study

First of all, it is important to carry out more studies to understand the impacts of nostalgia on consumer reactions. This study is limited only to the TV advertisements of a well-known brand in Turkey being displayed to viewers. It is not certain whether similar findings will be obtained for unknown (new) brands in different environments. Another limitation of the study is that purchase intention has been used as the dependent variable. The purchase intention of consumers does nor always result in actual purchase behavior. Actual purchase behavior should be studied in future studies.

Moreover, the study was limited only with consumers residing in the province of Yalova in Turkey. The fact that the data acquired in the study have been collected via the quota sampling method from among non-random sampling methods also limits the generalizability of the results. Attempts to overcome this were made by ensuring that the required sample group had the same ratio as that of the main body.

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## AIM AND SCOPE

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- Organization Theory
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- Decision sciences,
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Bassett, C. (2006). Cultural studies and new media. In G. Hall & C. Birchall (Eds.), *New cultural studies: Adventures in theory* (pp. 220–237). Edinburgh, UK: Edinburgh University Press.
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***b) Journal Article with DOI and More Than Seven Authors***

Lal, H., Cunningham, A. L., Godeaux, O., Chlibek, R., Diez-Domingo, J., Hwang, S.-J. ... Heineman, T. C. (2015). Efficacy of an adjuvanted herpes zoster subunit vaccine in older adults. *New England Journal of Medicine, 372,* 2087–2096. http://dx.doi.org/10.1056/NEJMoa1501184

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Sidani, S. (2003). Enhancing the evaluation of nursing care effectiveness. *Canadian Journal of Nursing Research, 35*(3), 26–38. Retrieved from http://cjnr.mcgill.ca

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Turner, S. J. (2010). Website statistics 2.0: Using Google Analytics to measure library website effectiveness. *Technical Services Quarterly, 27,* 261–278. http://dx.doi.org/10.1080/0731713 1003765910

***e) Advance Online Publication***

Smith, J. A. (2010). Citing advance online publication: A review. *Journal of Psychology.* Advance online publication. http://dx.doi.org/10.1037/a45d7867

***f) Article in a Magazine***

Henry, W. A., III. (1990, April 9). Making the grade in today's schools. *Time, 135,* 28–31.

**Doctoral Dissertation, Master's Thesis, Presentation, Proceeding**

***a) Dissertation/Thesis from a Commercial Database***

Van Brunt, D. (1997). *Networked consumer health information systems* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9943436)

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Yaylalı-Yıldız, B. (2014). *University campuses as places of potential publicness: Exploring the politicals, social and cultural practices in Ege University* (Doctoral dissertation). Retrieved from Retrieved from: http://library.iyte.edu.tr/tr/hizli-erisim/iyte-tez-portali

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Tonta, Y. A. (1992). *An analysis of search failures in online library catalogs* (Doctoral dissertation, University of California, Berkeley). Retrieved from http://yunus.hacettepe.edu.tr/~tonta/yayinlar /phd/ickapak.html

***d) Dissertation/Thesis abstracted in Dissertations Abstracts International***

Appelbaum, L. G. (2005). Three studies of human information processing: Texture amplification, motion representation, and figure-ground segregation. *Dissertation Abstracts International: Section B. Sciences and Engineering, 65*(10), 5428.

***e) Symposium Contribution***

Krinsky-McHale, S. J., Zigman, W. B., & Silverman, W. (2012, August). Are neuropsychiatric symptoms markers of prodromal Alzheimer's disease in adults with Down syndrome? In W. B. Zigman (Chair), *Predictors of mild cognitive impairment, dementia, and mortality in adults with Down syndrome.* Symposium conducted at the meeting of the American Psychological Association, Orlando, FL.

***f) Conference Paper Abstract Retrieved Online***

Liu, S. (2005, May). *Defending against business crises with the help of intelligent agent based early warning solutions.* Paper presented at the Seventh International Conference on Enterprise Information Systems, Miami, FL. Abstract retrieved from http://www.iceis.org/iceis2005/abstracts_2005.htm

***g) Conference Paper - In Regularly Published Proceedings and Retrieved Online***

Herculano-Houzel, S., Collins, C. E., Wong, P., Kaas, J. H., & Lent, R. (2008). The basic nonuniformity of the cerebral cortex. *Proceedings of the National Academy of Sciences, 105,* 12593–12598. http://dx.doi.org/10.1073/pnas.0805417105

***h) Proceeding in Book Form***

Parsons, O. A., Pryzwansky, W. B., Weinstein, D. J., & Wiens, A. N. (1995). Taxonomy for psychology. In J. N. Reich, H. Sands, & A. N. Wiens (Eds.), *Education and training beyond the doctoral degree: Proceedings of the American Psychological Association National Conference on Postdoctoral Education and Training in Psychology* (pp. 45–50). Washington, DC: American Psychological Association.

***i) Paper Presentation***

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