



## The Contribution of Reverse Supply Chains to Supporting Business Sustainability: A Survey Study in Ishtar and Hilal Companies in Iraq

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### Abstract

The current study mainly aimed to: Range test the contribution of reverse supply chains to enhancing business sustainability is a relatively new concept in management thought. To achieve this goal and the remaining objectives of the study, which aims to address the study problem that revolved around examining the reality of the study variables and their sub-dimensions to identify their positive and negative aspects and their reflection on the nature of the relationship and impact between them, this was achieved by adopting a descriptive and analytical approach.

The primary data were collected, which relied mainly on the questionnaire that was designed and constructed from a theoretical framework that reflects the views of researchers interested in reverse supply feedback and business sustainability, with it being initially presented to the study sample and a group of experts and arbitrators specialized in business administration before distribution, and some amendments and additions were made to it. (80) questionnaires were distributed to a sample of managers, department heads and related employees, and (70) valid questionnaires were retrieved for analysis. The study hypotheses were tested using a set of statistical methods that are appropriate to the nature of each hypothesis in order to reach accurate results.

**Keywords:** Reverse Supply Chain, Business Sustainability

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### Introduction

Currently, the interest in developing the industrial sector in general has increased by governments in order to expand this sector due to its direct impact on the public interests of society, to reduce the phenomenon of dependence on foreign countries and to achieve economic stability in society. The development of industry should not be at the expense of sacrificing environmental elements through the emissions and waste it produces that are harmful to the environment, because the growth of environmental awareness and the trend towards the sustainability of resources and government legislation have become difficult challenges facing production and operations management, and this justifies the companies' rush to pay attention to reverse supplies.

To achieve this, this study represents an attempt to measure the impact of reverse supply feedbacks represented by (manufacturing feedback, distribution feedback, customer feedback) and its relationship to business sustainability, as the subject gains great importance due to its fundamental effects in determining the general direction of the activities of the companies studied. Reverse supply chains are gaining increasing attention among many writers in light of the challenges facing companies, both in their internal operating environment, in terms of the need to use their available resources and capabilities efficiently, and in their external operating environment, such as the pressures of competition in the markets. Therefore, it has become necessary to make sustainability a key strategic goal for companies, especially for companies that wish to grow and continue operating, because sustainability can achieve what companies aspire to in terms of environmental conservation, in addition to the financial returns that they can obtain.

In line with the above, a hypothetical diagram was constructed that defines the nature of the relationship and influence between the independent variables represented by the reverse supply feedbacks and the dependent variables represented by business sustainability. A set of main and sub-hypotheses emerged from it, which were tested using statistical means for the data collected from the companies in the field of study.

#### **First: The problem of the study**

can be formulated with the following questions:

Is there a correlation? Moral relationship between reverse supply feedback and business sustainability in the researched companies?

Is there a moral effect? For reverse supply feedbacks in Business sustainability in the researched companies?

#### **Second: The importance of the study:**

current study is evident in the vitality of the topic it addresses, which focuses on the feedback loops on the one hand and the dimensions of business sustainability on the other, especially since the modern trend of industrial companies focuses on preserving the natural environment and human health, which has become an ethical imperative for contemporary organizations. The study also gains academic importance, represented by the scarcity of studies and applied research in this field, especially in the Iraqi environment - according to the researcher 's knowledge - while the importance of the field study lies in providing the foundations that enable the researched companies to identify the contributions of feedback loops in these companies towards enhancing their business sustainability and identifying the implications of this relationship at the level of the researched organizations.

#### **Third: Study Objectives:**

In light of defining the study problem and its importance, the study seeks to achieve the main objective of identifying the extent to which reverse supply feedback contributes to enhancing business sustainability.

#### **Fourth: Study Hypotheses:**

There is a positive significant relationship. Between each of the reverse supply feedbacks and business sustainability in the researched companies.

There is a positive moral effect of each of the reverse supply feedbacks on business sustainability in the researched companies.

#### **Part One: Reverse supplies**

##### **First: The Concept of Reverse Supplies**

The concept of logistics originated in the military, as it began to be used in the French army in 1905 with the aim of ensuring the arrival of supplies and ammunition at the appropriate time and in the best possible way. It was then used extensively during World War II, where it was one of the factors of victory. The armies, and as soon as the World War ended, studies began to apply supplies in the field of business, where it was known as Business Logistics Studies conducted in this field have shown that about 40% (on average) of the cost of producing any commodity in developed countries is due to supply activities. (Zhou, 2002) [8].

In the context of presenting the concept of reverse supply, we should mention that the prevailing form of supply is related

to managing the flow of products from their places of production to customers. However, there is another reverse form of supply practiced by many contemporary organizations, especially industrial organizations, known as reverse supply. Based on this, the concept of reverse supply represents a third concept of supply, as the definition of supply usually takes Two main trends, the first of which is to focus on the management of materials that Cover all Jobs since Get on the material Raw to Production in the factory. While the second definition includes a movement Products from Factory to Customer Final (Ghanem, 2010) [3], and the two previous trends represent what is called With forward supplies that can be defined as planning And implementation And monitoring efficiency and flow effectiveness and storage Goods and services from a point Origin to The company And The company to a point Consumption For the purpose of meeting requirements Customers (Colligan, 2015) [4].

#### **Secondly: The importance of reverse supplies**

Growing environmental concerns around the world have forced companies to engage in reverse logistics, such as reusing and recycling products and materials. In practice, most companies deal with returns due to damage, overstocking, or marketing returns. Dealing with returns represents a significant challenge for companies, while in many cases, it becomes essential to maintain customer satisfaction. Reverse logistics operations in the supply chain can be viewed as an introduction to innovative services for the company and can have a significant impact on the company's strategic performance in terms of market effectiveness and cost efficiency. Through reverse logistics, it may be possible to expand revenue through market growth and improved customer satisfaction. Therefore, reverse logistics has become an important area for achieving competitive advantage. Many researchers agree on the importance of reverse supplies as follows:

**Increased Revenue:** Companies that ensure timely delivery and processing of returns can generate more profit from returned products by refurbishing, reselling, or recycling them. Returned products are often untapped sources of revenue through secondary market sales, and there is more reason to think of returns as revenue-increasing opportunities.

**Maintaining profits:** Properly handling returns and tracking all related activities helps businesses avoid fines and penalties from various government regulatory agencies such as the Food and Drug Administration, the Consumer Product Safety Commission, and other state and federal agencies.

**Increased Customer Loyalty:** Companies that are considered the best in reverse logistics generally have a greater customer satisfaction advantage than a competitive advantage.

**Benefits of Proper Disposal:** Knowing what is returned and where it ends up makes it easier for businesses to manage regulatory issues and offers numerous benefits, such as cost avoidance, limiting excess and waste, reducing taxes and insurance, and managing staff levels.

#### **Third: Motives for reverse supplies**

Reverse flows have become important because organizations are under increasing pressure from multiple stakeholders including shareholders, customers, employees, suppliers,

government agencies, non-profit organizations, and the general environment due to environmental issues, legislation, and consumer expectations. There are several key factors that drive companies to implement reverse logistics, many researchers agree on the opinions of Economic factors, legislation, and corporate citizenship (Social factors) and protection of origin, all of them

### 1. Economic motives

Recycling or reusing products provides significant gains for companies. In some cases, reusing products can be a cheap source of raw materials. Sometimes, producing new products is much more expensive than recovering them. Therefore, reverse logistics activities can bring direct economic benefits, such as reducing the use of raw materials and increasing added value through recovery and resale, as well as indirect economic gains, such as improving customer or supplier relationships, protecting the market, and building a green image for the company. (Evans & Hammer, 2003)<sup>[9]</sup> believe that industrial companies aim to improve their production efficiency by reducing costs and increasing the added value of products to obtain significant economic benefits. This is achieved by conserving raw materials and energy, reducing their consumption, and reducing emissions. The waste and saving the costs of treating the generated waste that requires allocations Financial To get rid of from it.

(Ravia & Shankar, 2004)<sup>[11]</sup> add that companies are constantly seeking to achieve cost savings in their production processes. If the company does reverse supply chains well, it will achieve financial gains through remanufacturing, repairing, reshaping, and recycling products, which can lead to profitable business opportunities.

### 2. Legislation

Legislation states on that The company He should that recover Its products or acceptance Put it back where it was there more in Legislation Self The connection Especially in the environment in Europe, where the European Union has made waste recovery a producer's responsibility due to increasing concerns about its impact on the environment, the company must bear responsibility for the costs of collection, sorting, processing, recycling or recovery at the end of the goods' life cycle. It was an industry Cars And industry Equipment electrical Electronics is the most facing industry. pressures Legal In this regard. And sometimes Companies do By participating in the charters Voluntarily, Either from Okay Dealing with Legislation or Readiness The aim of the European Community Packaging and Waste Directive is to reduce the environmental impact of packaging waste through recovery and recycling processes or through reduction and reuse of waste within the framework of what is known as mandatory recovery and recycling targets. All these legislations that encouraged recovery and recycling processes motivated manufacturers to provide environmentally friendly designs that take waste management into account. They also imposed on sellers and distributors the necessity of adhering to instructions for returning waste from consumers, especially waste electrical and electronic equipment (Hickford & Cherrett, 2007)<sup>[6]</sup>.

### 3. Corporate citizenship

It indicates Citizenship The company For the group from values or Principles which urges the company On work Responsibly with Activities Supplies Reverse, motivations

One of them is creation Green image of the company Being a company Responsible Environmentally, And more level consciousness Customers about returns and recovery options, including Guarantee presentation Services better affect On the picture The company In a way positive And provide Benefits potential This has made corporate citizenship an important marketing tool and an effective factor in improving customer relations. Many companies around the world, such as Shell, practice citizenship programs and make social and environmental issues among their priorities (Hickford & Cherrett, 2007)<sup>[6]</sup>. Another example of this is the company Nike, a shoe manufacturer, encourages consumers to bring their used shoes to the stores where they purchased them. The company ships them to the company's factory, where they are shredded and turned into basketball courts and running tracks. Where it is It is donated by Nike, thus enhancing its brand value. (Ravia & Shankar, 2004)<sup>[11]</sup>. In most countries, customers have the right to return goods purchased through sellers or by email, as the company is legally obligated to provide the opportunity to return products. This method is a tool to attract customers by providing them with a waste disposal service and bringing potential benefits to the company. (De Brito & Dekkar, 2003).

### 4. Protection of the origin

Among the motives Other For companies to restore Its products after Utilization is the protection of the origin by recovering all of its own goods in order to maintain a competitive advantage, and with this the method seeks Companies To prevent leakage the components sensitive to Markets High school Or to Competitors (Ranade, 2004)<sup>[7]</sup>.

#### Fourth: Obstacles to reverse supplies

Although from that practices Reverse supply related may helped In cases protection The environment, however practice These methods that It intensifies need To her no Empty from Barriers and obstacles that lead to the failure of reverse supply operations, as agreed by (Ravi & Shankar, 2004)<sup>[11]</sup> (Janse, 2008, 36) (De Brito et al., 2002, 15) that they include:

**Limited planning and forecasting:** This is a direct problem for strategic, operational and financial planning and occurs due to the variability of return flows in terms of time, quality, quantity and location. Changing behaviour on the part of customers, competitors and suppliers requires reverse logistics programmes.

**Weak technology and information systems:** This is one of the biggest obstacles facing companies implementing reverse logistics. The type of manufacturing technology and materials used determine the company's ability to recover goods after their end of life or end of use.

**Lack of commitment from senior management:** Companies must ensure that their backhaul activities align with their other organizational objectives by integrating all members of the supply chain to ensure successful implementation of business plans.

**Lack of a clear returns policy:** The sales department sometimes doesn't take responsibility for commercial returns, and service levels and return policies vary in commercial agreements with channel members.

**Non-Presence System Suitable to Manage Performance:** Problems Home in coordination Supplies Reverse Be because of Quality of information Regarding the returned goods, they are either not present or poor, Or because of not clarity Vision in Recovery process and measures Performance

The company's policy is to create a positive brand image in the customer's mind. The company does not want to compromise the quality of its final products by using recalled products.

## Part Two: Business Sustainability

### First: The concept of business sustainability

Sustainability is derived from the Latin word "sustinere." The word sustainability has many meanings and is interpreted in different ways, but the most common interpretation refers to human development. On the ground, As for whom? The side Linguistic The origin Returns term Sustainability (sustainable) to science Ecology Ecology) where it was used Sustainability To express on Formation and evolution of systems Dynamic that Be vulnerable to Changes Structure Leads to Occurrence change in features and elements Relationships With each other and in The concept Developmental, use term Sustainability To express on nature relationship between science Economy Ecology on consideration that Alamein Derivatives from same origin where It begins B - (ECO) in the language Arabic And back to Meaning Linguistic, that he Entrance Main Which Helps in to set Meaning Terminological Flour, Lost came verb Sustain that His roots (Always) In Ma'an Multiple From it Patience in The thing And perseverance On him (Abu, 2014) [1].

There are many definitions of sustainability. But it can be explained as the ability to survive, it can represent the ability of society to stabilize or maintain certain activities. Since society depends on the environment as a source of resources and energy to carry out these activities or practices, society must limit its negative impact on the environment in a way that ensures the safety of the supply of materials and energy so that society can sustain itself. His practices (4, 2010, Romaniw).

### Second: The importance of business sustainability

The importance of adopting business sustainability by organizations lies in For several reasons, including non-renewable resources such as energy, materials and water, the economic crises that the world has faced in recent years have contributed to raising... Questions about the effectiveness of current business practices aimed at economic growth and not concerned with reducing the impact of their activities on the external environment, and hence There has been increasing pressure from many stakeholders (employees, investors, suppliers, customers, competitors, local communities, governments, and regulatory bodies) on the importance of adopting sustainability in business (Rosen & Kishawy, 2012). Therefore, sustainability has become of great importance as it contributes to the profitability of the organization by reducing its costs and optimizing its operations, contributes to reducing the consumption of natural resources, enhances its brand, and provides competitive advantages. In another context, sustainability helps organizations generate innovation by encouraging inquiry and learning among employees, reducing administrative risks, and improving labor costs (Tonello & Singer, 2015, 2).

It also contributes Business sustainability in increasing revenues, conserving energy and reducing Lost Which leads to reducing the total costs of the organization, Therefore, organizations that do not care about sustainability issues You will be at a competitive disadvantage. Thus, business organizations realized that sustainability has an important role in Generating future growth, which It leads to ensuring significant economic gains that stimulate purposeful innovations and limit the organization's impact on the environment (Molamohamadi & Ismail, 2013) [10].

From the above, it can be said that there are many reasons behind the interest in sustainability in the business and corporate environment at the present time, including concern for society, the environment, government regulations, stakeholder pressures, or economic profit, as these are considered reasons for the potential profitability of a company that implements a sustainability project in terms of reducing costs, achieving optimization of operations, generating innovation, reducing consumption of natural resources, enhancing the brand, and maximizing competitive advantage.

### Third: Business Sustainability Goals

One of the goals that organizations seek to achieve through sustainability is to increase... Rafa Hiya the society to maximum end and the judiciary On poverty from during Usage optimum For resources Natural and relationship between nature And humans And improve Ways to obtain on Services Health and educational basic, Loyalty At the limit The lowest from Standards Security Respect for rights Human and development Cultures Different and diversity

### Fourth: Business sustainability dimensions

**The concept of environmental dimension:** It is imposed The after Environmental For sustainability necessity Governorate on a base Fixed from Resources natural Following patterns production And exploitation For resources natural In a way rational To avoid attrition excess For resources renewable And other Renewable and guaranteed Diversity vital, And purity air And fertility soil And the governorate on Diversity Biological, Focuses Specialists In the field of the environment in Their approach For sustainability on The concept of " borders " environmental " which It means that For all system natural borders Not possible Get over it from exploitation and that excess to exploit This is amazing Resources It means deterioration order Environmental, The way only To protect this order he limit from following Patterns Production and consumption bad, like drain water Al-Jawfiyah And superficiality, And cutting down trees forests and others social dimension.

Agree everyone on that Responsibility Social For companies she Consideration Interests Social and environmental In its management And in administration Her relationships with Owners interests The goal from that he Saturation Their desires Therefore, it can be said that Responsibility Social For companies no It varies on Objectives Basic For business sustainability, it is achieved social sustainability when Available Resources necessary To meet needs Generations Coming soon from Opportunities education, And the services Health, Also from Rates Acceptable for level Living Which avoid border and rates Poverty. (Boyd, *et al*, 2008, 12) In sustainability according to this Dimension she ability on to provide Resources and rights that Allow For humans with

guarantee luxury in Living Like a gravel on necessities Basic from food And health And education And education And he lived And also get on Services and goods whether She was Eye or Moral And contribute in life Politics And protection Their rights And to achieve This is amazing Sustainability Requires presence harmony inside same Society and ensuring the provision of a harmonious social fabric away on tensions and conflicts Politics and economic and ecology Which Encourage on exacerbation Inequality And it will be order sustainable socially in investigation justice in distribution, And receipt Services Social as health and education to I need it and equality in Type Social and accounting Politics And participation Popular Sustainability Social she the situation that He is In it Humans Able on growth and development on road equality in income and wealth And confront unemployment And high Rates crime And thus Then loss Security Leads To destruction environmental (Smouts, 2005, 5).

**The concept of economic dimension:** Sustainability According to Dimension The economist It is protection Capabilities yield And provide it And guarantee it from one generation to another, and with it any society can that acquire development In a way no infinite whether from His side Technical and technology or from side ability on a guarantee Levels income growing from generation Finally, the economic dimension focuses on the long- and short-term value generated by the organization and its connection to the organization's sustainability. Thus, economic sustainability includes intangible assets in both manufactured and financial capital. It is measured by the ability to build economic wealth and advance both social and environmental sustainability equally. that Dimension Economic sustainability requires Stop dissipation Resources Economic Esotericism And other Esoteric, and procedure Discounts Continuous from Levels Consumption High For energy and resources natural, Therefore, it places the economic dimension In front of him all Results Environmental consequential on Activity Economic, And it is existing on basis Use Resources that be It is possible Replace her or Renewed ,<sup>4</sup> hence no Be exhausted For her, and can Defining it as the progress of society on road Accreditation Methods productivity New better And raise Levels Production from during development Skills and energies humanity And created Organizations Better, this one. Please on more capital accumulated in Society on bitter time, And it also represents progress and development And update And maybe Manufacturing And it

returns that to that countries that I achieved high economic level she developed and advanced countries And modern And industrial) Abdul He stressed that the system sustainable economically he order that can from production Goods and services In a way Continuous and Maintains on level specific Acceptable For management from balance The economist what between Output The year parents year, And to prevent Occurrence Disorders Social Resultant on Policies The company's economics .

### Part Third: Field Framework of the Study

This chapter highlights the presentation of the trends of the respondents' answers towards the main study variables and their dimensions, in addition to providing an answer to the study's questions and verifying the validity of its hypotheses. The statistical program (SPSS var.14) was used to calculate frequencies, percentages, arithmetic means, standard deviations, response rates, and the coefficient of variation, in addition to testing the study's hypotheses .

### First: Analysis of the results of correlation relationships

This paragraph aims to verify the validity of the third main hypothesis of the study and the sub-hypothesis emanating from it, as follows:

Analysis of the results of the correlation relationships between the feedbacks of the reverse supplies (Overall) and business sustainability

This axis focuses on testing the validity of the third main hypothesis, as the results in Table (1) indicate the existence of a significant correlation between the returns of reverse supplies and business sustainability at the overall level, as it reached (0.74 \*) at a significance level of (0.05), and this is evidence of the strength of the relationship between the two variables. This result also indicates that the more the companies surveyed are interested in reverse supplies, the more Whenever it contributes to strengthening Sustaining its business by continuously increasing profits and reducing environmental impacts on society, This is consistent with the results of the study (Cullen, *et al.*, 2010, 2) which shows that the ultimate goal of reverse supply is to improve or make the after-sales activity more efficient and thus save money and reduce the environmental impact and ultimately enhance business sustainability. Thus, the third main hypothesis is accepted which states (there is a positiv significant relationship between the combined returns of reverse supply and business sustainability in the companies studied).

**Table 1:** Results of correlations between reverse supply feedbacks (Overall) Business Sustainability

Explanatory variable Responding variable	Reverse supply feedbacks
Business Sustainability	0.74 *

N=70, 0.05 ≤ P \*

### Analysis of the results of the correlation between reverse supply feedbacks (individually) and business sustainability

This axis focuses on testing the validity of the sub-hypothesis arising from the third main hypothesis, as it is clear from Table (2) that there is a significant positive relationship between Each of the feedbacks of the reverse supply and

business sustainability, as the value of the general average of the correlation coefficient reached (0.74 \*) and at a significance level of (0.05), as Table (2) displays the results of the analysis of the correlation relationships between the feedbacks of the reverse supply represented by (manufacturing feedback, distribution feedback, customer feedback). And business sustainability, as follows.

**Table 2:** Results of correlations between reverse supply feedbacks (individually) And business sustainability

Variable Interpretive	Reverse supply feedbacks		
	Manufacturing returns	Distribution returns	Customer feedback
Business Sustainability	0.62 *	0.54 *	0.50 *

N=70, 0.05 ≤ P \*

**A. The relationship between manufacturing feedback and business sustainability**

The results in Table (2) indicate that there is a significant correlation between manufacturing returns and business sustainability, as its value reached (\* 0.62) at a significance level of (0.05). This result indicates that the increased interest of the surveyed companies in manufacturing returns will contribute to enhancing the sustainability of their businesses by reducing environmental pollution. This result is consistent with the opinion of (Karlsson, 2011, 21), where he indicated that reducing waste Operation from Materials Raw and production The defect leads to mitigating its negative effects on health and the environment. And to increase Revenue The organization And supports Its center Financial and thus enhance business sustainability.

**B. The relationship between distribution returns and business sustainability**

The results in Table (2) indicate that there is a significant correlation between manufacturing returns and business sustainability, as its value reached (\* 0.54) at a significance level of (0.05). This result indicates that the increased interest of the surveyed companies in distribution returns will contribute to enhancing the sustainability of their businesses by reducing environmental pollution. This result is consistent with the opinion of (Fleishman, 2011, 27), who indicated that this type of returns is economically attractive because it is used frequently and directly. It is also attractive from an environmental perspective because packaging materials have become the target of environmental legislation because they constitute the largest proportion of waste, which will contribute to enhancing business sustainability.

**C. The relationship between customer feedback and business sustainability**

The results in Table (2) indicate that there is a significant correlation between manufacturing feedback and business sustainability, as its value reached (\* 0.50) at a significance level of (0.05). This result indicates that the increased interest of the surveyed companies in customer feedback will contribute to enhancing the sustainability of their business through, and this result is consistent with the opinion of

(Fleishman, 2000, 27) where he indicated that customer feedback contributes to achieving a balance between performance and marketing with environmental factors, reducing environmental pollution and conserving energy, thus enhancing business sustainability.

**Second: Analysis of the results of influence relationships**

This paragraph concerns verifying the validity of the fourth main hypothesis and the hypothesis arising from it, according to the following:

**Analysis of the impact results between reverse supply feedbacks (Overall) and business sustainability**

Table (3) of the regression analysis shows that there is a significant positive impact of the combined reverse supply feedbacks as explanatory variables on business sustainability, considering them as responsive variables, as the calculated value of (F) reached (80.424) at two degrees of freedom (1.68) and a significance level of (0.05). The coefficient of determination (R<sup>2</sup>) reached (0.542), which means that (54.2%) of the explained differences in business sustainability are due to the combined effect of the reverse supply feedbacks, and the rest is due to random variables that cannot be controlled or are not included in the regression model at all. By following the coefficient (B<sub>1</sub>), it is clear that increasing the interest in reverse supply feedbacks by one unit leads to a change of (0.842) in business sustainability, while the coefficient (B<sub>0</sub>) means that the company under study achieves business sustainability regardless of the effectiveness of reverse supply feedbacks. By following the calculated (T) test of (\* 8.968), we find that it is a significant value and greater than its table value (0.833) at a significance level of (0.05) and a degree of freedom of (1.68). This result is consistent with the opinion of (Al-Zaidi, 2011). 36) He pointed out that interest in reverse supplies It contributes to value recovery. Preserving the environment and sustaining resources, thus enhancing business sustainability. Thus, the fourth main hypothesis is accepted, which states: "There is a positive, significant impact of the combined effects of reverse supply chains on business sustainability in the companies studied."

**Table 3:** The impact of reverse supply feedbacks (overall) on business sustainability in the companies under study

Independent variable Dependent variable	Reverse supply feedbacks		R <sup>2</sup>	F	T	
	β <sub>0</sub>	β <sub>1</sub>			The Calculated	Tableau
Business Sustainability	0.736	0.842	0.54	80,424	8,968	0.833

N=70, DF=0.05 (1.68) ≤ P\*

**Analyzing the results of the impact relationships between reverse supply feedbacks (individually) and business sustainability .**

This paragraph is concerned with verifying the validity of the sub -hypothesis arising from the fourth main hypothesis is as follows:

**Table 4:** The impact of reverse supply feedbacks (individually) on business sustainability in the companies under study

Independent variable Dependent variable		Business Sustainability		R <sup>2</sup>	F	T	
		$\beta_0$	$\beta_1$			The calculated	Tableau
Reverse supply feedbacks	Manufacturing returns	0.436	0.425	0.378	41,312	4.83	0.730
	Distribution returns	0.291	0.281	.289 0	27,691	3.129	0.730
	Customer feedback	0.246	0.215	.254 0	23,198	2.663	0.730

N=70, DF=0.05 (1.68)  $\leq$  P\*

### The Impact of Manufacturing Feedback on Business Sustainability

It is clear from Table (4) that there is a positive, significant effect of manufacturing feedback on business sustainability, and this effect is supported by the calculated (F) value of (41.312). At two degrees of freedom (1.68) within a significance level of (0.05) with a coefficient of determination (R<sup>2</sup>) of (0.378), this means that 37.8% of the explained differences in business sustainability are explained by manufacturing feedbacks, and the rest is due to random variables that cannot be controlled or are not included in the regression model at all. By following the value of the coefficient (1 B), it becomes clear that increasing the interest in reverse supply feedback by one unit leads to a change of (0.425) in business sustainability. As for the coefficient (B 0), it means that the company under study achieves business sustainability regardless of the effectiveness of reverse supply feedback. By following the (T) test, it became clear that the calculated (t) value (\* 4.834) is greater than its table value of (0.730) at a significance level of (0.05) and two degrees of freedom of (1.68), which is consistent with the results of the study by (Hickford & Cherrett, 2007) <sup>[6]</sup> where he emphasized the importance of the role played by manufacturing feedback in its impact on financial performance, as it helps the company get rid of waste and emissions caused by production processes through the return process, which would achieve cost reductions for the company and reduce prices, thus increasing sales, and ultimately enhancing business sustainability.

### The Impact of Distribution Returns on Business Sustainability

It is clear from Table (4) that there is a positive significant effect of distribution feedback on business sustainability. This effect is supported by the calculated (F) value of (27.691) at two degrees of freedom (1.68) within a significance level of (0.05) with a coefficient of determination (R<sup>2</sup>) of (0.289). 0 This means that 28.9% of the explained differences in business sustainability are explained by distribution feedbacks and the rest is due to random variables that cannot be controlled or are not included in the regression model at all. By following the value of the coefficient (1 B), it becomes clear that increasing the interest in distribution feedbacks by one unit leads to a change of (0.281) in business sustainability, while the coefficient (B 0) means that the company under study achieves business sustainability regardless of the effectiveness of distribution feedbacks. By following the (T) test, it became clear that the calculated (T) value (\* 3.129) is greater than its tabular value of (0.730) at a significance level of (0.05) and two degrees of freedom of (1.68), which is consistent with the results of study (Liu, 2007) <sup>[8]</sup> where he emphasized that distribution returns help the organization get rid of waste and emissions caused by returned products due to the dangers they pose to human health, which would achieve the company's business sustainability.

### The Impact of Customer Feedback on Business Sustainability

It is clear from Table (4) that there is a positive moral effect of customer feedback on business sustainability. This effect is supported by the calculated (F) value of (23.198) at two degrees of freedom (1.79) within a significance level of (0.05) with a coefficient of determination (R<sup>2</sup>) of (0.254). 0 This means that (25.4%) of the explained differences in business sustainability are explained by customer feedback, and the rest is due to random variables that cannot be controlled or are not included in the regression model at all. By following the value of the coefficient (1 B), it becomes clear that increasing the interest in customer feedback by one unit leads to a change of (0.215) in business sustainability. As for the coefficient (B 0), it means that the company under study achieves business sustainability regardless of the effectiveness of customer feedback. By following the (T) test, it became clear that the calculated (T) value (\* 2.663) is greater than its tabular value of (0.730) at a significance level of (0.05) and two degrees of freedom of (1.79), which is consistent with the results of the study (Elmas & Erdogmus, 2011, 165), which showed that interest Reverse logistics has a positive environmental impact. Effective handling of customer feedback leads to reduced costs, increased profits, improved customer service, and value recovery through reusing or recycling products, parts, or materials, ultimately enhancing business sustainability.

## Conclusions and Suggestions

### First: Conclusions

1. There is a significant positive correlation between the returns of reverse supply chains (overall) and business sustainability at the level of the surveyed companies, indicating that the increased interest of the surveyed companies in reverse supply chains will contribute to enhancing business sustainability, which includes the idea that a company's pursuit of survival and growth in the business world can be achieved through the sustainability of its business.
2. There is a significant positive correlation at the micro level between reverse supply feedbacks and business sustainability at the level of the companies surveyed. And achieved Manufacturing feedback had the highest correlation among supply chain feedbacks with business sustainability, while customer feedback had the lowest correlation. The increased attention paid by the surveyed companies to each supply chain feedback and to the combined dimensions of business sustainability contributes to the company's achievement of its objectives, demonstrating the role each of these feedbacks plays in influencing business sustainability.
3. The study concluded, through the results of the simple regression analysis, that there is a significant positive effect of feedback. Reverse supplies (in general) in business sustainability at the level of the researched

- companies, and the researcher believes that the independent variable (reverse supplies) is directly effective in enhancing business sustainability in the researched companies.
4. The results of the regression analysis regarding the micro-level impact of reverse supply feedbacks on business sustainability at the level of the surveyed companies showed that (manufacturing feedbacks) achieved the highest percentage of significant impact on business sustainability, while (customer feedbacks) constituted the lowest percentage among those feedbacks in influencing business sustainability in the surveyed companies. This result is consistent with the result of the correlation relationships in this regard.
  5. The study concluded, through the results of the stepwise regression analysis, that the impacts of reverse supply chain feedbacks vary in their importance in enhancing business sustainability in the companies studied. This is due to the interest of the companies studied in these feedbacks and their repercussions on the extent of their harm to the environment and humans and the reduction of production costs.

### Second: Proposals

1. Should pay more attention to reverse supply feedbacks equally. In order to achieve its goals of preserving the environment, reducing costs and gaining a competitive advantage. Thus, remaining in the business world and growing in its various fields, and avoiding weaknesses and shortcomings in some of its components, such as working to increase research. On alternative uses for by-products from the manufacturing process to prevent pollution Reducing material consumption and reducing costs by focusing on the research and development process and allocating the necessary resources for this process.
2. Commitment The process of recovering packaging for environmental considerations and remanufacturing or reusing it, and working to find appropriate mechanisms to put in place a set of steps aimed at upgrading this process, as well as committing to recovering expired products and their productive life by introducing information and communication technologies and related smart applications to alert companies of the date of the approaching expiration of products, including the name of the product, the expiration time of the product, the agent, and his place of work for the purpose of communication and in a better way, in addition to establishing reverse production lines that work to disassemble the parts of the product and benefit from the usable parts.
3. The necessity of promoting the dimensions of business sustainability in the companies studied and increasing interest in the environmental dimension by establishing a culture of sustainability and providing support from senior management and its commitment to providing all the necessary requirements to preserve the environment through Holding courses and workshops and issuing brochures and electronic awareness bulletins throughout the company that would spread awareness and culture in this field. Conducting detailed studies on how to provide technologies for rainwater collection for use in manufacturing processes, and focusing on research and development and allocating the necessary resources to sustain this process .
4. Develop appropriate programs and activities to manage relationships with external stakeholders, as well as conduct effective dialogue with them on sustainability issues through meetings, conferences, etc. Employ experts to develop appropriate and necessary plans and policies aimed at preventing crises and providing the necessary activities and supplies to manage them should they occur suddenly.
5. It is necessary to work on launching training programs for the company's employees in order to develop their capabilities and raise their level of expertise with the aim of implementing and properly handling reverse supply activities, to facilitate reverse supply operations in the future.

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