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## HOW LEADERSHIP STYLE MATTERS FOR INNOVATIVE WORK BEHAVIOR

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### ABSTRACT

**Purpose-** It is a clear fact that innovation and the ability to innovate is essential for organizations. Especially, actions of individuals are essential for continuous innovation and improvement. That's why innovative behaviors of the individuals at a workplace have the utmost importance to achieve innovation regarding organizational level. Hence, to uncover the relationship between leadership styles and innovative work behaviors of the employees is the purpose of this study.

**Methodology-** In this study, the data has been collected through a questionnaire survey within the sample of white-collar employees of one of the special banks which operates in Turkey by using convenience sampling method. As a means of measurement, Leadership Style (MLQ) Scale by Bass and Avolio (2000) and Turkish Translation by Yurtkoru (2001) and Innovative Work Behavior Scale by de Jong and den Hartog (2010) and Turkish translation by Çimen and Yücel (2017) have been applied. Exploratory factor analysis, correlation and multiple regression analysis have been conducted. The main question to which this research tries to find answer is whether leadership styles have any significant effect on employees' innovative work behavior or not.

**Findings-** Research results revealed that the leadership behaviors of the leader affect the employees' innovation tendency or in other words, their innovative work behaviors.

**Conclusion-** Both transformational leadership and transactional leadership types have a significant effect on innovative work behavior of the employees. On the other hand, laissez-faire leadership type has no effect on innovative work behavior of the employees. In addition, this study provides conclusive evidence for further research that organizational culture, psychological factors and innovation climate in the organization can be put into the model as well to see the mediating or direct effect of leadership styles on employees' innovative work behavior.

**Keywords:** Innovative work behavior, leadership, innovation, transformational leadership, transactional leadership

**JEL Codes:** M10, M16, M19

## 1. INTRODUCTION

In today's rapidly changing and globalizing world, it has become very crucial for institutions to survive and maintain their competitive advantage. Organizations that have similar assets in many ways can exist in their sectors via innovations. Without a shadow of doubt, the human factor becomes very important in organizations in order to create this innovation and differentiate themselves from others in the same sector. In this context, both the leader who will lead the innovation through process and the people who will ensure the realization of this innovation at the end become the most critical elements in the process. At that point, the qualities that a leader owns have a tremendous effect both on employees' innovative work behavior. As technological advances and the effect of globalization facilitate many processes in business life, the growing importance of the human factor for the success of the companies becomes a crystal-clear fact. In terms of technological, financial or even material assets, organizations can have similar assets but what differentiates them from others and add value to their operations are the human resources they employ. At that point, leadership qualities of the managers become very important.

Innovation is a vital to determine the success of the organizations as a guiding performance and competitive advantage in the business world (Leskovar-Spacapan & Bastic, 2007). Kenny and Reedy (2006) suggests that innovation is all about organizations' ability to adopt new products and processes to continue having their competitive advantage and produce profitability. Innovation entails novel approaches to recognize the desires of prospective and current customers. Hence, it can be summed up as a process of putting into action high-quality opinions to give rise to brand-new ideas. Consequently, in

this fast-paced professional business world, innovation can be acknowledged as the foundation of any company. Leaders are the inducers of innovation in organizations because they affect and motivate the employees through their leadership behaviors. Different type of leaders has different effect on employees.

With all these in mind, the purpose of this research is to measure the effect that leadership types have on innovative work behaviors of the employees. The fact that organizations can achieve organizational innovation with the help of their employees and leadership type that the managers in the organizations adopt substantially trigger the existence of innovative work behavior. To get new knowledge, skills, and technology, they promote innovative thinking and create an innovative work culture (Jung et al., 2003). The ability to develop innovative solutions is dependent on an individual's knowledge and experience, as well as the ability to apply that knowledge and skills to new problems (Stoffers et al, 2015). That's why the study puts the emphasis on innovation at individual level in organizations and the influence that leadership styles have on IWB.

## **2. LITERATURE REVIEW**

### **2.1. Transformational Leadership (TF Leadership)**

Transformational leadership is mostly identified with the process in which followers are motivated by higher ideals and moral values (Tracey & Hinkin, 1998) and have started to become significant especially after 1980s. This leadership style puts emphasis on transformation and aims at inspiring the followers. With that in mind, Transformational Leaders can be described as the ones who share their perspective and idea with their proponents, inspire and encourage them intellectually and cares for their individual differences (Yammarino & Bass, 1990).

Furthermore, Hartog and Van Muijen suggests that TF is the one who encourages and inspires the followers and in return followers do more than they are required to do (1997). Similarly, Tichy and Devanna defines this type of leaders as people who revitalize the organization and create synergy and relates them with innovation (1986). They create confidence among their followers and transform them into leaders who concern the achievement and growth (Church & Waclawski, 1996; Yammarino & Dubinsky, 1994). Transformational Leadership has three dimensions:

Inspirational motivation dimension of TF leadership is all about exchange of expectations and entails trust of proponents in their leaders' vision and ideal (Hinkin & Tracey, 1999). Expectations of leader include high goals and this leader is competent in communicating these expectations and goals in simple manner (Bass & Steidlmeier, 1999). Inspirational motivation encourages followers to share common believes and goals, create team spirit through enthusiasm and take responsibility to realize them (Bass, 1990; Tepper & Percy, 1994; Tracey & Hinkin, 1998). Charisma and inspiration were tackled in Bass's early works together; however, each term implied different behaviors of the leader.

Dimension of idealized influence is also referred as charisma in literature and entails follower's admiration as respect and trust. Some behaviors are associated with being charismatic. Hence, Bass & Avolio differentiate them from behavioral charismatic leadership. Moreover, some scholars deal with idealized influence in two subdimensions as attribute and behavior (Avolio & Bass, 1999).

In this dimension, employees accept their leader as a role model, respect, admire, trust because leader gives importance to the needs of their employees. There is an emotional bond between the leader and the employees. Employees are a source of inspiration, and the leader is desired to be imitated, and thus, employees exhibit high performance. It is believed that the leader has superior skills and abilities (Ay & Keleş, 2017; Erkuş & Günlü 2008).

Intellectual stimulation is yet another dimension and often associated with boosting intelligence, rationality, logic, and thorough problem solving and features logic which is compelling and convincing (Bass & Steidlmeier, 1999).

The leader encourages creative thinking and innovation. She/he encourages employees to try new methods instead of working with traditional methods (Bolat & Seymen, 2003). Leaders guide the employees so that they can solve the problems they face in the best possible way and look at them from different perspectives (Cemaloğlu, 2007).

The last dimension is individualized consideration and through individualized consideration, leaders do not see their employees as individuals with the same characteristics, but as individuals with different characteristics. Communicating with their employees one-on-one and understanding their needs play a guiding role for their personal development (Buluç 2009). They try to delegate tasks to the employees in a way that will contribute to their development (Karip, 1998).

### **2.2. Transactional Leadership (TA Leadership)**

In this approach, leaders clearly express their expectations from their employees and promotes the reward they will receive if they reach the goals and meet the expectations. As its name suggests; "transaction" is all about this reward that organization endows their employees in exchange for their labor and conformation.

TA leaders are work-oriented and not worried about the creativity of their employees. If there is no problem in the operation, the leader supports them and ensures the success. However, if the expectations are not met, they take a more active role and try to eliminate the factors that cause failure (Ersoydan & Karakelle, 2014). So, it is apparent that team members give little effort to improve their job satisfaction.

Contingent reward dimension of TA leadership suggests that leader clearly communicates with the followers about what is expected from them and what they will be rewarded with if they comply with the contract or put the necessary effort and exceed to reach the goals. Contingent reward is acknowledged as dynamic and beneficial interaction between leaders and their proponents (Howell & Avolio, 1993).

Management by exception is another dimension and this aspect of TA leadership focuses on transactions between leaders and their followers through making mistakes, postponing decisions, or waiting until something goes wrong before intervening (Howell & Avolio, 1993).

Active and passive form of management by exception are the two types of it. In active form, leaders do not intervene as long as the established procedures and standards are complied with and if any irregularities occur, they take corrective actions. They monitor their employees whether the expected performance is achieved or not. In passive form, leaders do not intervene till a problem occurs and focus on the mistakes of their employees. They take corrective action only after any problem or deviation from the standard occurs. What differentiates these two from each other is the fact that leaders take active role in searching for deviations or problems in active form; whereas leaders passively wait for problems to come into existence in the passive form (Bass, 1990).

### **2.3. Laisses-Faire Leadership (LF Leadership)**

The phrase “Laisses-Faire” stems from French and means “let it be”. As its name suggests, in this leadership style, the leader leaves his employees completely free. Leaders avoid making decisions and do not deal with problems. They do not motivate their followers in any way and does not use the rewarding mechanism. Generally, leaders who do not have leadership characteristics are defined in this dimension (Karip, 1998).

### **2.4. Innovative Work Behavior (IWB)**

Today it is almost impossible for organizations to realize innovation and protect competitive their advantage unless their employees has innovative work behavior.

For decades, much research on innovation and innovative behavior have put the focus on the term “innovative work behavior” (IWB) and conceptualized it by adding something new from themselves.

Scholars focuses on innovation in literature and IWB is one of their focus points when talking about innovation. IWB can be accepted as a process through which an individual employee, or a group of employees’ motivational and cognitive processes are essential and comes into existence via certain activities which can be seeking out up-to-date technologies, asserting new ways to reach goals, applying new way of doing work, and investigating and securing resources to put new ideas into practice (De Jong & Den Hartog, 2010). IWB comprises all these activities and can be defined as an employee’s intentional introduction, promotion and realization of new ideas, products, processes, and procedures (Scott & Bruce, 1994). IWB is accepted by Farr and Ford (1990) as an individual’s behavior through which person seeks for making the new beginnings and willful launching real. When realizing these aspirations, that person can be someone within a work role, group or organization and his / her aim is to come up with brand-new and practical ideas, smooth processes, feasible products or procedures. Another brilliant definition puts the stress on behavior set which is required to initiate, elaborate, and put ideas into practice to elevate not only personal performance but also business performance (De Jong & Den Hartog, 2007).

Organizations, according to Ramoorthy, Flood, Slattery, and Sardessai (2005), must invest in their employees to achieve innovation, in other words, to introduce and transform their techniques, processes and operations. That assertion is supported by Janssen (2000) by saying that organizations need their employees to be skilled enough to be innovative if they want to maintain a constant flow of innovation and to fulfill their objectives. Furthermore, Sharma & Chrisman advocates that individual employee actions are critical for company entrepreneurship, quality management, and continuing innovation, advancement, and development. (1999).

### **2.5. Leadership and Innovative Work Behavior**

Since both leadership and innovation is very popular and broad concepts, in the literature and many scholars deal with these notions according to their point of view.

Khan et. al put the emphasis on the impact of leadership styles on IWB in their study called as “The Interplay of Leadership Styles, Innovative Work Behavior, Organizational Culture, and Organizational Citizenship Behavior” (2020). As a result of their research, they found out that TF type of leaders have a supportive and meaningful effect on IWB. Similarly, TA type of leaders have a supportive and meaningful effect on IWB as well. However, LF type of leaders have less or no effect on IWB.

Similarly, Li et al. try to uncover how TF type of leaders promote IWB of their employees in their study called as "Influence of Transformational Leadership on Employees' Innovative Work Behavior in Sustainable Organizations: Test of Mediation and Moderation Processes" (2019). It is not a surprise that their study points out that IWB of employees is supported and fortified by TF leadership.

Torres et. al also got similar result in their studies (2017). The result of their study is that TF Leadership is directly and positively related to employee's IWB. On the other hand, IWB is affected by TA leadership straightly and in a negative way.

Khan, Aslam and Riaz want to inspect whether TF, TA, and LA leadership styles have a significant impact on IWB. In their research named as "Leadership Styles as Predictors of Innovative Work Behavior", they found out that TF type of leaders have positive influence on IWB. TA type of leadership is positively correlated with IWB. LF leadership style is negatively correlated with IWB. In addition, women bank managers tend to have TF leadership features whereas men managers tend to have TA and LF leadership inclinations.

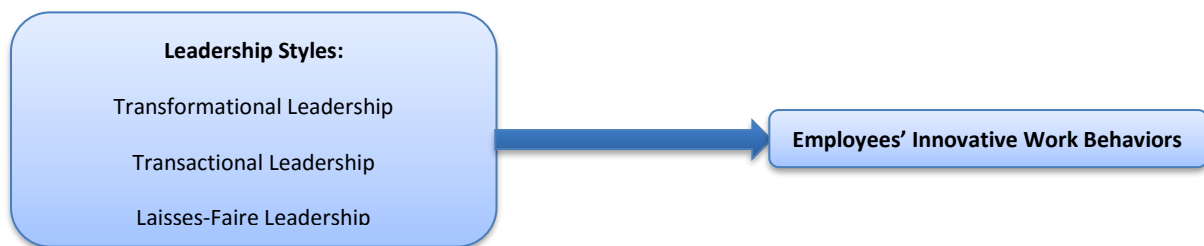
In their research, Imran and Anis-ul-Haque examines the role of TF leadership as a variable that is predicted to have an effect on organizational climate that subsequently effect IWB among the subordinates (2011) and found out that TF leadership has indirect effect on the IWB through organizational climate.

Crawford desires to uncover the relevance between innovation, leadership, and influence in his study (2001). He finds out that innovation is positively related to TF leadership abilities. Furthermore, TA leadership was not significantly related to innovation. However, the LF subscale had a significant negative relationship to innovation.

Sharifirad examines the relationship between TF leadership and IWB together with employee well-being and concludes that TF leadership is positively related to IWB (2013).

In the light of literature discussed so far above, the conceptual model has been developed as follows:

**Figure 1: Conceptual Framework**



### 3. DATA AND METHODOLOGY

To measure leadership styles, 36-item scale called **MLQ (Multifactor Leadership Questionnaire)** and developed by Bass and Avolio (2000) has been utilized. Turkish translations have been made by Yurtkoru (2001) and she used the survey as well in her research (2001). To be able to measure innovation at the level of followers to understand the leaders' effect, innovative work behavior scale has been used. IWB scale was developed by de Jong and den Hartog and adapted into Turkish by Çimen and Yücel (2017). The sample of the research has been chosen from banking sector. All the data originates from white-collar employees of one of the special banks which operates in Turkey. In order for variables to be measured accurately, the main sample group has been requested to complete the questionnaire by considering their one level-up manager.

As for the participants, 230 people from different demographic background has responded to the questionnaire. Demographic profile of the sample is presented in Table 1.

**Table 1: Demographic Profile of Sample**

		Frequency	Percentage
<b>Gender</b>	Female	73	31,7
	Male	157	68,3
<b>Gender of Manager</b>	Female	25	10,9
	Male	205	89,1
<b>Education Level</b>	Doctorate	3	1,3
	Master's	71	30,9



	Bachelor's	156	67,8
<b>Marital Status</b>	Single	82	35,7
	Married	146	63,5
	Divorced	2	0,9
<b>Age</b>	20-29	82	35,7
	30-39	107	46,5
	40+	41	17,8
<b>Manager's Age</b>	30-35	61	26,5
	36-45	122	53
	46+	47	20,4
<b>Total Work Experience</b>	0-3.5	40	17,4
	4-9	96	41,7
	10+	94	40,9
<b>Employment Period at Current Company</b>	0-3.5	87	37,8
	4-9	89	38,7
	10+	54	23,5

#### 4. FINDINGS AND DISCUSSIONS

**Exploratory Factor Analysis** - This study empirically tests the relationship between leadership styles and innovative work behavior of the employees in the organization. In order to see the factor structure beneath the data, exploratory factor analysis has been performed. Factor analysis results are presented in the table below:

**Table 2: Transformational Leadership Exploratory Factor Analysis Results**

Factor Name	Factor Items	Factor Loadings	% Variance Explained	Cronbach's Alpha
Transformational 1	Considers the moral and ethical consequences of his/her decisions. (IIB_3)	,831	46,554	,966
	His/her actions build my respect for him/her. (IIA_3)	,805		
	Goes beyond his/her own self-interest for the good of our group. (IIA_2)	,803		
	Treats me as an individual rather than just a member of a group. (Icon_1)	,787		
	Displays a sense of power and confidence. (IIA_4)	,783		
	I have pleasure in working with him. (IIA_1)	,746		
	Suggests new ways of looking at how we do our jobs. (IS_3)	,746		
	Gets me to look at problems from many different angles. (IS_4)	,739		
	Talks to us about his/her most important values and beliefs. (IIB_1)	,720		
	Treats each of us as individuals with different needs, abilities, and aspirations. (Icon_4)	,711		
	Emphasizes the importance of having a collective sense of mission. (IIB_4)	,710		
	Seeks differing perspectives when solving problems. (IS_2)	,700		
Inspirational Motivation	Talks optimistically about the future. (IM_1)	,841	27,913	,896
	Talks enthusiastically about what needs to be accomplished. (IM_3)	,835		
	Articulates a compelling vision of the future. (IM_4)	,776		
	Expresses his/her confidence that we will achieve our goals. (IM_2)	,725		
		TOTAL	74,467	
		KMO and Bartlett's Test		
		Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,955
		Bartlett's Test of Sphericity	Approx. Chi-Square	3745,728
			df	120
			Sig.	0,000

Transactional leadership style is extracted into three factors (Table 3) with 74.59% explained total variance, each exceeding the threshold of 5% variance explanation level. KMO measure of sampling adequacy (0.753) and Bartlett Test of Sphericity (1499.582, df=55, p<0.05) suggest the appropriateness of the data for factor analysis. Internal consistency of each factor is determined as Contingency Reward (0.918), Management by Exception - Passive (0.867) and Management by Exception - Active (0.715), exceeding the minimum requirement and regarded as reliable.

**Table 3: Transactional Leadership Exploratory Factor Analysis Results**

Factor Name	Factor Items	Factor Loadings	% Variance Explained	Cronbach's Alpha
Contingent Reward	Makes sure that we receive appropriate rewards, for achieving performance targets. (CR_3)	,910	30,583	0,918
	Provides his/her assistance in exchange for my effort. (CR_2)	,891		
	Expresses his/her satisfaction when I do a good job. (CR_4)	,889		
	Makes clear what I can expect to receive, if my performance meets designated standards. (CR_1)	,877		
Management by Exception-Passive	Things have to go wrong for him/her to take action. (MEP_2)	,882	26,407	0,867
	Problems must become chronic before he/she will take action. (MEP_4)	,880		
	Shows he/she is a firm believer in "If it ain't broke, don't fix it". (MEP_3)	,875		
	Fails to intervene until problems become serious. (MEP_1)	,723		
Management by Exception-Active	Spends time searching for "fires to put out". (MEA_4)	,861	17,601	0,715
	Keeps track of my mistakes. (MEA_3)	,786		
	Focuses attention on irregularities, mistakes, exceptions, and deviations from standards. (MEA_2)	,728		
		TOTAL	74,591	
		KMO and Bartlett's Test		
		Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,753
		Bartlett's Test of Sphericity	Approx. Chi-Square	1499,582
			df	55
			Sig.	,000

Laissez-Faire leadership style is extracted into a single factor (Table 4) with 82.20% explained total variance, exceeding the threshold of 5% variance explanation level. KMO measure of sampling adequacy (0.794) and Bartlett Test of Sphericity (757.485, df=6, p<0.05) suggest the appropriateness of the data for factor analysis. Internal consistency of the factor is determined as (0.927), exceeding the minimum requirement and regarded as reliable.

**Table 4: Laissez-Faire Leadership Exploratory Factor Analysis Results**

Factor Name	Factor Items	Factor Loadings	% Variance Explained	Cronbach's Alpha
Laissez-Faire	Is absent when needed. (LF_2)	,924	82,156	0,927
	Avoids making decisions. (LF_3)	,922		
	Delays responding to urgent questions. (LF_4)	,904		
	Avoids getting involved when important issues arise. (LF_1)	,874		
		TOTAL	82,204	
		KMO and Bartlett's Test		
		Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,794
		Bartlett's Test of Sphericity	Approx. Chi-Square	757,485
			df	6
			Sig.	,000

Innovative Work Behavior scale is extracted into a single factor (Table 5) with 63.25% explained total variance, exceeding the threshold of 5% variance explanation level. KMO measure of sampling adequacy (0.912) and Bartlett Test of Sphericity (1665.049, df=45, p<0.05) suggest the appropriateness of the data for factor analysis. Internal consistency of the factor is determined as (0.934), exceeding the minimum requirement and regarded as reliable.

**Table 5: Innovative Work Behavior Exploratory Factor Analysis Results**

Factor Name	Factor Items	Factor Loadings	% Variance Explained	Cronbach's Alpha
Innovative Work Behavior	How often does employee attempt to convince people to support an innovative idea? (Ino_7)	,863	63,256	0,934
	systematically introduce innovative ideas into work practices? (Ino_8)	,852		
	make important organizational members enthusiastic for innovative ideas? (Ino_6)	,847		
	contribute to the implementation of new ideas? (Ino_9)	,834		
	wonder how things can be improved? (Ino_2)	,801		
	find new approaches to execute tasks? (Ino_5)	,797		
	put effort in the development of new things? (Ino_10)	,795		
	Search out new working methods, techniques or instruments? (Ino_3)	,752		
	generate original solutions for problems? (Ino_4)	,743		
	Pay attention to issues that are not part of his daily work? (Ino_1)	,645		
TOTAL		63,256		
KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			,912	
Bartlett's Test of Sphericity			Approx. of Square df	1665,049 45 ,000

**Multiple Regression Analysis** - The hypotheses of the research are tested with regression analyses. Eight separate multiple linear regression analyses are performed in accordance with the number of independent variables. Table 6 demonstrates the results of analyses.

**Table 6: Multiple Regression Analysis Results**

Dependent Variable	Independent Variables	Beta	Std. Error	t-value	p-value	VIF
Innovative Work Behavior	Transformational Leadership	0.402	0.048	6.624	0.000	1.000
	Transformational 1	0.411	0.047	6.803	0.000	1.000
	Inspirational Motivation	0.319	0.047	5.078	0.000	1.000
	Transactional Leadership	0.319	0.080	5.087	0.000	1.000
	Contingent Reward	0.395	0.040	6.463	0.000	1.000
	Management by Exception - Passive	-0.36	0.048	-0.538	0.591	1.000

Management by Exception - Active	0.147	0.050	2.238	0.026	1.000
Laisses-Faire Leadership	-0.85	0.044	-1.293	0.197	1.000

Results are indicating that there is weak correlation between TF leadership and IWB ( $R=0.402$ ,  $R^2= 0.161$ ). Also, there is a weak correlation (close to moderate correlation, though since it is close to ,50) between transformational1 and IWB ( $R= 0,411$   $R^2=0,169$ ). Between inspirational motivation and IWB, there is a weak correlation ( $R=0.319$ ,  $R^2= 0.102$ ). According to results, a weak correlation between TA leadership and IWB can be asserted ( $R=0.319$ ,  $R^2= 0.102$ ). There is a meaningful relationship between contingent reward and innovative work behavior of the employees ( $R=0.394$ ,  $R^2= 0.155$ ). Management by exception – passive affects IWB in a negative way ( $R=-0.36$ ,  $R^2= 0.001$ ) and since significant value is higher than the limit, it is decided that there is not a meaningful relationship between them. Also, there is a weak correlation between management by exception active and IWB ( $R=0.147$ ,  $R^2= 0.022$ ). Finally, laisses faire leadership statistically does not have an impact on IWB of the employees since the significance value is higher than 0,05.

## 5. CONCLUSION

This research investigated whether there is any meaningful relationship between the type of leadership and IWB of employees. This study uncovers the relationship between “leadership styles” and “innovative work behaviors of the employees” in organization on a sample group chosen from a bank in Turkey. Furthermore, this research has a purpose to find how strong the relationship among the dimensions of leadership style and IWB. Finally, the impacts of demographic variables –such as the gender of employees, their total work experiences and experiences at their current companies, and their ages –to their leadership perception level and IWB level are analyzed. When the research findings are taken into consideration, it is simply apparent that the correlation between leadership styles and IWB and effect of leadership on it is weak but close to moderate ( $R= 0,402$ ;  $R^2= 0,161$ ). Hence, according to these results it can be asserted that TF leaders encourage and motivate their followers by means of inspirational motivation and other transformative abilities to innovate. When the relationship between TA leadership and IWB has been tested, it came out that there is a meaningful relationship between them even though the relationship is positive and weak ( $R=0,319$ ). Relevance between LF leadership and IWB has been proved that the correlation between them came out negative, which is expected. Moreover, since the significance value is higher than 0,05 the significant effect of LF leadership on IWB is rejected. According to the results, it can be easily claimed that innovative work behaviors and ultimately organizational innovation activities are affected by the behaviors of the leader. As a result, this study reveals that TF and TA leaders induces the IWB and motivate their followers to generate novel ideas and put these ones into implementation. On the other hand, LF type of leaders have no effect on IWB of the employees. They do not impress their followers and do not spark them with the fire of innovation and even the tendency of innovation.

As this research discusses, innovative capabilities and activities of employees’ and organizations at the end cannot be achieved without effective, efficient, and empowering leadership. This study contributes to literature by looking at the issue from the human point of view. Since the concept of innovation is too broad, scholars have narrowed their scopes according to their focus point. In addition, in the literature, mostly “the effect of transformational leadership” has been addressed in respect to innovation and IWB. Thus, this study can be regarded as unique both because of its being focused on innovation through innovative work behavior of employees’ and because of taking “transactional” and “laissez-faire leadership” under its scope. For further research, researchers can focus on different sectors by taking the leaders to be evaluated into consideration. In addition, some other variables such as organizational culture, psychological factors, innovation climate in the organization can be put into the model to see the mediating or direct effect of leadership styles on employees’ innovative work behavior because as a result of this study the relationship between laisses-faire leadership and innovative work behavior was expected as high negative correlation. Even though there was negative correlation, there was no significant relationship. So this implies that there should be some inner motivation of employees that they disregard the type of leadership they are exposed to and still are willing to be innovative in their work behavior.

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## THE EFFECT OF OPEN INNOVATION MINDSET ON ABSORPTIVE CAPACITY: THE MEDIATION ROLE OF ENTREPRENEURIAL ALERTNESS

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### ABSTRACT

**Purpose-** Applying new information across corporate borders is a strategy for innovation that uses absorptive capacity. In organizational research, the term open mindset is used to define a firm's ability to understand and accept new concepts or to critically evaluate its experience with new knowledge. The shift inflow or outflow initiative and notion advocated for this tactic. Applying opportunities for creation through innovation is the action of the entrepreneurial attentiveness. An evaluation of a firm's intelligence results from assessing the open mindset of individuals who perceive, evaluate, and seize new chances in contact with the environment. The purpose of this research is to investigate the impact of an open innovation mindset on the absorption capacity in small and medium-sized enterprises with the mediating role of entrepreneurial alertness.

**Methodology-** The statistical population includes 430 managers of small and medium-sized businesses producing industrial, utility, and construction pumps. The sample size is 131 firm managers. In this research, the data collection tool is a questionnaire that has been distributed and collected using a non-probability sampling method. The validity and reliability of the questionnaire were evaluated during the pre-test. Smart PLS and SPSS software were also used to analyze the research data.

**Findings-** Descriptive and inferential analysis have both been used in this study. The result of data analysis shows that open innovation has a significant effect on entrepreneurial alertness. It can also be mentioned that the impact of the open innovation mindset on absorptive capacity.

**Conclusion-** The findings show that the open innovation mindset at the individual level increases the firm's absorptive capacity. Also, entrepreneurial alertness plays a mediating role between the impact of an open innovation mindset and absorptive capacity. The findings thus demonstrate that those who pay attention and have an open and interactive mindset while receiving opportunities and suggestions are more likely to succeed.

**Keywords:** Open innovation mindset, entrepreneurial alertness, absorptive capacity

**JEL Codes:** M30, M21

## 1. INTRODUCTION

According to Drucker (2002), innovation is a crucial component of small, medium, and large businesses' competitive strategies. These businesses must engage in creative activities due to the market competition they face (Porter, 1980). Knowledge, according to Bloodgood (2007), is the foundation of competitive advantage. The essential element that affects economic growth is knowledge (Qiao and Chen, 2010). In today's knowledge-intensive economy, businesses that are proficient at obtaining and utilizing knowledge will flourish (Sharabati and Thiruchelvam, 2009). In a dynamic world where businesses must adapt, new external knowledge is a vital resource for survival and competition, improving the inventiveness of their products (Cohen and Levinthal, 1990; Nonaka, 1994; Gray, 2006; Lee and Choi, 2010).

The interaction created by the exchange of information for innovation and supplying a new firm model is crucial in today's industry. Every product and business model has an independent life cycle (Herrmann, 2006). Thus, the firm needs to get ready for the new paradigm in advance. This paradigm's speed has changed at the moment, making it impossible to pinpoint a time point for it. One of the traits and skills of entrepreneurship is the ability to recognize and take advantage of new information and opportunities in the market (Tang et al., 2012; Gomez et al., 2018), which connects the subject of entrepreneurship literature to strategy.



In the past, innovative activities were carried out in secrecy and behind closed doors, but today a diverse set of partners, suppliers, and customers engage (Schmidt, 2010). Businesses must rely more on interpersonal connections, experiential learning, and research because they are never fully able to employ codified knowledge. It is critical and crucial for the firm's innovative efforts to be able to perceive the value of new products and external information, absorb it, modify it, and use it for business goals (Zahra and George, 2002). The capacity to assess and apply external knowledge is influenced by the knowledge sources, the depth of the underlying knowledge, and the firm's capacity to internalize this external knowledge. These skills are referred to as a firm's absorptive capacity as a whole (Cohen and Levinthal, 1990; Zahra and George, 2002; Salehi, 2022).

Open-mindedness is a requirement for managers and business owners. With this potential, they should assess and track customer and supplier behavior as well as the advancement of technology and new knowledge through feedback. In fact, with these evaluations, managers and business owners should have opportunities for business expansion (Rangus et al., 2017).

Being open-minded means being willing to actively look for evidence to support one's beliefs, plans, and preferred goals, as well as fairly evaluate and consider this evidence (Cemberci et al., 2021). They stated that having an open mindset is a crucial aspect of having an educated mind and is recognized as a way to maintain a cognitive connection with reality.

The purpose of this study is to ascertain how an open innovation mindset affects absorptive capacity, with entrepreneurial alertness serving as a mediating factor in small and medium-sized businesses that manufacture construction, utility, and industrial pumps. Due to the fact that they adopt innovation and entrepreneurship at a higher rate than large corporations, small and medium-sized businesses are the focus of this problem. In order to meet the challenge of the competitive environment, small and medium-sized businesses engaged in the production of various types of pumps and accessories need innovative activities. This innovation is developed by assessing business expansion opportunities. This issue demonstrates how an open innovation mindset and entrepreneurship alertness can influence absorptive capacity at the individual and organizational levels. In actuality, a nation's growth is brought on by this innovative mindset.

## **2. LITERATURE REVIEW**

### **2.1. Absorptive Capacity**

Absorptive capacity is influenced by the firm's prior experience (Cohen and Levinthal, 1990; Zahra and George, 2002; Salehi, 2022). The firm cannot properly evaluate the potential value of external knowledge and prior knowledge that is held by the firm's employees without taking this knowledge into account. As a result, the firm's absorptive capacity is equal to the sum of the absorptive capacities of all of its employees (Xiao and Qin, 2010; Cohen and Levinthal, 1990).

Learning first occurs at the individual level, then moves on to the group level, and finally, an organization learns (Bapuji and Crossan, 2004). The ability of individuals to develop a sustainable capacity for learning and the encouragement of knowledge sharing (by exchanging data and viewpoints in groups about the organization's resources) are key factors in the transfer of learning between organizational units. For absorbing new external knowledge, ideas, new knowledge, or business opportunities are fundamental prerequisites as well. In the context of technology, knowledge and information inside and outside a firm's boundaries are not considered to be open and free to be simply absorbed without any effort from the firms to acquire and use them (Fabrizo, 2009). Business must possess the required resources and expertise (Gray, 2006) as well as direct technological decisions to improve strategic opportunities (Ringberg et al., 2019).

The ability to interact with stakeholders, coworkers, competitors, and suppliers while maintaining an open mind to ideas allows for the acquisition of a wide range of in-depth knowledge in various fields. Jetter et al. (2006) defined the sources of innovation's knowledge according to the below ranking: 1) customers; 2) specialty publications; 3) staff; 4) production personnel; 5) suppliers; 6) sellers; 7) flyers and catalogs; 8) industrial exhibition; 9) commercial exhibition; and 10) business periodicals.

### **2.2. Open Innovation Mindset**

The path and strategy for accelerating technological innovation are described as open innovation. This strategy was promoted by the shift inflow or outflow project and idea (Chesbrough, 2003). This variable is based on the paradigm that the firm can and ought to use both internal and external ideas and channels for reaching the market in order to hasten and enhance its technological and product innovation. Open innovation looks at how to use resources from within the firm as well as those from outside to produce more (Chesbrough, 2003). This model places a strong emphasis on the need to allow innovative ideas, such as products, projects, and technology, to enter the firm in order to increase revenue. An open mindset is a concept used in organizational research to describe a firm's capacity to comprehend and accept new ideas or to critically assess its experience with new knowledge (Cemberci et al., 2021).

In this sense, having a mindset or possessing psychological skills pertaining to attitudes, ideas, beliefs, and behavioral patterns can be considered a mindset (Urze et al., 2019). By altering cognitive structures, thinking patterns, and fundamental

presumptions that underpin behavior, an open mindset seeks to change organizational values, norms, and behaviors (Cemberci et al., 2021). Open minds encourage free knowledge exchange between the parties, which supports the firm's innovativeness. Being too open, however, is not always seen as advantageous for the firm's innovation performance (Salampasis et al., 2015).

Therefore, estimating the open mindset of employees who recognize, assess, and take advantage of new opportunities in interaction with the environment leads to an estimation of a firm's intelligence. According to researchers, managerial mindsets serve as the primary guiding force in the use of both new and existing technologies (Ringberg et al., 2019). They contend that self-aware managers use reason to differentiate between the various potential opportunities that a particular technology enables. To adapt to new technology, managers alter their perspectives and guide the firm's strategic direction (Ringberg et al., 2019).

Open mindset, which promotes challenging preconceived notions and ways of thinking, being receptive to novel experiences, exchanging ideas, and weighing alternative viewpoints. A willingness to take into account new and different perspectives for an individual can be characterized as an open innovation mindset. However, it refers to fostering an atmosphere where the pursuit of new knowledge and its acceptance are valued in organizations (Cemberci et al., 2021). They further state that an open mindset is a sought-after skill among employees because it fosters greater creativity and innovation. It goes without saying that the management team needs to be flexible in order to maintain the organization.

Building absorptive capacity is facilitated by an open innovation mindset (Rangus et al., 2017). The ability to absorb new information interacts with outside knowledge through licensing, contracts, and partnerships with various partners, R&D facilities, and joint ventures (Cohen and Levinthal., 1990; Zahra and George, 2002; Rangus et al., 2017). When this interaction occurs between the levels of the individual, it implies knowledge sharing and an improvement in their learning capacities (Liao et al., 2007; Rangus et al., 2017). As a result, increased interaction with external knowledge will enhance a firm's knowledge absorptive capacity (Rangus et al., 2017). The following is suggested by this discussion.

*H1: Open innovation mindset at the individual level has a significant impact on entrepreneurial alertness.*

*H2: Open innovation mindset has a significant impact on absorptive capacity.*

### **2.3. Entrepreneurial Alertness**

Kirzner et al. (1979); Foss and Klein (2010); Yu (2001); Tang et al. (2010) applied conceptual alertness and awareness to find gaps and new opportunities and to scan and search for new knowledge from the environment. Kirzner (1979); Tang (2008); Tang et al. (2012) described alertness as the ability to recognize new opportunities without searching that are overlooked by other people. This ability has been described as an individual image of the future business by Kirzner (1979), Tang (2008), Tang et al. (2012), and Valliere (2012). Brown and Ulijn (2004) stated that entrepreneurship is an activity of applying opportunities for creation via innovation. It could be done by an individual or by a team within the venture (Brown and Ulijn, 2004). According to researchers, the concept of alertness has three functions: scanning and searching, continuity and communication, and evaluation and judgment about the existence of potential business opportunities (Tang et al., 2012; Gomezel et al., 2018).

In this research, entrepreneurial alertness played as a mediating variable. Open innovation enhances a firm's absorptive capacity because it facilitates entrepreneurial alertness as a core opportunity (Kirzner et al., 1979; Foss and Klein, 2010; Yu, 2001; Tang et al., 2010). The mobility of knowledge makes it impossible to keep all the best talents and relevant knowledge within companies; instead, companies need to look outside for new paths to innovation (Chesbrough, 2003). Opportunities present themselves as ideas. Users, consultants, suppliers, universities, and rivals could all be sources of crucial information that will enable the individual to create a new concept (Salter et al., 2015). To develop these viewpoints, nurturing is required (Salter et al., 2015). They mentioned that open innovation activities are associated with changes in research and development performance (Salter et al., 2015). Open innovation mindset at individual level as ideas are ability that is digested and developed by the firm's capability. This activity performs the same function as absorptive capacity. The accumulation of technological knowledge increases the firm's ability to evaluate and use new technologies and skills in product innovation (Zahra and George, 2002; Salehi, 2022). Firms that need to use external knowledge need to promote initiative at the individual level to create a pathway through knowledge absorptive capacity.

Kirzner (1979) characterized individuals who are more alert as having an "antenna" that permits recognizing gaps with limited clues. Moreover, alertness includes creative and imaginative action and may impact the type of transactions in future market periods. Kirzener (1979) and Qing and Chen (2009) mentioned that alertness creates behaviors towards providing future opportunities and previously undiscovered opportunities. The following is suggested by this discussion.

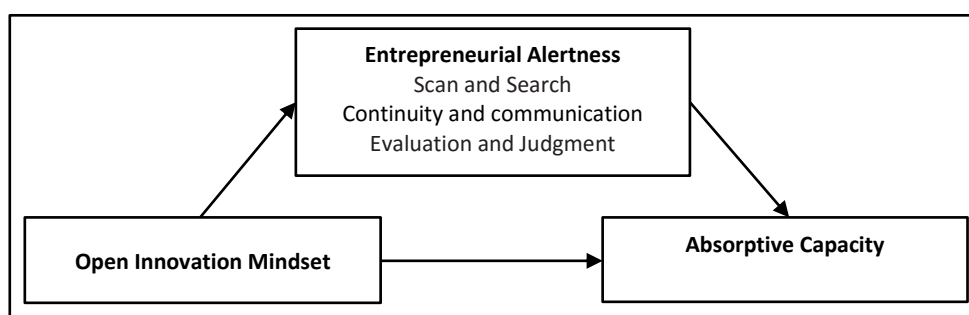
*H3: Entrepreneurial alertness has a significant effect on absorptive capacity.*

*H4: Entrepreneurial alertness has a mediating role between the impact of open innovation and absorptive capacity.*

### 3.METHOD

The conceptual model of the research is shown in Figure (1). The statistical population of this research consists of 430 managers of small and medium-sized companies producing all kinds of industrial, utility, and construction pumps and their parts. In this regard, 131 firm managers have been selected as the sample size using a non-probability sampling method. The research questionnaire was distributed and collected among the managers of these companies as an evaluator of the firm's capabilities and the respondents to the questionnaire. The questionnaire was taken from the articles (Gomez et al., 2018; Rangus et al., 2017).

**Figure 1: Conceptual Model**



Descriptive and inferential tests have been used to analyze the data in this research. In the descriptive part, percentage, average, and standard deviation were calculated, and in the inferential part, SPSS and Smart PLS software were used to analyze the research data. The PLS model is tested and interpreted in two steps. 1) measurement model and a 2) structural model. The measurement model, or part of the confirmatory factor analysis, to answer questions related to the validity and reliability of the measurement, determines how the latent variables or sub-constructs are measured in the form of a larger number of observable variables. The structural model also shows the relationships between structures (latent variables) and their explanatory power. The measurement indices of the variables of the research model are given in Table (1).

**Table 1: Measurement Indicators**

Variables	Measurement indicators	References
Open innovation mindset	Getting feedback from customers to improve products and services Getting friends' and acquaintances' feedback on how to make products and services better Building new connections with other institutions to discuss the actions of the firm Using an innovative strategy for creating, producing, or selling products or services	Gomez et al., (2018)
Absorptive capacity	Regular communication with corporate headquarters to learn new information Obtain market information using unauthorised channels It is scarcely practical to visit the firm's other divisions. Occasionally arranges special meetings with customers or other outside parties to learn fresh information Keep in touch with consultants, accountants, and tax advisors on a regular basis. How quickly market shifts are identified Quick insight into potential new client-serving prospects Swiftly evaluate and appreciate changing market requirements Regularly considers how changing market demand may affect the creation of new products and services Keep track of fresh information and save it for later use. Swiftly assesses the value of new external knowledge for current knowledge Practical information is rarely provided Take advantage of the opportunities that fresh, outside information offers for our group.	Jansen, et al., (2005)

Variables	Measurement indicators	References
	They meet together on occasion to discuss how market trends and the creation of new products have an impact. It is evident how tasks inside our unit should be completed. Our unit disregards customer complaints Clearly defined roles and responsibilities Always consider how to use knowledge most effectively. Introducing new products and services can be difficult. Terms used frequently to describe our products and services	
Entrepreneurial alertness		
Scan and search	Engage others to learn new information Reading newspapers, magazines, trade publications, and brochures on a regular basis to learn new information Regularly using the Internet The ongoing process of looking for new knowledge Eagerness to learn new things	
Continuity and communication	The presence of linkages and links among data that initially appear to be unrelated and jumbled The capacity to connect the dots in data and information The capacity to comprehend the relationship between facts and previously undiscovered information	Gomez et al., (2018)
Evaluation and judgment	The capacity to see and differentiate between profitable prospects Ability to spot important opportunities The capacity to pick an excellent opportunity from among several available ones	

## 4. RESULTS

### 4.1. Factor Loading Test

The weight values of the factor loadings of this questionnaire shows in Appendix 1. The minimum allowed factor loading value is 0.7, and as shown in the table below, the weight of factor loading for all questions is greater than 0.7. Based on this, it can be concluded that the questions determined to measure each variable have the appropriate weight to measure their specific variable.

### 4.2. Convergent Validity

Convergent validity determines to what extent the questions specified for each variable have appropriate convergence for measuring the relevant variable and are able to measure that variable. In the partial least squares (PLS) method, the average value of the extracted variance (AVE) is investigated. The criterion of acceptable convergent validity is that the value of AVE is greater than 0.5. As can be seen in Table (2) below, all the calculated AVE values are greater than 0.5, which indicates the appropriate convergent validity of the questionnaire questions to measure each variable. Average Variance Extracted (AVE) is a measure of the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error.

**Table 2: AVE Mounts**

Variables	Average Variance Extracted (AVE)
Absorptive capacity	0.82
Open innovation mindset	0.74
Entrepreneurial alertness	0.81
Continuity and communication	0.78
Evaluation and judgment	0.89

### 4.3. Divergent Validity

The meaning of divergent validity is that the questions related to the measurement of each variable do not overlap with other research variables. As can be seen, the values of the average root of the extracted variance (Table 3), which are placed in the diameter of the matrix of the table, are larger than all the correlation values calculated in the same column.

**Table 3: Divergent Validity**

Variables	Evaluation and judgment	Continuity and communication	Open innovation mindset	Scan and search	Absorptive capacity
Evaluation and judgment	0.94				
Continuity and communication	0.80	0.88			
Open innovation mindset	0.68	0.71	0.86		
Scan and search	0.86	0.80	0.66	0.90	
Absorptive capacity	0.73	0.71	0.72	0.72	0.90

Based on this, it can be concluded that the instrument used in the research has a suitable divergent validity, which means that the questions of each structure have a higher correlation with the related structure than other structures.

#### 4.4. Descriptive Statistics

Table (4) shows the statistical description of the data in this research. Absorptive capacity variable among the samples of this research was equal to 2.92 with a standard deviation of 1.13, and the minimum score for this variable was 1.05, and the maximum score was 4.95. The average of the entrepreneurial alertness variable among the samples of this research is equal to 2.73 with a standard deviation of 0.93. The minimum score for this variable is 1.09 and the maximum score is 4.64. The average of the open innovation mindset variable among the samples of this research was 2.91 with a standard deviation of 0.94, and the minimum score for this variable was 1 and the maximum score was 5.

**Table 4: Descriptive Statistics**

Variables	Minimum	Maximum	Average	Standard Deviation
Absorptive capacity	1.05	4.95	2.92	1.13
Entrepreneurial alertness	1.09	4.64	2.73	0.93
Open innovation mindset	1	5	2.91	0.94

#### 4.5. Coefficient of Determination: R<sup>2</sup> (Predictability) and Model Fit (GOF)

The following Table (5) shows the coefficient of determination (R<sup>2</sup>) values for the variables of entrepreneurial alertness and absorptive capacity. Considering that the final dependent variable of the research model is absorptive capacity, the determination coefficient for this variable indicates the prediction of the changes of this variable by other variables of the model. Considering that the value of the coefficient of determination for the absorptive capacity variable is about 0.65, it can be concluded that almost 65% of the changes in the absorptive capacity variable are determined by other research variables, namely, entrepreneurial alertness and open innovation mindset.

The overall fit of the research (GOF) is estimated at 0.75. The three values of 0.1, 0.25, and 0.36 represent weak, medium, and strong values for the fit of the structural model. Therefore, it can be concluded that the model has a strong and appropriate fit.

**Table 5: Values of Coefficients of Determination (R<sup>2</sup>) and Model Fit (GOF)**

Variables	The coefficient of determination
Entrepreneurial alertness	0.52
Absorptive capacity	0.65
GOF=0.75	

Based on the model tested in Smart-PLS software and the results of the model test, the confirmation or rejection of the hypotheses of the current research is reported as follows.

#### 4.6. Hypothesis Testing

Table (6) shows the model tested in the Smart-PLS software and the model test results.

The result of hypothesis 1 shows the value of the obtained t statistic is equal to 9.11, which is greater than 1.96, so it can be concluded that the above-mentioned hypothesis is confirmed and open innovation mindset at the confidence level of 95%. It has a significant effect on entrepreneurial alertness and the value of this effect is equal to  $\beta=0.72$ .

The result of hypothesis 2 shows the value of the t statistic obtained from the test is almost equal to 2.10, which is greater than 1.96, so it can be concluded that the above hypothesis is confirmed at a confidence level of 95%. Also, open innovation mindset has a significant impact on absorptive capacity.

The result of hypothesis 3 shows the value of the t statistic obtained is equal to 3.16, which is greater than 1.96, so it can be concluded that the hypothesis is accepted at the confidence level of 95% and entrepreneurial alertness. It has a significant effect on the absorptive capacity.

The result of hypothesis 4 shows the value of the standard path coefficient for the influence of open innovation mindset on entrepreneurial alertness is equal to 0.722 and the t statistic for this relationship is 9.107. The standard path coefficient for the influence of entrepreneurial alertness on absorptive capacity is 0.514 and the t statistic is equal to 3.154, which, considering that the value of the t statistic for both routes is greater than 1.96, both hypotheses are confirmed. Also, the impact of open innovation mindset on entrepreneurial alertness and the impact of entrepreneurial alertness on absorptive capacity, as well as the indirect value of the Sobel test, which is equal to 2.98 and greater than 1.96. This result shows that the mediating hypothesis of entrepreneurial alertness in the influence of open innovation mindset on absorptive capacity has been confirmed. In examining the direct path, the value of t statistic related to the impact of the open innovation mindset on absorptive capacity is equal to 2.10, which is more than 1.96, and it shows that the innovation mindset has an effect on absorptive capacity through the mediating variable of entrepreneurial alertness. and can directly change the absorptive capacity. Based on these findings, it is possible to conclude that the entrepreneurial alertness variable serves as a partial mediator in the impact of the open innovation mindset on absorptive capacity. The total path coefficient of the mediating variable equal to 0.72 shows that for one unit of change in the open innovation mindset, the absorptive capacity variable has a change of 72%, and 37% of these changes are due to changes in entrepreneurial alertness.

**Table 6: Test of Research Hypotheses**

Hypotheses	Standard path coefficient	t statistic	Result
H1: Open innovation mindset at the individual level has a significant impact on entrepreneurial alertness.	0.722	9.107	Accepted
H2: Open innovation mindset has a significant impact on absorptive capacity.	0.350	2.095	Accepted
H3: Entrepreneurial alertness has a significant effect on absorptive capacity.	0.514	3.154	Accepted
H4: Entrepreneurial alertness has a mediating role between the impact of open innovation and absorptive capacity.	Direct 0.35 Indirect 0.37	Direct 2.10 Indirect 2.98	Accepted

## 5. CONCLUSION

In this research, the impact of an open innovation mindset on absorptive capacity with the mediating role of entrepreneurial alertness in small and medium-sized firms producing all kinds of pumps and parts for industrial, utility, and construction has been measured. The results show that in today's world, people and organizations that do not use an open and interactive mindset to receive opportunities and ideas are less likely to succeed.

Researchers state that entrepreneurial awareness as a mediator and perceptual and cognitive process in people can recognize and recognize existing opportunities. They proved that ideas and projects are identified at the individual level with the aim of creating value (Kirzner, 1979; Hou, 2008; Foss and Klein, 2010; Tang et al., 2012; Gomezel et al., 2018).

Interaction with the external environment to acquire ideas, research and development units (Cohen and Levinthal., 1990; Zahra and George, 2002; Salehi, 2022), universities, collaboration with different partners and joint ventures realizes new opportunities (Chesbrough, 2003; Çemberci et al., 2021) through an open innovation mindset (Gomezel et al., 2018) and has an impact on the formation of absorptive capacity and increase firm ability to knowledge absorptive.

The following recommendations are provided in light of the findings and hypotheses of this study in an effort to raise entrepreneurial awareness and, eventually, increase one's capacity to take in fresh outside knowledge: Employees in the customer relations department and the manufacturing department should be considered as essential sources of knowledge when developing ideas in order to increase the impact of the open innovation mindset. The requirements for participation in specialized exhibitions of manufactured goods should also be prepared and taken into consideration in order to enhance the impact of entrepreneurial alertness. This will allow for the informed use of new product markets and opportunities in accordance with the direction of the knowledge and technology market.

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#### APPENDIX 1: Values of Factor Loads

Items	Open innovation mindset	Absorptive capacity	Entrepreneurial alertness		
			Scan and search	Continuity and communication	Evaluation and judgment
ABC1		0.863218			
ABC10		0.907024			
ABC11		0.919977			
ABC12		0.942180			
ABC13		0.910508			
ABC14		0.905762			
ABC15		0.928479			
ABC16		0.909837			
ABC17		0.886313			
ABC18		0.935147			
ABC19		0.924923			
ABC2		0.877625			
ABC20		0.891273			
ABC3		0.874684			
ABC4		0.920247			
ABC5		0.853341			
ABC6		0.925394			
ABC7		0.928642			
ABC8		0.887094			
ABC9		0.897298			
AC1					0.947328
AC2					0.943878
AC3					0.948437
CO1				0.884136	
CO2				0.880323	
CO3				0.884986	
SC1			0.912691		
SC2			0.871711		
SC3			0.890566		
SC4			0.895351		
SC5			0.940310		
INO1	0.837714				
INO2	0.858516				
INO3	0.839496				
INO4	0.906223				



## PERCEIVED SUPPORT AND ENTREPRENEURIAL INTENTIONS AMONG OMANI UNDERGRADUATE STUDENTS

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**ABSTRACT**

**Purpose** – The study's goal is to determine whether there is a relationship between family income, the father's occupation, education, and study plan, and Omani students' perceived support for entrepreneurship. Furthermore, the research will look into the relationship between Omani undergraduate students' perceived support and their entrepreneurial intentions.

**Methodology** – The study employed deductive research methodology and a quantitative research approach since it was empirical research that employed analytical techniques to provide quantifiable data. The descriptive research design was also employed because it summarises the characteristics of the population or problem under consideration. Furthermore, the purposive sampling strategy, a non-probability sampling technique, was used as the study's sampling strategy. In total, 478 undergraduate Omani students were chosen as respondents, and the data was analysed using descriptive and regression techniques using the latest version of the Statistical Package for Social Science (SPSS) software, 21.0.

**Findings** – The findings indicate that students have a favourable perception of support for entrepreneurship. The highest mean scores recorded for the place where students live indicate sufficient awareness of entrepreneurship (4.51) and that college experience and knowledge have inspired them to become entrepreneurs (4.35), with a verbal interpretation of "strongly agree" for both factors. Besides family income, the father's occupation, education, and study plan had no discernible influence on Omani students' intentions to start their own businesses. It denotes that the hypothesis factors have no bearing on entrepreneurial inclinations. Furthermore, Pearson's correlation of 0.720 and p-value of  $0.000 < 0.05$  indicated that entrepreneurial intention is highly and significantly correlated with perceived entrepreneurship support.

**Conclusion** - The results of the study show that Oman's underground students have a moderately high perceived level of support for entrepreneurship. Besides, students believe they have support from the government, their families, and friends to achieve their business ambitions after graduation. A link between students' perceived entrepreneurial support and their entrepreneurial goals was also discovered by the study.

**Keywords:** Perceived support, entrepreneurial intention, entrepreneurs, Omani students, relationship.

**JEL Codes:** M13, L26, O53

**1. INTRODUCTION**

There have been many conversations in academic studies and among decision-makers about how to encourage youth to seek entrepreneurship as a career because it is viewed as a major driver of economic growth (European Commission, 2013). Entrepreneurial intention (EI) drivers have been the subject of numerous researchers, including those by Hsu et al. (2018), who utilised them as a crucial marker of real entrepreneurial activity. Policymakers and educators need to understand what drives entrepreneurial behaviour in order to increase the effectiveness of public programs and educational initiatives. It is important to promote entrepreneurship among university students since it increases their chances of starting profitable, high-growth enterprises if they have more education (Dickson et al., 2008). Students studying information systems at Sultan Qaboos University were the subject of an investigation into entrepreneurial intent by Al-Harrasi & Al-Salti (2014), which found that the majority of the students had modest entrepreneurial intentions. Money, independence, and job flexibility are found in the study to have a positive impact on students' entrepreneurial intentions, whereas the absence of entrepreneurship courses in the university has a negative effect. On the other hand, students' opinions of the help that is provided may have more of an effect on individual intentions and decisions than the actual breadth of support systems (Fayolle & Gailly, 2015).

Due to their effectiveness in presenting opportunities beyond the environment of the classroom, entrepreneurial support systems are frequently present (Acs et al., 2014). Every entrepreneur needs some form of support system to get started; hence, the absence of such support may impede the expansion of entrepreneurial activity in the region (Mason & Brown, 2013). The entrepreneurial support system would act as a network of assistance for business owners, offering inspiration and drive to help with daily operations. However, Acs et al. (2014) stated that the assistance an entrepreneur requires varies with time and is dependent on the type of business. Many people, especially in developing nations, want to work for themselves or start their own businesses, yet not everyone has access to financial backing.

The unemployment problem in Oman will gradually rise due to an increase in professionals joining the working population and a saturation of jobs in the public sector (NCSI, 2015). Many analysts think it is crucial to change graduate students' perspectives and goals towards entrepreneurship growth in Oman. In an effort to encourage students to start their own businesses rather than look for employment in both the private and public sectors, the Sultanate of Oman consciously included entrepreneurship courses in the curricula of higher education institutions for all study programmes in 2014 (Muscat Daily, 2015). This was done in recognition of the importance of independence and self-reliance among youth and to tackle unemployment. It prompts the following investigation of the relationship between Omani underground students' perceived support and their entrepreneurial intentions, which is therefore the main topic covered in this study. The main research objective of this study is to examine the connection between Omani underground students' entrepreneurial intentions and perceived support.

## **2. LITERATURE REVIEW**

Personal and contextual factors might have an impact on one's entrepreneurial intentions. However, this study will examine the effects of relational, structural, and academic support on entrepreneurial intentions. The level of perceived support systems will be covered in the parts that follow.

### **2.1. Academic Support**

According to Zhang et al. (2014), educational institutions have been using a variety of methods to support their students' entrepreneurship, including teaching them knowledge and skills and assisting them with opportunity identification, business plan development, capacity building, and the acquisition of resources. However, Saeed et al. (2015) discovered that academic institutions can accomplish this in other ways, such as by hosting workshops and conferences. Furthermore, Trivedi (2016) stated that colleges should invite role models and hold networking sessions with students to stimulate their business interests. Furthermore, colleges could function as advisors for their students rather than just traditional teachers, giving them insights and encouraging enterprise formation. An additional method that educational institutions utilize their goodwill to support student entrepreneurship is by giving students a place to launch their firms on campus; later, they can expand outside; by facilitating financial capabilities; and by acting as the students' primary clients.

### **2.2. Structural Support**

According to Turker & Selcuk (2009), structural support is the authorities' support for students' perceived entrepreneurial assistance and guidance, including assistance from government and non-government departments. This involves financial assistance, limiting rules and regulations on entrepreneurs, obtaining licences quickly, and providing business opportunities. The research on the efficacy of structural support initiatives that aim to boost entrepreneurship seems to be mixed. The opposite of what Djankov et al. (2002) suggested as a clear relationship between particular regulatory regimes, such as the ease of setting up a company and the rate of entrepreneurship, was discovered by Van Stel et al. (2007). Similar findings were made by Turker & Selçuk (2009), who found that perceived structural support, such as the availability of bank loans and institutional arrangements, has a positive impact on company intentions. This contrasts with other research using perceptual measures of public policies, which found only a minor influence on entrepreneurial intentions (Engle et al., 2011).

### **2.3. Relational Support**

The potential entrepreneur's perceptions and sentiments regarding the assistance he or she will obtain from the community to which he or she connects are known as "perceived relational support". According to Baughn (2006), other reference groups that are considered most important for people when starting a business are parents, siblings, and spouses. Furthermore, Mustapha & Selvaraju (2015) stated that support and encouragement from family and friends, aunts and uncles, and peers have been linked to the development of entrepreneurs. Furthermore, Nanda & Sorenson (2006) stated that friends and family have the most influence on individual career choices since they serve as fund providers and role models. Furthermore, Mustapha & Selvaraju (2015) found that family influences students' willingness to become entrepreneurs in a positive and significant way.

Role models have a major influence on students' decisions to become entrepreneurs (Baughn, 2006). Besides, according to Postigo (2006), role models frequently offer required info, advice, and support, as well as a good example, and assistance. Postigo went on to say that by leading by example and offering assistance, students will be more plausible and confident in starting their businesses.

As a result, the support of role models is likely to influence one's career choice. Additionally, social support is always recognised as a critical factor in predicting behaviour. Al-Harassi et al. (2014) claim that social or relational connections significantly influence a person's entrepreneurial inclinations. As seen from the foregoing, someone may be motivated to embark on an entrepreneurial career if they are aware that they will have this type of assistance when they launch a business.

According to Bandura (2006), people are not entirely independent actors and are not determined by their surroundings. Instead, the combination of behavioural, intrapersonal, and environmental factors led to their acts. Therefore, even if society can affect entrepreneurial behaviour by creating a supportive atmosphere, how each person reacts to this support system largely depends on them. As a result, entrepreneurship may become a feasible career option for those who see favourable conditions, including positive market prospects as well as supporting regulations. Based on this logic, it is reasonable to conclude that individuals who perceive structural support as encouraging may develop entrepreneurial intentions.

### 3. METHODOLOGY

This study employed the deductive research method, which involves moving from the general to the specific, starting with a theory, inferring hypothesis from it, testing those hypotheses, and finally revising the theory (Babbie, 2010). Besides, a quantitative research approach was employed since this method quantifies data and identifies cause and effect links between variables using statistical or mathematical approaches (Kothari, 2010). Because it depicts the traits of the population or phenomenon under study, the descriptive research approach was utilized in this study. With this methodology, the "what" of the study topic is given more attention than the "why."

For this investigation, a sampling technique called purposive sampling was used. A non-probability sampling method called "purposeful sampling" selects the sample depending on the researcher's knowledge and competence. It is also referred to as "judgmental" or "authoritative" sampling (Bernard, 2002). The sample size of the study was 478. A questionnaire that had been developed by Venesaar et al. (2006) was used in this investigation. The adoption of a questionnaire survey is generally recognised in management and business since it preserves the secrecy of responders' antecedents (Rowley, 2014). However, to better meet the needs of the study, the questionnaire was modified. Cronbach's alpha was .70, and items were scored on a 5-point scale (1 being strongly disagree, 5 being strongly agree).

#### 3.1. Research Hypothesis

According to Sharma (1983), conducting research entails specifying problems or issues, testing hypotheses, or coming up with solutions, gathering, organising, and analysing data, making deductions, and coming to conclusions. Besides, Creswell (2014) stated that the study's conclusions must be carefully tested to see if they are consistent with the hypotheses that were originally proposed. In addition, Kothari (2010) claimed that after analysing the information, the investigator is in a position to examine any assumptions that were previously developed. When testing hypotheses, the standard question that needs to be addressed is: do the statistics demonstrate the theories, or are they in conflict with them? Consequently, the study's hypotheses are:

H1: There is no significant relationship between family income and students' opinions on perceived support for entrepreneurship.

H2: There is no significant relationship between the father's occupation and the students' opinions on perceived support for entrepreneurship.

H3: There is no significant relationship between education and students' opinions on perceived support for entrepreneurship.

H4: There is no significant relationship between the program of the study and students' opinions on perceived support for entrepreneurship.

The frequency distribution, percentage, rank, and weighted mean were used to analyse the data. The frequency distribution is a statistical tool used to determine the distribution of respondents as well as the frequency of those respondents who fit a given specified profile, such as gender, age, and marital status. Both the proportion of respondents and the percentage of respondents who fit a given profile were calculated using the percentage. Other relevant statistical tools were also applied to conclude.

### 4. RESULTS AND ANALYSIS

#### 4.1. Profile of the Respondents

Table 1 shows that females make up 62.6 per cent of the population, while men make up 37.4 per cent. The results do not correspond to Oman's national population (NCSI, 2020), which has a female population of 38.7 per cent and a male population of 61.3 per cent. To conclude, the majority of survey respondents are female. Besides, 69 per cent of those surveyed are between the ages of 22 and 25. According to NCSI (2020), 60% of Omani citizens are between the ages of 21 and 26. As a result, the results and estimates are consistent. Furthermore, 14.4 per cent of respondents are between the ages of 26 and 30, with 12.1 per cent between the ages of 31 and 35, and 4% between the ages of 36 and older.

40.8 per cent of respondents reside in the city, i.e., Muscat; 34.7 per cent live in villages; and the remaining 24.5 per cent stay in various towns throughout Oman. In terms of education, 71.3 per cent of respondents graduated, while 28.7 per cent received a higher diploma. As part of their studies, 24.7% of participants took tourism and hospitality management courses. Business management is the next-highest category, with a 20.3 per cent share, followed by accounting and finance (19.7 per cent) and human resources management (18.4 per cent). Other courses studied by 8.6 per cent were nursing, agriculture, and engineering, while 8.4 per cent studied event management.

The respondent's father worked for the government in 39.3 per cent of cases, while 15.1 per cent owned enterprises and 14.2 per cent retired. Further, 9.6% worked in agriculture, 11.7 % in the private sector, and 10% were jobless. According to the findings, up to RO 1,000 represents 50.4 per cent of the respondent's family's income. 15.9% of respondents indicated their family income exceeded RO 3001, while 18% were unclear. Furthermore, 8.2% claimed that their monthly income is between RO 2001 and 3000, while the remaining 7.5% stated that their monthly income is between RO 1001 and 2000. Inferring from this, half of the respondent families earn less than RO 1000 each month.

**Table 1: Demographic Profile of the Respondents**

<b>A1. Gender</b>	<b>Frequency</b>	<b>Per cent</b>
Male	179	37.4
Female	299	62.6
<b>A2. Age (Optional)</b>	<b>Frequency</b>	<b>Per cent</b>
20-25	332	69.5
26-30	69	14.4
31-35	58	12.1
36 and above	19	4.0
<b>A3. Permanent residing area</b>	<b>Frequency</b>	<b>Per cent</b>
City, i.e., Muscat	195	40.8
Town	117	24.5
Village	166	34.7
<b>A4. Education</b>	<b>Frequency</b>	<b>Per cent</b>
Diploma	137	28.7
Graduation	341	71.3
<b>A5. The Program of study</b>	<b>Frequency</b>	<b>Per cent</b>
Tourism and Hospitality	118	24.7
HR Management	88	18.4
Accounting and Finance	94	19.7
Event Management	40	8.4
Business Management	97	20.3
Other	41	8.6
<b>A6. Parent's Occupation - Father</b>	<b>Frequency</b>	<b>Per cent</b>
Own Business	72	15.1
Salaried Employee Private	56	11.7
Salaried Employee Government	226	39.3
Retired	73	14.2
Agriculture	41	9.6
Unemployed	48	10
<b>A7. Family Income</b>	<b>Frequency</b>	<b>Per cent</b>
Up to OMR 1000	241	50.4
OMR 1001 to 2000	36	7.5
OMR 2001 to 3000	39	8.2
OMR 3001 and above	76	15.9
Do not know	86	18.0

According to Table 2 inference, Cronbach's alpha was used to test the reliability across multiple dimensions. The above table displays the results obtained. The perceived support for entrepreneurship has an alpha value of 0.854. The rating is high, and a value of > 0.7 implies that the presented items have very strong internal consistency.

**Table 2: Reliability Statistics**

Dimension	Cronbach's Alpha	No of Items
Perceived support for entrepreneurship	.854	8

Table 3 shows that the highest mean recorded was in the area where I reside, indicating that there is enough awareness of entrepreneurship ( $X = 4.51$ ) and that my college experience and knowledge have inspired me to become an entrepreneur ( $X = 4.35$ ). The respondents indicated that many people are aware of entrepreneurship in their area, which is a positive sign. Further, they believe that their college experience and knowledge have inspired them to become entrepreneurs. Besides, respondents agreed with the following statements: My friends will help me start a business if I decide to become an entrepreneur ( $X = 4.29$ ). In times of crisis, my family, friends, and colleagues will support me ( $X = 4.15$ ). It implies that the respondent believes that if they decide to become entrepreneurs, their friends will help them start a business, and that in times of crisis, the respondent's family, friends, and colleagues will support them.

Respondents further strongly agree that in Oman, there is a strong infrastructure in place for new businesses to develop ( $\bar{X} 4.12$ ), which is an ideal representation. Moreover, they also admitted that the entrepreneurship course at their college encourages them to develop ideas for a new business ( $\bar{X} 4.10$ ). Respondents are convinced that there is a well-functioning infrastructure available for new people to start a business, and they admit that taking an entrepreneurship course in college helped them come up with business ideas.

Furthermore, a mean score of ( $X 4.08$ ) was recorded for qualified advisors and support through faster licenses, office space, and permits being made available to start businesses, and ( $X 4.02$ ) for If I launch my own business, my family will provide the initial investment. It shows that the respondents recognise that qualified advisors and support are available through faster licences, office space and permits to start a new business and that their family members will provide the initial capital if they choose to be entrepreneurs.

The lowest mean scores ever recorded for government funding are made available to start businesses ( $X=3.99$ ). It denotes that some respondents may believe that they require additional financial assistance from the government through the SME Development Fund, Al Rafd Fund, Injaz Oman, and Riyada to launch a new company. Based on the findings, although there are many support structures in place for entrepreneurs in Oman, the respondents seem not to be fully aware of the government's support programs, and they are also unaware of the advisory services and other help systems put in place to promote entrepreneurship in Oman.

**Table 3: Perceived support for entrepreneurship**

Perceived Support	$\bar{X}$	Verbal Interpretation	SD	Rank
The place where I live has sufficient awareness of Entrepreneurship.	4.51	Strongly Agree	0.831	1
My college experience and knowledge have inspired me to become an entrepreneur.	4.35	Strongly Agree	0.856	2
My friends will help me start a business if I decide to become an entrepreneur.	4.29	Strongly Agree	0.853	3
In times of crisis, my family, friends, and colleagues will support me.	4.15	Strongly Agree	0.930	4
In Oman, there is a strong infrastructure in place for new businesses to develop.	4.12	Strongly Agree	0.915	4
The entrepreneurship course at my college inspires me to develop ideas for a new business.	4.10	Strongly Agree	1.027	6
Qualified advisors and support through faster licenses, office space and permits are made available to start businesses.	4.08	Strongly Agree	1.069	7
If I launch my own business, my family will provide the initial investment.	4.02	Strongly Agree	0.923	8
Government funding is made available to start businesses through the SME Fund, Al Rafd Fund, Injaz Oman, and Riyada	3.99	Agree	1.118	9
<b>Total</b>	<b>4.20</b>	<b>Strongly Agree</b>	<b>0.949</b>	<b>9</b>

Table 4 demonstrates that the chi-square is not significant (sig. value is  $0.155 > 0.05$ ) and that the null hypothesis cannot be proven incorrect, signifying that the null hypothesis is accepted. This indicates that there is no conclusive relationship between respondents' opinions on perceived support for entrepreneurship and family income. It implies that views on entrepreneurial support are unrelated to family income.

**Table 4: Chi-Square Test - Family's income (Perceived Support for Entrepreneurship)**

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.645	16	.155

Table 5 shows that the chi-square is not significant (sig. value is 0.607 > 0.05), the null hypothesis cannot be proven incorrect, signalling that the null hypothesis is accepted. This indicates that there is no conclusive relationship between the father's profession and the student's opinions on perceived entrepreneurial support. It implies that perceptions of support for entrepreneurship are unrelated to the father's occupation.

**Table 5: Chi-Square Test - Father's Occupation (Perceived Support for Entrepreneurship)**

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.709	20	.607

Table 6 reveals that the chi-square is not significant (sig. value is 0.233 > 0.05) and that the null hypothesis cannot be proven false, implying that the null hypothesis is accepted. This indicates that there is no conclusive relationship between respondents' perceptions of perceived support for entrepreneurship and their levels of education. In other words, perceived support for entrepreneurship is unrelated to academic background.

**Table 6: Chi-Square Test - Education (Perceived Support for Entrepreneurship)**

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.574	4	.233

Table 7 indicates that the chi-square is not significant (sig. value is 0.094 > 0.05) and that the null hypothesis cannot be proven incorrect, suggesting that the null hypothesis is accepted. This indicates that there is no conclusive relationship between the respondent's study's program and the participants' perceptions of entrepreneurial support. It implies that perceived support for entrepreneurship is unrelated to the program of study.

**Table 7: Chi-Square Test - Program of the study (Perceived Support for Entrepreneurship)**

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	28.700	20	.094

Table 8 suggests that the chi-square is not significant because all of them are higher than 0.05, implying that there is insufficient evidence to reject the null hypothesis. It denotes that there is no significant relationship between family income, the occupation of the father, education, the study program, and the student's opinions on perceived support for entrepreneurship in Oman. It suggests that the student's opinions on perceived support for entrepreneurship in Oman are independent of factors such as family wealth, the father's profession, education, or academic program.

**Table 8: Null Hypotheses**

Hypotheses	Sig. Value	Result
H1: There is no significant relationship between family income and the students' opinions on perceived support for entrepreneurship.	0.155	Accepted
H2: There is no significant relationship between the father's occupation and the student's opinions on perceived support for entrepreneurship.	0.607	Accepted
H3: There is no significant relationship between education and the students' opinions on perceived support for entrepreneurship.	0.233	Accepted
H4: There is no significant relationship between the program of the study and the students' opinions on perceived support for entrepreneurship.	0.094	Accepted

Table 9 shows that entrepreneurial intention is highly and significantly correlated with perceived support for entrepreneurship. This was indicated in the obtained Pearson's correlation of 0.720, and the p-value of 0.000 < 0.05 supports this. This implies that perceived support for entrepreneurship will greatly influence students' entrepreneurial intentions.

**Table 9: Correlations – Relationship between perceived support & student’s entrepreneurial intentions**

		Entrepreneurial Intention	Perceived Support for Entrepreneurship
Entrepreneurial Intention	Pearson Correlation	1	.720**
	Sig. (2-tailed)		.000
	N	478	478
Perceived Support for Entrepreneurship	Pearson Correlation	.720**	1
	Sig. (2-tailed)	.000	
	N	478	478

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

## 5. DISCUSSION AND CONCLUSION

### 5.1. Academic Support

According to Table 3, respondents stated that their college experience and knowledge inspired them to become entrepreneurs (4.35) and that an entrepreneurship course at their college inspired them to develop ideas for a new business (4.10). The findings are consistent with Gerald & Saleh (2011), who said college education is a valuable means of acquiring the knowledge and abilities required for entrepreneurship. The findings are supported by the Further Negash and Amentie (2013) study, which claims that technical training can be a motivator for people seeking entrepreneurial careers. However, subsequent studies dispute the results. According to Wegner et al. (2019), university initiatives to foster entrepreneurship might not directly affect students' intentions to pursue it. There is also a dearth of research on the connection between college entrepreneurial support and the development of students' entrepreneurial intentions (Saeed et al., 2015). Furthermore, Kraaijenbrink et al. (2010) stated that, the number of students engaging in an entrepreneurial career is still comparatively lower, despite the increase in entrepreneurship courses and programs. Finally, Nabila et al. (2016) discovered that educational support was not an important determinant of entrepreneurial intention.

### 5.2. Structural Support

According to Table 3, respondents stated that in Oman, there is a strong infrastructure in place for new businesses to develop (4.12), qualified advisors and support through faster licences, office space, and permits are made available to start businesses (4.08), and government funding is made available to start businesses through the SME Development Fund, Al Rafd Fund, Injaz Oman, and Riyada (3.99). The findings disagree with studies conducted by Nabila et al. (2016), who concluded that perceived structural support had little bearing on entrepreneurial intention. To the contrary, according to Guerrero et al. (2021), young entrepreneurs need structural support, and every nation should foster an atmosphere that is favourable to entrepreneurship and make major contributions to society in order to foster the growth of new businesses.

### 5.3. Relational Support

Table 3 shows that if students decide to become entrepreneurs, their friends will assist them in starting a business (4.29); in times of crisis, their family, friends, and colleagues will support them (4.15); and if they decide to become entrepreneurs, their family members will provide them with an initial capital (4.02). The findings agree with Denanyoh et al. (2015), who found that family members have the greatest influence on students' entrepreneurial intentions after personal experience. Furthermore, Al-Harassi et al. (2014) stated that social or relational networks have a significant impact on one's entrepreneurial intentions. Furthermore, Turker & Selcuk (2009) stated that students can take up entrepreneurship as a career choice with conviction if they know that their family, friends, and extended family will support them in their entrepreneurial endeavour.

Table 8 shows there is no significant relationship between family income, the father's occupation, education, study program, and students' perceived support for entrepreneurship in Oman. As a result, the findings indicate that family income, the father's occupation, education, or academic program do not affect students' perceived support for entrepreneurship. Finally, Table 9 shows that entrepreneurial intention is highly and significantly correlated with perceived support for entrepreneurship. Pearson's correlation of 0.720 and the p-value of  $0.000 < 0.05$  obtained supported this. Numerous researchers back up the idea that there is a link between students' perceived support for entrepreneurship and their desire to pursue an entrepreneurial career (Tahir et al., 2018; Ibrahim et al., 2017; Alexandre & Kharabsheh, 2019). It is logical to conclude that providing students with the necessary support, such as academic, structural, and relational support, will lead to a favourable intention for entrepreneurship.

### 5.4. Conclusion

Based on the study's findings, undergraduate students in Oman had a fairly high perception of support for entrepreneurship. Further, study findings indicate that government, family, and friend assistance will help students achieve their business ambitions after graduation. In addition, the study found a link between students' entrepreneurial intentions and their perceived entrepreneurial

support. It signifies that perceived support influences students' inclinations toward entrepreneurial growth. However, no significant relationship was discovered between some of the demographic factors like family income, the father's profession, education, study programme, and student perspectives on perceived support for entrepreneurship in Oman, indicating that the aforementioned demographic factors have no impact on the student's perceptions of perceived support for entrepreneurship in Oman. According to the findings, higher education institutions should integrate entrepreneurship training with commercialization support. Furthermore, Oman's institutions should analyse their students' intents to establish their own businesses and their perceptions of support on a regular basis, and then share the results with important stakeholders. Educators, public servants, family members, and friends all work together to foster students' entrepreneurial drive, and educational institutions should give students the opportunity to learn by doing by offering them the chance to collaborate with potential business owners, complete internships with start-up companies, or prepare business plans for other potential entrepreneurs.

This research has certain limitations; not all criteria are taken into account in the research, which, like the majority of others in the literature, focuses on perceived support. Despite the fact that various researchers have discovered a significant association between perceived support and entrepreneurial goals, there is still a mismatch between intentions and actual behaviour. As a result, this study is unable to anticipate the number of students who will actually start a business. A later longitudinal study of entrepreneurial objectives may be able to shed lighter on this. The current experiment's results may have limited generalizability. As is frequently the case, this survey included respondents from only a few colleges and was conducted in a single location, Muscat. As a result, future research may include a more diversified sample of people from regions other than Muscat, such as villages and cities around Oman.

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## UNSUSTAINABLE SUPPLY CHAIN OF SUSTAINABLE FOOD COMPANIES

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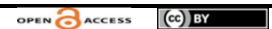
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### ABSTRACT

**Purpose** - This study aims to investigate the sustainable food companies within the scope of sustainable supply chain management (SSCM). It also aims to reveal what are the challenges food companies face in their sustainable supply chains. In addition, it is aimed to show which points should be focused on in sustainable supply chain management.

**Methodology** - For this purpose, sustainability pages on the corporate website of 30 food companies operating in Turkey were analyzed with content analysis by adopting a qualitative research paradigm and an interpretive framework. While analyzing the contents, first of all, it was investigated at which dimensions the food companies attach importance to in the Triple Bottom Line approach. Secondly, the elements that food companies pay attention to while they integrate the supply chain into their sustainability practices were examined. Lastly, it was analyzed in which dimension of the sustainable supply chain management the food companies are located.

**Findings** - The findings of the study indicated that 23 of the food companies were found to be sustainable businesses according to the Triple Bottom Line approach. However, it was demonstrated that the same companies could not provide sustainability in supply chain management. In this sense, it was understood that one of the biggest reasons for this is that companies ignore the concept of "risk management".

**Conclusion** - As a result, the points that food companies have difficulty in sustainable supply chain management have been revealed. With this study, practical contributions were provided to the companies in terms of enabling them to evaluate themselves on this issue. In addition to this, the study also contributes to the field by building on the studies investigating sustainable supply chain management and providing a different perspective with the investigation of the issue from a TBL approach.

**Keywords:** Sustainability, triple bottom line, supply chain management, sustainable supply chain management

**JEL Codes:** L91, S56, R41

### 1. INTRODUCTION

The concept of sustainability continues to be an increasingly important issue for the world day by day. The reason for this is that humanity has begun to realize the unlivable world they leave behind while producing and consuming. Sustainability could be summarized as an effort to leave behind a livable world by considering the future generations. In this sense, governments, people, and businesses have duties to fulfill to leave a livable world. While implementing sustainable strategies, businesses need to integrate supply chain management into their strategies. Because the emissions that the world's 2500 largest companies release as a result of their operations constitute more than 20% of the world's total greenhouse gas, and the majority of these operations consist of the companies' supply chain operations. (Carbon Disclosure Project, 2011). For example, for Walmart which is one of the largest retail stores in America, 90% of the emissions that they create in their operations result from the supply chain (Birchall, 2010). On the other hand, when the food industry is taken into consideration, one-third of global food production is wasted every year (Mbow et al., 2019). With the waste of food products, the resources that are used for the production and distribution of the food products are also wasted (Göbel et al., 2015). The resources that are spent at this stage constitute approximately 30% of the global greenhouse gas (Tukker & Jansen, 2006). All of these demonstrate to us the fact that to be able to leave a livable world for the next generations, the companies and businesses that operate in the food industry need to adopt sustainable supply chain management (SSCM).

Although sustainability is a well-known phenomenon among the food companies, it is quite difficult to create a sustainable supply chain nowadays because to be able to create a sustainable supply chain network, it is necessary for the companies to go beyond traditional supply chain management (Shaverdi et al., 2016) and to act jointly with stakeholders to be able to ensure sustainability completely. For this reason, the main motivation of this study is to conduct a study that could be a guide for the food companies that are aware of the concept of sustainability but have difficulties in implementing it into their supply chain. For SSCM, the food companies, first of all, need to adopt the Triple Bottom Line (TBL) approach to sustainability. In this sense, incorporating the TBL approach in creating sustainable strategies is an effective method for sustainable supply chain practices (Mathivathanan et al., 2018). The sustainable supply chain contributes to businesses in social and environmental dimensions, and these dimensions also provide economic benefits to the companies (Wang & Dai, 2018). TBL is required for the businesses to minimize the losses arising from their operations and also to create an environmental and social value (Carew & Mitchell, 2008). In addition to this, TBL is an essential concept through which businesses can evaluate themselves in terms of economic, environmental, and social issues and develop strategies (Alzoubi et al., 2020). At this point, Carter and Rogers' (2008) model in which the conceptualization of the TBL approach is expanded for SSCM provides an opportunity for the businesses to evaluate themselves on these issues. In this sense, the main purpose of this study is to evaluate the sustainable food companies within the scope of SSCM. For this purpose, the sustainability contents of 30 businesses that include the concept of sustainability on their corporate websites will be analyzed through the content analysis method. In the analysis, mainly the TBL approach and the extended TBL approach for SSCM will be adopted. First of all, the food companies will be analyzed in terms of the TBL approach, and then these companies will be evaluated in terms of SSCM. Lastly, food companies will be analyzed to identify at what level they are within the scope of SSCM and the deficiencies in the companies' conduct of sustainability will be examined. Considering the purpose of the study, it will enable the food companies to evaluate themselves in terms of sustainable supply chain management. In addition, the evaluation of the businesses in the food sector in terms of SSCM according to the TBL approach will also contribute to the literature.

## **2. LITERATURE REVIEW**

The concept of sustainability was coined in the literature in 1987 with the report "Our Common Future" by the World Commission on Environment and Development. In this report, sustainability is defined as acting by considering the future generations while meeting the needs of today and thereby leaving a livable world for future generations (WCED, 1987). Following this, many studies including the concept of sustainability were conducted in the literature. Considering the definitions and features attributed to the concept, sustainability basically means acting by taking into consideration the economic, environmental, and social dimensions altogether. Since the concept of sustainability gained importance, the companies have begun to internalize the concept within their businesses and adjust their strategies based on this concept. Moreover, the concept of sustainability has also begun to be noticed on the side of supply chain management which is one of the important operational pillars of the companies. In this way, the studies in which sustainability is integrated into the traditional supply chain management have begun to emerge in the literature.

Traditional supply chain management is a complex network system including three or more parties that coordinates the transmission of products, services, and information from the source to the customers (Hervani et al., 2005; Mentzer et al., 2001). On the other hand, the sustainable supply chain is a concept that emerges with the integration of social and environmental factors into the traditional supply chain (Wittstruck & Teuteberg, 2012). In a broader sense, SSCM is the creation of a social and environmental value through being in a systematic relationship with all the stakeholders and managing this relationship in a transparent manner in order to increase the economic performance of the businesses (Carter & Rogers, 2008). The fact that one of the places where sustainability is important is the supply chain and that most of the operations of the companies are carried out on the supply chain (Carbon Disclosure Project, 2011) has increased the number of studies on this subject in the literature. Soubbotina (2004) in his research indicates that sustainability in the supply chain increases the efficiency in the supply network economically, and it ensures full employment and equality socially, and lastly environmental benefits could be obtained by using renewable natural resources. Furthermore, sustainability has a direct impact on the economic performance of big companies (Gedik, 2021). On the other hand, Modica et al. (2020) argue that sustainability practices also have a direct impact on customer satisfaction. In addition to such benefits, it has been demonstrated that environmental and social dimensions also benefit businesses economically (Wang & Dai, 2018). In this sense, one of the recent studies has evaluated the sustainable supply chain in terms of economic benefits, environmental effects, social development, and operational risks (Tseng et al., 2019).

Although the contribution of sustainability to the businesses and supply chain management which is one of the most important operations of businesses, has been demonstrated by the studies, companies experience some difficulties in the implementation of sustainability. One of these difficulties is the high cost of sustainable supply chain operations in the environmental dimension (Gedik, 2021). In addition to this, Abbasi (2012) classified the difficulties that the companies experience in a sustainable supply chain into five categories as cost problems, complexity, operational difficulties, cultural difficulties, and uncertainty. In addition to the economic difficulties, the difficulties that are experienced in management and organization have been found in the

literature as the difficulties that are experienced in the sustainable supply chain (Yadav et al., 2020). In fact, after the concept of sustainability was coined in the literature, many studies have been conducted on the evaluation of the companies' performances and the implementation of sustainability, and models have been developed. One of the preliminary studies that ensure its validity and that is identified with sustainability is the TBL approach. TBL approach was first introduced by Elkington in the 1990s to measure sustainability (Hall, 2011). Afterward, mentioning that the concept of sustainability would be even more important in the global market, Elkington reconsidered and revised the TBL framework that he developed (Elkington, 2018). In addition, one of the studies dealing with the TBL approach in the supply chain dimension was conducted by Carter and Rogers (2008), and they expanded the TBL model with their studies and adopted it to SSCM. Following this, in line with their study, Carter and Easton (2011) explained in detail the expressions in the TBL model that were developed for SSCM. The concepts that affect the SSCM were introduced by Ageron et al. (2012). On the other hand, Zeng et al. (2017) demonstrated that institutional pressure has a significant effect on SSCM with a quantitative research method. Furthermore, Mathivathanan et al. (2018) indicated that incorporating the TBL approach into the strategic decision-making process is an effective method for SSCM and their study supports the concept of "Strategy" in the study of Carter and Rogers (2008). Sajjad et al. (2019) examined the factors that hinder and promote the SSCM practices of the companies. Alzoubi et al. (2020) recommended the TBL approach with their quantitative study on the supply chain, and with this study, they examined the concept of "stakeholder engagement" which is required for SSCM.

It is possible to observe that the TBL approach is also adopted in the studies that are carried out on sustainability in the field of the food supply chain. Ross et al. (2015) investigated the corporate social responsibility reports of US food companies with the content analysis and revealed that companies participate in sustainability practices in a complicated manner. Kirwan et al. (2017) added health and ethical dimensions to food companies' SSCM with their study. On the other hand, Accorsi et al. (2018) proposed a framework by considering sustainable food logistics in micro and macro dimensions and supported their framework with a case study. Zhu et al. (2018) put forward the problems in the sustainable supply chain in the food industry with mathematical models and reviewed the existing models for the solution to the problems. Krishnan et al. (2020) conducted a study that presented a framework to identify operational and resource inefficiencies in the food supply chain. In one of the recent studies, it was investigated how food supply chains implement sustainability standards (Silva et al., 2020). The concept of sustainability has never lost its popularity and importance in the literature since the beginning of its inception in the field. Because of being a necessary concept for a livable world and its benefits to the companies, the studies on this issue continue to focus on the concept in their investigation. Especially, the existence of the recent studies encompassing SSCM and the food industry demonstrates to us that the studies on these issues will also continue to take place in further studies in the field.

### **3. METHODOLOGY**

In the study, a qualitative research paradigm was adopted, and an interpretive framework was internalized into the analysis of the data with the adoption of the content analysis method. The study aimed to investigate the sustainable food companies within the scope of SSCM. For this purpose, three research questions were developed and the study provided an in-depth understanding of the following research questions:

1. What dimensions do sustainable food companies attach importance to in TBL approach?
2. What do sustainable food companies pay attention to while integrating supply chain management into their sustainability practices?
3. Where are sustainable food companies located according to the model that Carter and Rogers developed?

In accordance with the research question purposes, the sample of the study consists of food companies that implement sustainable strategies and engage in sustainability expressions and discourses. In accordance with this sample, 30 out of 49 companies that are under the umbrella of the "Sustainability Academy" and that are the members of "Sustainable Food Platform" were evaluated, and 19 companies were not taken into consideration because they did not have a sustainability page on their corporate website. The data were obtained from the texts on the sustainability pages on the corporate websites of the 30 companies in total. The analysis of the data was conducted based on the Carter and Rogers' model (2008). In the analysis, the pre-determined categories (e.g. strategy, organizational culture, risk management, and transparency) and the sub-categories in Carter and Rogers' model (2008) were taken into consideration while coding the data. Carter and Easton (2011) explain these main categories as follows:

- Strategy: determining the SSCM that is compatible with and supports the sustainability strategy of the companies in a holistic and planned manner;

- Organizational Culture: a culture that is deeply rooted and includes respect towards the society and natural environment with the high ethical standards and expectations encompassing the Organizational Citizenship;
- Risk Management: including contingency planning for the upstream and downstream supply chain;
- Transparency: active communication with stakeholders, and transparency in upstream and downstream supply chain operations.

The sub-categories of the main categories that are described above as follows:

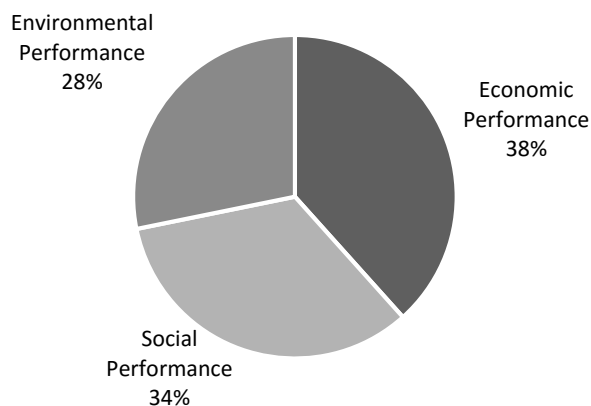
- Strategy: Sustainability as part of an integrated strategy.
- Organizational Culture: Deeply Ingrained, Organizational Citizenship, Values and Ethics.
- Risk Management: Contingency Planning, Supply Disruptions, Outbound Supply Chains.
- Transparency: Stakeholder Engagement, Supplier Operations.

In the study, the contents of the 30 food companies, which include sustainability in their corporate websites, were analyzed with an interpretive framework. With the analysis, the written texts of the companies were analyzed and categorized accordingly based on the Carter and Rogers' model (2008). As a result of this categorization, 305 entries emerged from the data.

#### 4. FINDINGS

First of all, the companies were analyzed in terms of the environmental, social, and economic dimensions of the TBL approach. The data analysis indicated that only 3 companies out of 30 focused on the environmental and economic dimensions. On the other hand, one company focused solely on the social dimension, and another company focused on only the economic dimensions. In addition, one company paid attention to only the social and economic dimensions whereas another different company focused on only the environmental and social dimensions. This means that 7 out of 23 companies in total failed to encompass all the three dimensions of sustainability in their systems. However, except for the 7 companies stated above, it was revealed that the remaining 23 companies were able to take into consideration all the three dimensions of sustainability in accordance with the TBL approach in their written texts.

**Figure 1: Sustainable Supply Chain Management**



Secondly, the supply chain of the 30 food companies was evaluated in terms of sustainability in the study. To analyze the companies' supply chain in terms of sustainability, the TBL approach that was expanded by Carter and Rogers (2008) was adopted. Within the scope of this approach, the most focused dimension of the companies in SSCM is the economic dimension as could be seen in Figure 1 above. It could be observed that 30 food companies focus on economic performance at a rate of 38% in the sustainable supply chain. In addition to their preliminary focus on the economic dimension, it could be seen that companies give their secondary focus on the social dimension with approximately 34%, and following this, they pay attention to the environmental dimension with 28%. Although it has been revealed that the companies mainly give their preliminary focus on the economic dimensions, it could be stated that all the three dimensions are close to each other when the percentages are taken into consideration in Figure 1.

When Table 1 below is analyzed, it could be observed that 86 out of 305 entries that were obtained from 30 companies are under the strategy category. 28.2% of the companies' SSCM applications consist of the strategy. As could be understood from the sub-categories, 28.2% of the SSCM practices of the companies consist of integrating their strategies with sustainability. Table 1 demonstrates that 102 out of 305 entries are under the category of "organization culture". This indicates that the companies focus on the organizational culture in their SSCM practices at the rate of 33.5%. This rate is the highest among the entries, and 20.6% of this rate is placed in the "values and ethics" dimension. On the other hand, other sub-dimensions entitled "deeply ingrained" and "organization citizenship" are at the rate of 6.5% and 6.2% respectively.

**Table 1. The distribution of SSCM**

	n	Categories	n	% of all categories	Sub-categories	n	% of all categories
<b>Environmental Performance</b>	86	Strategy	86	28,2	Sustainability as part of an integrated strategy	86	28,2
					Deeply Ingrained	20	6,5
<b>Social Performance</b>	102	Organizational Culture	102	33,5	Organizational Citizenship	19	6,2
					Values and Ethics	63	20,6
<b>Economic Performance</b>	117	Risk Management	26	8,5	Contingency Planning	13	4,3
					Supply Disruptions	2	0,6
					Outbound Supply Chains	11	3,6
					Stakeholder Engagement	61	20
		Transparency	91	29,8	Supplier Operations	30	10
<b>Total</b>	305		305	100		305	100

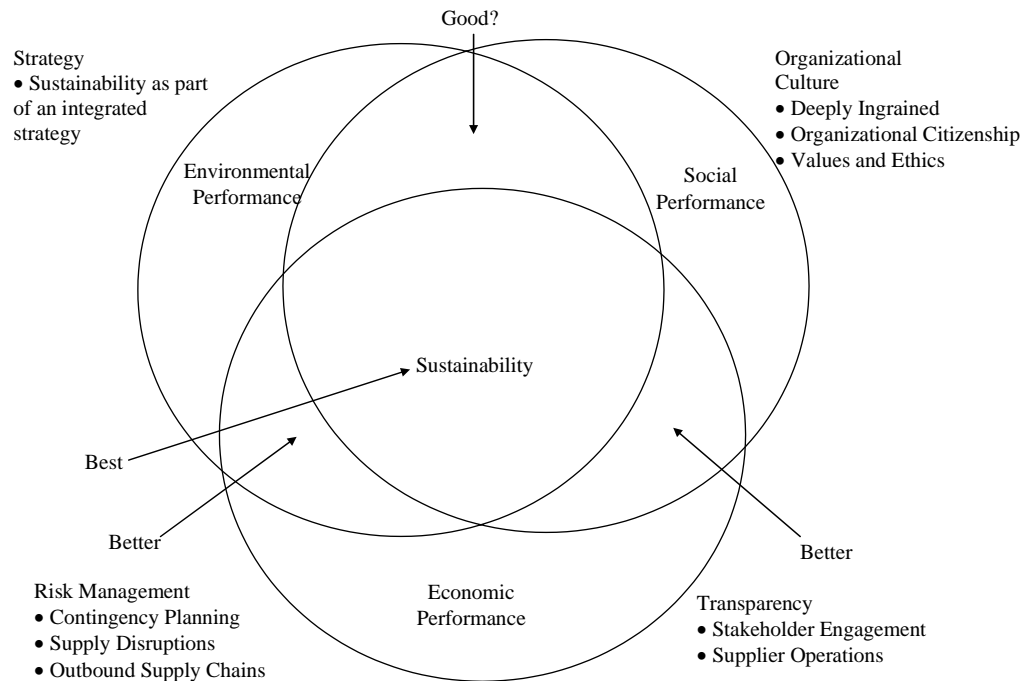
When it comes to the category of "risk management", Table 1 displays that risk management is the dimension with the lowest rate with 8.5% in SSCM performance. 26 out of 305 entries are under this category. Considering the sub-categories attributed to this dimension, there are "contingency planning", "supply disruptions" and "outbound supply chains", and the percentages of these sub-categories are 4.3%, 0.6%, and 3.6% respectively. Among these sub-categories, the sub-category of "supply disruptions" has the lowest rate as illustrated in Table 1.

On the other hand, it could be seen that 91 out of 305 entries fall into the "transparency" dimension, and the ratio of this category in the total analysis is almost 30%. However, the majority of this rate is composed of the sub-category of "stakeholder engagement" with 20% whereas the sub-category of "supplier operations" consist of 10% of this category.

With an aim to provide an in-depth understanding of the third research question, which is about the investigation of the companies' position in terms of SSCM, the companies were analyzed based on the expressions "good", "better" and "best" in Figure 2 that Carter and Rogers (2008) created as a model. In addition to this, the companies' deficiencies in the dimensions demonstrated in the model were also revealed. With this aim, the practices of the companies in each dimension were analyzed

separately, and then the companies were categorized accordingly. Considering the practices and applications of the companies in sub-categories, it was observed that 22 out of 30 companies were not included in any of the expressions “good”, “better”, and “best”. In addition to this, it was observed that the two companies had SSCM at the “best” level by taking into consideration both strategy and organizational culture dimensions. On the other hand, one company had SSCM at “better” level with its applications and practices in economic and environmental dimensions. The remaining 5 companies, on the other hand, indicated that they had SSCM at both “good” and “better” levels in all the categories, except for the “risk management” category. The elimination of the shortcomings of these 5 companies in “risk management” will enable them to have SSCM at the “best” level.

**Figure 2: Sustainable Supply Chain Management (Carter & Rogers, 2008)**



## 5. DISCUSSION AND CONCLUSION

The main purpose of the study is evaluation of sustainable food companies within the scope of SSCM. What was striking in this study was the examination of the supply chain management of the companies that are members of the “Sustainable Food Platform” in terms of sustainability. This is due to the assumption that companies can not integrate sustainability into their supply chain management because although sustainability is a well-known concept among companies, it is a difficult concept to integrate into the supply chain. For this reason, first, 30 food companies as a sample of the study were evaluated according to the TBL approach, and then they were analyzed with the expanded TBL approach that was elaborated for SSCM by Carter and Rogers (2008). As a result of the analysis, it was found that 23 out of 30 companies included in the study were sustainable companies that act in accordance with the TBL approach. This finding demonstrated that the companies included in the analysis are sustainable food companies in accordance with the study. Furthermore, it was observed that the main focus of the food companies is the economic sustainability dimension within the scope of SSCM. In addition to their preliminary focus on the economic dimension, it could be stated that companies also give importance to the social dimension. In this sense, as the social dimension is also beneficial for the companies in economical manner (Wang & Dai, 2018), it is natural for companies to focus on the social dimension. When the sub-categories were analyzed in detail, it was discovered that companies especially ignore the “risk management” issue. Interestingly, under this category, the dimension of “supply disruptions” is hardly taken into consideration by the companies because “supply disruptions” not only cause economic damage to businesses but also it causes loss of profitability and products environmentally. In addition to this, it is striking that the vast majority of the companies were not included in any of the expressions “good”, “better”, and the “best”. This finding is the most eye-catching finding of the study. It is

seen that although food companies embrace sustainability, they cannot fully provide SSCM. In line with the literature, the reason for this could result from the difficulty in going out of the supply chain (Shaverdi et al., 2016), the high cost of SSCM (Gedik, 2021), difficulties arising from uncertainty (Abbasi, 2012), and the difficulties experienced in management and organization (Yadav et al., 2020). At this point, food companies need to give importance to the concept of "risk management" in order to cope with these difficulties. All in all, considering the findings of the study, it could be stated that sustainable companies have an unsustainable supply chain, and this results from the scarcity of the practices and applications for "risk management". Focusing on "risk management" will not only eliminate the problems arising from uncertainty but also reduce the costs significantly. In addition, considering the companies within the scope of the study, the improvement of the companies themselves in the issues related to "risk management" will take them to the "best" situation in SSCM.

In conclusion, 30 food companies that have sustainability pages on their corporate websites were evaluated within the scope of SSCM in this study. As a result of the data findings, it was revealed that although the companies adopted sustainability, they were not able to perform SSCM comprehensively and completely. With this study, it has been revealed that the main problem that is experienced by food companies in their SSCM is caused by "risk management". However, since the study did not specifically focus on the "risk management" issue, it could not be found why the food companies had difficulties in this area. For this reason, there is a necessity for further studies that focus on "risk management" and investigate the reasons for the difficulties of the companies in this area. Such further studies focusing on "risk management" will enlighten businesses and contribute to the field.

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