

A Research on the Relationships among Faculty's Reputation, Image and Students' Intentions of Future Collaborations: Findings from the Turkey

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Abstract—University-Industry collaborations can create various benefits for the all sides of them. However, there is often a weak link of collaboration in many countries between Higher Education Institutions (HEIs) and industrial organizations. Therefore, to strengthen the relationship and to create benefits for stakeholders of it, an investigation of the determinants of the collaboration between universities and industrial organizations is important. Many previous studies found that HEIs' positive reputation and image increase the loyalties of students to their institutions. Thus, *the main aim of the study* was to investigate the relationship between reputation and image of an HEI and intentions of its students on future collaborations. For this aim, the data was collected from 1368 senior students of a faculty in a public university. The results of the research indicated that a combination of HEI's reputation and image affect students' intentions to collaborate with their universities in future.

Index Terms—higher education institutions, institutional image, institutional reputation, Turkey, university-industry collaboration

I. INTRODUCTION

There are some studies in the literatures of management and organization, marketing and public relations that emphasize the important consequences of positive reputation and image for organizations. The findings of some studies (e.g. [1]-[3]) showed that these elements may create some positive or negative results for "Higher Education Institutions (HEIs)" as well. For example, the image of university is an important antecedent of continued contacts of students with the related organization [4].

In addition, the collaborations between HEIs and industrial organizations have a potential to create benefits for different groups. Despite some findings that are parallel with this idea, there are so weak ties between universities and industries frequently. As a result, an examination of determinants of this relationship is very vital.

As emphasized above, the positive reputation and image of an HEI may affect results related to students. Therefore, *the research question of this study* is that whether HEIs' image and reputation can affect the decisions of students about future collaborations or not. As far as known, there

aren't so many studies in the related literature that investigate the relationships between these variables.

In this context, *the main aim of this study* is to examine the impact of HEIs' image and reputation on students' current decision on collaboration in future. This aim particularly seems to be important for the theoretical literature since the study humbly tries to fill the gap in the literature stated above. In addition, the findings of the study may be beneficial for administrators/managers of the countries such as Turkey that where the collaboration between HEIs and industrial organizations (or other external stakeholders of HEIs) is very limited.

II. REVIEW OF THE LITERATURE

The literature review in this study will comprise of three subparts such as institutional reputation, institutional image and finally the collaborations between HEIs and industrial organizations.

A. Institutional Reputation

The institutional reputation has been one of the main interests in the several scholarly literatures from the 1950s to now [5]. Many scholars in the various different disciplines such as management and organization, marketing, public relations and economics presented several definitions about institutional reputation [6]. For example, according to the some authors [7], reputation is, The collective representation of multiple constituencies' images of a company, built up over time and based on a company's identity programs, its performance and how constituencies have perceived its behavior (p. 369).

On the other hand, some authors define reputation as a judgment of stakeholders on a bunch of transactions overtime [2]. This definition partially resembles the concept of the credibility. However, according to them, the credibility is an evaluation that is made immediately after a specific transaction. Therefore, this study will be based on Nguyen and LeBlanc's definition of institutional reputation.

In addition; an appropriate management of the institutional reputation can create some benefits for organizations such as some increases in firm's growth and accumulation of customers' order [8], easy entrances into international markets [9], increased investor satisfaction

and affective loyalty [10], stronger customer loyalty [11], attraction of more competent new employees [12], increased organizational citizenship behavior [13], decreased level of uncertainty during the restructuring processes of organizations [14] and more effective crisis management [15]-[16]. In a similar vein, the reputation can provide some positive results for HEIs as well [17]. For example, a study discusses that whether the decision of universities on research partnership is affected by a candidate HEIs' reputation or not [1]. In a similar vein, another studies claim that the HEI reputation can affect students' choices, recruitments of successful faculties and the intentions of the funding organizations [18], [19]. Finally, another study indicated that university reputation influences the loyalty levels of students [2].

B. Institutional Image

In a similar vein, various definitions are given for the concept of the institutional image in the literature. For example, a study defines image as beliefs and feelings of audiences about an organization [20]. So many things may construct image in the minds of audiences such as interactions of employees with customers, architecture, name, products and services of an organization etc. [2]. Therefore, the institutional image may not be a monolithic structure. It means that different groups may have different beliefs, feelings and criteria about an organization in a specific time period. For example, a study revealed that there are some differences between the perceptions of incoming freshmen and seniors on the HEI' image [21]. In a similar manner, another study showed that adults (non-student) and students use different criteria when they evaluate the image of a HEI [22]. In addition, the beliefs and feelings of a stakeholder group about an organization can change over time as well.

The institutional reputation and image are very similar concepts. However, the institutional image is more related to make a portrait of an organization in the minds of stakeholders. On the other hand, reputation is built after repeated meeting of stakeholders' expectations. Therefore, it seems closer to the concept of trust [2].

In a similar vein, the management of the institutional image can obtain some benefits to organizations. For example, a study argues that positive image can be used by arts and crafts organizations to grow in domestic and international markets [23]. A different study also indicated that corporate emotional and functional images are the antecedents of corporate reputation. Finally, another study revealed a significant relation between corporate image and perceived quality [24]. In a similar manner, the positive image can have positive results for HEIs. For example, a university can gain competitive advantage versus competitors via a positive image [25]. In addition, a HEI, with the help of its positive image, can attract external research funding and bright scholars and students [26]. Finally, it was found in another study that university image affects students' satisfaction with their universities [4].

C. University-Industry Collaboration

"University-Industry Collaboration (UIC)" refers to "the interaction between any parts of the higher

educational system and industry aiming mainly to encourage knowledge and technology exchange" (p. 387) [27]. These collaborations may take several forms such as personal formal/informal relationships, third party, formal targeted/non-targeted agreements and focused structures [27]. Universities and industrial organizations may demand a collaboration from each other since such collaborations have a potential to increase number of patents [28], scientific articles that have higher impacts than university-only articles [29] and a firm's prestige and competitive power [30]. In addition, these types of collaborations can provide some benefits beyond primary sides of collaborations. For example, a study revealed that UICs contribute to regional development to a large extent [31]. Furthermore, some studies claim that effective UICs can even increase the competitive advantages of the nations and accelerate the economical development of the countries [32]-[36].

On the other hand, it is also known that the UICs often come across with some obstacles. For example, a study counts these difficulties such as differences in the visions and missions of the related sides, miscommunications, inadequacies in physical conditions and financial resources etc. [37]. Another study collects these obstacles under two major categories such as orientation-related and transaction-related barriers [38]. Finally, a study mentioned four main groups of obstacles in front of UICs such as "structure based", "industry based", "faculty based" and "university based" problems [39]. In the context of this study, it is largely accepted that although there are some ongoing efforts [40], there is still no completely effective or efficient collaboration between the Turkish universities and industrial organizations [40]-[44].

In the literature, some studies (e.g. [37], [45]-[47]) discussed and investigated the antecedents of an effective UIC. For example, some of these determinants of UIC were knowledge base of firms and scientific power of university [45], geographic and institutional proximity [46], cognitive distance [48], innovative strategy of a firm [49] and ownership of a quality certification of an organization [50]. However, these determinants of UIC are at macro-level and they appear to focus on more technical side of the subject.

Some previous studies investigated the effects of university's reputation and image on students' intentions. For example, a study discusses that a positive image of an HEI can affect a student's intention to enroll that institution [25]. In a similar vein, another research indicated that HEIs' reputation and image affect students' retention decisions in a positive and significant manner [2]. In the mentioned study, to measure retention decisions of students, a customer loyalty scale was preferred. This scale was based on intentions of students about their educations (e.g. student's intention to continue his/her educational program at that university) rather than intentions of students about collaboration with university in future.

Therefore, the aim of this study is to investigate the relationship between university reputation-image and students' intentions about the collaboration with their

universities. This appears to be more important in the study's context where the collaboration between universities and industrial organizations is largely inadequate.

As a result, the hypotheses of this study were given in below:

- **Hypothesis 1 (H1):** Positive HEI reputation will increase the possibility of students' intentions of prospective collaborations.
- **Hypothesis 2 (H2):** Positive HEI image will increase the possibility of students' intentions of prospective collaborations.

III. METHODOLOGY

A. Data

The data was collected from 1368 senior students of a faculty of economics and administrative sciences in a Turkish public university. The questionnaire was distributed to approximately 2000 students by the researcher just before courses between September 2015 and June 2016. Therefore, the return rate was about 68%. During the research, faculty had about total 11300 students.

37.5% of students who participated in the study were studying at department of business administration. The rest of sample was coming from various departments in the faculty such as economy, labor economics and industrial relations etc. The sampling method was *convenience sampling*.

In addition, 58% and 42% were female and male of participants respectively. The ages of participants varied between 18 and 39 and the mean of participants' ages was 21.44. Finally, the averaged period of study for participants was 3.01 years.

B. Measures

In this study, the two scales that contain 6 questions (3 items in each scale) were used to measure of two independent variables of this study, the institutional reputation and the institutional image namely. These items were borrowed from Nguyen and LeBlanc's study. They were measured by a seven point Likert type scale ("1=strongly disagree" and "7=strongly agree"). In addition, "intention to collaborate with university" as the dependent variable was measured with a categorical question ("1= if I work at a decision maker position in a private sector organization, I will collaborate with my university in future" and "0= if I work at a decision maker position in a private sector organization, I will not collaborate with my university in future"). The original versions of measures were in English except for the categorical question. Thus, the items were translated into the Turkish language.

Since the dependent variable of the study was categorical, the binary logistic regression analysis was preferred to analyze the relationships between variables. The binary logistic regression is a type of regression that where the dependent variable must be categorical and dichotomous [51], [52] and the independent variables may be any type [53]. At this point, SPSS 23 was used to analyze the model. The binary logistic regression model of the study was like below:

$$P_i = E(Y = 1 | X_i) = \frac{1}{1 + e^{-(\beta_1 + \beta_2 REP + \beta_3 IMA)}} \quad (1)$$

IV. FINDINGS

The descriptive statistics are given for institutional reputation and image constructs and demographics of participants in Table I.

TABLE I. DESCRIPTIVE STATISTICS

	N	Mean	St.Dv.	Age	Year	IMA	REP
Age	1329	21,44	2,00	1	,624**	-,104**	-,120**
Year	921	3,01	1,42		1	-,136**	-,159**
IMA	1326	4,16	1,25			1	,745**
REP	1314	4,18	1,22				1

** Correlation is significant at the 0.01 level (2-tailed)

TABLE II. THE FINDINGS OF VARIMAX ROTATED FACTOR ANALYSIS

	Component
	1
1	,766
2	,755
3	,760
4	,638
5	,855
6	,800

Kaiser-Meyer-Olkin (KMO) measure of adequacy was 0.84 and it reveals that the data is suitable to operate factor analysis. The Cronbach's alpha coefficient indicated that internal consistency is high ($\alpha = 0.84$). During the "Factor Analysis (FA)", the principal component technique and varimax rotation method were preferred. The results showed that 6 items were collected under only one factor as can be seen in Table II.

After this result, the model of the study was transformed into below that:

$$P_i = E(Y = 1 | X_i) = \frac{1}{1 + e^{-(\beta_1 + \beta_2 \text{REPIMA})}} \quad (2)$$

TABLE IV. MODEL SUMMARY

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	802,237 ^a	,079	,153

Estimation terminated at iteration number 6 because parameter estimates changed by less than, .001.

TABLE V. HOSMER AND LEMESHOW TEST

Step	Chi-square	df	Sig.
1	14,321	8	,311

According to the results in Table III (and also Table V), the model was significant generally ($X^2(1) = 102,30$; $p = 0.00$). The value of Nagelkerke R^2 in Table IV also showed that 15% of variation in the dependent variable can be explained by the independent variable.

The results of binary logistic regression analysis were presented below in Table III, IV, Table V and Table VI.

TABLE III. OMNIBUS TESTS OF MODEL COEFFICIENTS

		df	Sig.	Chi-square
STEP 1	STEP	1	,000	102,301
	BLOCK	1	,000	102,301
	MODEL	1	,000	102,301

TABLE VI. HOSMER AND LEMESHOW TEST

Step	Chi-square	df	Sig.
1	14,321	8	,311

Finally, according to the results in Table VII, REPIMA was a statistically significant predictor of students' intentions ($p < .001$). The results also indicate that REPIMA 2,187 times increases the probability intentions of students for collaborations with their universities.

TABLE VII. VARIABLES IN THE EQUATION

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step	REPIMA	,782	,082	90,725	1	,000	2,187	1,861	2,568
1 ^a	Constant	-,951	,298	10,212	1	,001	,386		

a. Variable(s) entered on step 1: ORT3.

V. CONCLUSION

The UICs often provide various benefits for the sides of it. However, the willingness about collaboration of individuals who are at the decision maker positions in their institutions is important. In addition, many studies in the literature showed that HEIs' image and reputation can affect intentions of their students. Therefore, it was claimed in this study that image and reputation of an HEI can affect the intentions of students about future collaborations with their universities. As far as known, these relationships haven't been studied until now. This is the *originality* of this research.

The data that was collected from 1368 senior students was analyzed. The results showed that a combination of reputation and image affect prospective collaboration

intentions of students significantly. In the related literature, a study discusses the relationship between reputation and image. According to a study, there are mainly two schools of thought in the literature [26]. According to the first school, these concepts are synonymous. This school is called as "Analogous School of Thought" by them. However, "Differentiated School of Thought" claims that these are not only different but also very associated concepts. Therefore, the finding of this study appears to stand a closer point to the second school of thought. In addition, the results attracted the attention to the idea that reputation and image aren't completely apart constructs in the minds of participants, they are whole as emphasized by "Differentiated School of Thought" in Gotsi and Wilson's study. Finally, another interesting finding is that there were negative and significant correlations between age, year and reputation-image variables.

Since all studies have some missing points, this study has some *limitations* as well. For example, it is supposed in this study that the current intentions of students about future and their behaviors in future are consistent. However, it should be tested with a longitudinal research. In addition, the data of this study was collected from only one HEI. Therefore, the results only present the current situation of an institution.

In addition, this study of field seems to have a potential for *future studies*. As stated above, the data of this study is limited with an institution. However, subsequent studies can extend their data sets with more institutions and more countries. Furthermore, the consistency of current intentions and future behaviors can be examined with a longitudinal research in the HEIs' context.

The findings of this study may help administrators of HEIs. For example, the administrators can increase the possibility of collaboration between their institutions and industrial organizations by a careful strategy on the institutional reputation and image. However, only focusing on the one part of this integrated construct may not create the expected results for administrations of HEIs. In addition, since there are negative and significant correlations among age, year, image and reputation, the university administrations can increase their efforts on senior students.

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