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**THE IMPACT OF PSYCHOLOGICL  
FACTOR THAT EFFECT IN THE  
ADOPTION OF GREEN PRACTICES IN  
INDUTERIAL COMPANIES IN SUDAN**

SUPPLEMENTRY SEARCH TO OBTAIN A BECHELORS DEGREE  
IN BUSINESS ADMINSTRATION

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# الآية

قَالَ تَعَالَى: ﴿يَأَيُّهَا الَّذِينَ ءَامَنُوا إِذَا قِيلَ لَكُمْ تَفَسَّحُوا فِي الْمَجَالِسِ فَأَفْسَحُوا يَفْسَحَ اللَّهُ لَكُمْ وَإِذَا قِيلَ انشُرُوا فَاَنْشُرُوا يَرْفَعِ اللَّهُ الَّذِينَ ءَامَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ﴾

صدق الله العظيم

سورة المجادلة - آية (11)

**Abstract:**

This study aimed to measure behavioral factors that have influence on the green practices at Sudanese industrial companies. And the structure of this study model and hypotheses based on previous studies, the framework and hypotheses developed and measuring based on previous studies.

The data was collected from a probabilistic sample consisting of (215) questionnaire and (193) was retrieved. And it's analyzed to make sure that the degree of reliability of data was used confirmatory factor analysis exploratory method to test hypotheses of the study.

The result showed that the psychological factors are positively leads to intention of adopting green practices.

Despite these results entirely positive we advice for future studies to avoid this study limitation and deepen and understanding green practices.

## مستخلص الدراسة:-

هدفت هذه الدراسة لقياس العوامل السلوكية على تبني الممارسات الخضراء في الشركات الصناعية السودانية واعتمد نموذج الدراسة والفرضيات على الدراسات السابقة التي طورت وقيست بناء على الدراسات السابقة . وقد تم جمع البيانات من عينه احتماليه مكونه من 215 استبيان وتم استرجاع 193 استبيان و للتأكد من درجة مصداقية البيانات تم استخدام التحليل الاستكشافي العامل ولاختبار الفرضيات الدراسة قامت باستخدام برنامج التحليل العملي التوكيدي واطهرت النتائج ان العوامل السلوكية تؤثر ايجابيا على نية تبني الممارسات الخضراء.

بالرغم من النتائج الايجابيه لهذه الدراسة الا اننا ننصح بدراسات مستقبلية لتجنب محدوديات هذه الدراسة والتعمق في فهم الممارسات الخضراء.

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# CHAPTER ONE

## **The first section:**

General frame for research

### **Introduction:**

The behavioral intention is the stage of behavior readiness which is following the position and precede the action and it also mind readiness for position or possible behavioral action. And environmental intention is unexpected behavior stems from the perception, attitude or motivation [wiki 2015].

Although of the existence of studies there is not enough studies and it is a few, limited and rare and it was in advance countries such as USA, twain and Malaysia and it was focused on tourism and services sections and attributed to the weakness of the marketing in Sudan there is not any researchers studied the effect of implement green practices in the industrial foundations.

Conception of marketing has been developed in many stages until it arrived to green marketing via these orientations:-

Production orientation; which is depend on production because the demand is greater than supply

Product orientation: this is focused on quality of products

Selling orientation: this was focused on promotion.

Marketing orientation: which is focused on customer needs and marketing research.

The community orientation: green consumption refers to one of the many possible ways in which an individual can help reduce the negative impact



of human activities on the natural environment {"imran rah man., – denies rangeland2015}.

The holistic marketing orientation: This is focused on making the marketing job everyone's job in the company.

Nowadays the concern to the environment problems have increased high, the increasing numbers of environmental laws and pressures from the marketing has raised organization and manager's awareness of environmental practices.

{Chan.et.al2014]

### **Research gab:**

This research is studying the conception of community orientation and it is focusing on green marketing and the caring of practicing it in industrial organizations ,and that is because the mansions in this side and all of the previous studies was in advance countries like [Eris Chan et,a l 2014]in Malaysia

And the research by {rah man, Reynolds2015}. And the study of {Numkung –Jang2013} in USA

And the research of {Chou – chin – Wang2012} .

Previous studies indicate to the existence of relationship between environmental knowledge –environmental awareness –environmental concern and environmental attitude by ecological behavior and relationship between ecological behavior and intention to implement green practices [CHAN. at, el2014]. But it wasn't in industrial foundations or in Sudanese institutions.

**According to that the research problem centering on these questions:-**

1\ does the environmental knowledge, environmental awareness, environmental attitude environmental concern have effect on the intention to implement green practices in industrial foundations?

2\do the environmental knowledge has an effect on the ecological behavior?

3\ do the environmental awareness has effect on the ecological behavior?

4\ do the environmental concern has an effect on the ecological behavior?

5\ do the ecological behavior has an effect on the intention to implement green practices in the industrial foundations?

6\do the ecological behavior mediate the relationship between the environmental knowledge, environmental awareness and environmental concern, environmental attrite and intention to implement green practices in industrial foundations?

**Research Objective;-**

1\ To investigate the relationship between environmental knowledge, environmental concern, environmental awareness and environmental attitude with the ecological behavior.

2\To investigate of the role of ecological behavior on the relationship between environmental knowledge, environmental awareness, environmental concern and environmental attitude with the intention to implement green practices in industrial institutions.

3\ To investigate on the relationship between the ecological behavior and the intention to implement green practices in industrial foundations.

4\ measuring the effect of implement green practices in industrial foundations.

5\measuring scope of employees behavior toward to implement green practices in industrial foundations.

6\measuring the extent of implementing green practices in industrial enterprises in Sudan.

### **Theoretical and practical Significances:-**

#### **Theoretical Significances:-**

The theoretical implication of this research spins around the importance of studying the relationship between the psychological (environmental knowledge, environmental awareness and environmental concern and environmental attitude) and intention to adopt green practices with the ecological behavior as mediator variable and intention to implement green practices in industrial foundations.

Contribute of this study is filling the gap of previous studies that regards with the intention to implement green practices in industrial companies because there is a few studies in Sudan that studied this relationship.

Also the study help manager and decision maker on determine which factor have most effect on adopting green practices.

#### **Practical Significances:-**

Although there are a lot of environmental laws, but the industrial enterprises cannot be able to apply efficiently due to lake of knowledge and understanding of the behavior of workers.

This research is may help manger to know the importance of employees behavior toword implement green practice in industrial enterprises and also this study may encourage the employees on the exercise of green practices on the environment.

And also there are a lot of organizations that can benefit of this research can guide individuals toward interest on the environment, as well as the community can benefit from this research by increasing environmental individuals.

Therefore this research can provide warranty to implement environmental standers in practice activities by industrial enterprises.

### **The research Variables:-**

#### **Independent variable: -**

Environmental knowledge

Environmental awareness

Environmental concern

Environmental attitude

#### **Mediator variable:-**

Ecological behavior

#### **Dependent variable:-**

Intention to implement green practices in industrial foundations in Sudan.

## **The second section:**

### **Definition operationlization:**

#### **Behaviour intentions:**

"Deeply help commitment to rebury or repatronize preferred product or service consistently in the future" Young Numkung, \*, Soo Cheong (Shawn) Jung

#### **Environmental knowledge:**

Is the amounts of information individuals have concerning about environmental issues.(wiki)

#### **Environmental awareness:**

"Knowing of the impact of unman behaviour on the environment"(Eric chan2014)

#### **Ecological behavior:**

"Action which contribute toward environmental preservation and conservation"(Eric chan2014)

#### **Environmental concern:**

"Has been defined as a general or global audited associated with an individual's behavioral intentions"(Eric chan2014)

#### **Environmental attitude:**

"Is a mindset to act in a particular manner due to both an individual's experience and knowledge."?  
(Taciano L. Milfont)(wiki)

The third section: literature reviews

Table (1-1)

**Literature reviews:**

<b>No</b>	<b>The study</b>	<b>Year</b>	<b>The researchers</b>	<b>The aims</b>	<b>The problem</b>	<b>The result</b>	<b>Limitations and direction for future research</b>
1\	What drives employees' intentions to implement green practices in hotels? The role of knowledge, awareness,	2014	Eric S.W. Chan, et.al	1. Investigate how environmental knowledge, environmental awareness and environmental concern relate to ecological behavior, 2. Examine the effects of ecological behavior on intentions to implement environmental practices in	This study investigates the effects of three green triggers – environmental knowledge, environmental awareness and environmental	The results indicate that the three green triggers are positively associated with ecological behavior and ecological behavior is positively associated with intention to implement green practices in hotels.	1.the cross-sectional nature concerning causality speculative 2.the depended variables (ecological behaviour and intention to implement )=re based is on self assessment 3.was conducted in

	concern and ecological behavior			hotels, and 3. Suggest management strategies to hoteliers for enhancing employees' intentions to implement environmental practices.	concern – and employees' ecological behavior on their intentions to implement green practices in hotel companies.	Additionally, ecological behavior mediates the relationship between the three green triggers and intentions to implement.	hotels located in Hong Kong only
2\	Effect of Behavioral Intention toward Choosing Green Hotels in Malaysia -	2014	Husein Nezakati et.al	This research aims to propose a new Behavior Theory Reasoned Action and Planned models which are	This research tries to propose a new model by merging Theory Reasoned Action and Theory Planned	Findings of this research Will help the marketing policy makers and hotel managers to attract positional tourists who will visit Green hotels in Malaysia.	

	Preliminary Study			implemented in achieving intention of consumer behavior toward choosing Green hotel in Malaysia	Behaviour models which are Implemented in achieving intention of consumer behaviour toward choosing Green hotels in Malaysia.		
3\	Predicting green hotel behavioural intentions using a theory of environmental commitment	2015	Imrann Rahmana, Dennis Reynolds,*	This study developed a comprehensive model of consumers' behavioral decisions for or against staying at green hotels by employing environmental values in	This study addresses these gaps by developing a comprehensive model of consumer's green hotel	Results instrument revealed that biospheric values influenced consumers' willingness to sacrifice for the environment, which in turn affected their	1. this study utilized a self report survey , which recorded respondents perceptions of environmental value and behavior inattention



	<p>ment and sacrifice for the environment</p>			<p>combination with interdependence theory and the commitment model.</p>	<p>behavioral decisions.</p>	<p>green hotel visit intentions, their willingness to sacrifice to stay at a green hotel, and their willingness to pay more to stay at a green hotel. Moreover, consumers' willingness to sacrifice for the environment fully mediated the relationship between biospheric values and green hotel-specific behavioral</p>	<p>2. this study findings pertained to American hotels only.</p>
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						intentions.	
4\	Effects of restaurant green practices on brand equity formation: Do green practices really matter?	2013	<b>Young Nukmung,* , Soong (Shawn) Jung</b>	the specific objective of this study is to examine how green practices in restaurant affects customer based brand equity formation elements, such as perceived quality, green brand image, and green behavioral intentions and whether the effects of green practices differ across different restaurant	This study examines the effects of green practices at restaurant s on customer-based brand equity formation	the results indicated that diners with high health and environmental-consciousness responded more positively to restaurant green practices than those with a low self-perception of health and environmental-consciousness	1. This study emphasizes two and aspects of green practices that are signification, visible, and noticeable to customers. 2. This study viewed green practices results a quality enhancer. 3.this study was conducted in the United state which is perceived as having higher levels of environment

				segments.			al Awareness and green momentum 4. Another directions for future research involves personal characterizing
5\	Green practice s in the restaurant industry from an innovation adoption perspective: Evidence from Taiwan	2012	Chia - Jung Cho u, Kuo She ng Che n- Yue h- Yin g Wan g	This study helps fill the current gap and proposes an integrated model that combines the theory of planned behaviour (TPB) and the innovation adoption theory to investigate the attitudinal and	This study proposes an integrated model that combines the theory of planned behaviour (TPB) and the innovation	The results demonstrate that attitude and perceived Behavioral controls have positive effects on behavioral intention while social influence is insignificant.	

				behavioral decision factors related To adopting green practices in the restaurant industry in Taiwan.	theory to investigate the attitudinal and behavioral decision factors on adopting Green practices in the restaurant industry in Taiwan.		
6\	<b>Investigations of Important and Effective Effects of Green Practices in</b>	2012	<b>Ray Wang</b>	the specific objectives of this study are to (1) identify customers' perceived importance of green practices in the restaurant industry, and (2)	This study attempted to find out the answer to the question whether green practices have	The importance of a service attributes is implicitly derived that used de fuzzification crisp number data, had considered The attribute	

	<b>Restaurants</b>		<p>Examine customers' perceptions regarding the performance of green practices in restaurants. Also, it (3) discovers the key green practices influencing customer' perceived ecological image of the restaurant and ecological behavioral Intentions in different customer segments.</p>	<p>strong effects on the image Of the company and customers ' behaviora l intentions in the hospitalit y industry, especially for green restaurant .</p>	<p>category and the nature of fuzziness in human perception.</p>	
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## The forth section

### The environmental situations in Sudan.

#### The environmental situations in Sudan:-

##### Periodic inspection;-

The inventory of industrial establishment in Khartoum state in 2015 was as follow;-

Table(1-2)

<b>The Section</b>	<b>The number</b>
Khartoum	475
Omdurman	805
Bahri	540
The state	1820

The industrial activity in Khartoum state have been rated as follow;-

<b>The activities</b>	<b>The number</b>	<b>The percentage%</b>
Food	422	24%
Chemical	200	11%
Engineering	364	20%
Leather Tanning	47	2%
Texture	74	4%
Plastic	294	16%
Metal	241	13%
Others	158	10%
<b>The total</b>	<b>1820</b>	<b>100%</b>

The industrial activities in Khartoum;-

<b>The activity</b>	<b>The number</b>
Food	101
Chemical	44
Engineering	129
Leather tanning	6
Texture	3
Plastic	41
Metal	108
Other	43
<b>The total</b>	<b>475</b>

The industrial activities in Omdurman;-

<b>The activity</b>	<b>The number</b>
Food	207
Chemical	81
Engineering	113
Leather tanning	28
Texture	56
Plastic	187
Metal	80
Other	53
<b>Total</b>	<b>805</b>



**The industrial activity in Bahri;-**

<b>The activity</b>	<b>The number</b>
Food	134
Chemical	75
Engineering	122
Leather tanning	13
Texture	15
Plastic	66
Metal	53
Other	62
<b>Total</b>	<b>540</b>

**The periodical inspection sins2010- august 2015;-**

The	2010	2011	2012	2013	20	August,2015
environmental problems						
The accrual of dumps	81	133	71	39	44	4
Air pollution	21	96	-	-	50	10
Lack of care for the environmental of the interior	32	98	-	61	46	15

## The environmental breaches in state factories

The environmental breaches	Numbers of breaches in industrial area (Khartoum)	Numbers of breaches in industrial area (Omdurman)	Numbers of breaches in industrial area (Bahri)	Total breaches in 2 factories state
Low of internal and external environmental	1	10	14	25
Accrual of dumps	-	4	-	4
Emission from chimney	1	9	7	16
The loud noise	1	11	12	24
Height of heat	5	15	11	31
Others	4	11	9	24

## **The industrial activities:-**

Table(1-3)

Related to environmental inspection

Activities	2012	2013	2014
Food	62	67	88
Chemical	36	25	7
Engineering	12	71	47
Skins and	9	15	41
Texture	3	3	70
Plastic	31	60	87
Metallic	29	21	5
Others	68	48	55
Total	250	305	400

# **Chapter two**

## **The first section:**

### **Research Frame theoretical:-**

#### **Green practices**

. When a person receives more information about an environment, increased awareness of and concern about environmental problems, he/she will be more likely to take ecological actions to protect the environment and, ultimately, be more likely to take the initiative in implementing green practices.[Eric S.W Chan et.al2014].

Definition of green practices is well – seen by understanding the definition of green hotels because many studies have discussed the definition of green hotels. However a well accepted definition is by green hotels association (2007) which, defines green hotels as a “environmentally friendly properties whose manager are eager to institute to save water, save energy and reduced solid waste while saving money to help protect our only earth “The meaning of saving water, energy and reduced solid waste are some examples of the green practices. Green practices are: practices that applied the operator to save environment by cutting by or eliminating his operation impacts of the environment (Ihel , 1993).

As briefly started previously, international organization such as UN and OECD encourages their members to promote sustainable consumption with, measures that usually involve scientific persuasion and the provision of the economic incentive, these conventional measured are based on expectations that routines would be changed once people are fully educated and informed. How every-many scholars have argued that the types of polices commonly underestimate the complexities of

consumption and the individuals could not immediately change your life style even if the benefits of mitigating global warming were fully recognized.

Previous study indicate that among external practices green purchasing does not have as significant impact on green performance as the practice of cooperation with customers, a finding which was confirmed by( ZU et al (2007) in their research on Chinese automotive companies. However Zailian et al (2012) in their study of Malaysian companies found that green purchasing has a positive effect of environmental performance, and Yang et al (2013) suggest that have positive impacts on green performance too. Additional evidence from Jabbourn et al (2014) based on mixed methodology (survey and case studies) suggests.

## The variables in the previous studies :

Table(1-4)

The researcher		Eric s.w.c han el.al. 2014	Hossein nezakati el.al 2015	Imran Rahman /Dennis Reynolds 2015	Young namkuung soocheony g (shawn )jang 2013	Chia-jung chou el.al 2012	Ray Wang 2012	Imam Buch ari el.al/ 2015
The Factor								
1	Ecological behaviour	√						
2	Environmental awareness	√						√
3	Environmental knowledge	√						
4	Environmental concern	√						
5	Intention to implement							
6	Attitude		√			√		√
7	Behavior		√		√	√	√	

	ral intentio n							
8	Willing ness to satisfy			√				
9	Social influenc e					√		



## **Environmental knowledge:**

Environmental knowledge is the amounts of information individuals have concerning about environmental issue and their abilities to understand and evaluate its impact on society and environment (wiki). Previous studies in this area have examined different factors that influence one's ecological behaviour, such as environmental knowledge. For instance, an oaters study argued that the state of one's knowledge about an issue influences one's decision-making significantly. Generally, people tend to keep away from, situations where there is not enough knowledge to guide their behaviour, and situations where the possibility of uncertainty is greater. Studies stated that people extremely knowledgeable about environmental issues were more eager to pay extra money to buy environmentally friendly products. Other scholars have shown that knowledge usually influences pro-environmental attitudes, which, in turn, motivate environmentally responsible behaviour. How-ever, the implementation of environmental programmers' could be hindered as a result of a lack of environmental knowledge and skill (Chan et al 2014). In terms of gender difference, women usually have less extensive environmental knowledge but they have more pro-environmental behaviour than men. Subsequent research studies (Chan et:al 2014) echoed that information and knowledge about recycling were important predictors of recycling actions and environmentally friendly behaviors. In the hotel industry, the team spirit of individual departments and employee commitment to environ-mental programmes improve when the heads are environmentally knowledgeable.

(chan.et.al 2014)

## **Environmental awareness:-**

Studies have provided a large proportion of environmental problems and severe damage caused by lack of environmental awareness among individual and communicate with the environment process coming to everything related to the environment.

[Eric S.W Chan ET: al2014] Defined environmental awareness as: “knowing of the impact of human behaviour on the environment”. They further stated that environmental awareness was constrained by several cognitive and emotional limitations. Cognitive limitations include the non-immediacy of many ecological problems, slow and gradual ecological destruction and the complexity of environmental problems which can seriously compromise an individual’s willingness to act environmentally. Emotional limitations include emotional non-involvement and emotional reactions. It is believed that an individual’s environmental awareness may increase with his/her ecological behaviour. For instance, people may purchase products with eco-labels, consume organic foods and participate in recycling programmers as a result of their increased awareness of environmental problems. This study indicated that environmental awareness was enhanced by an individual’s increased environmental awareness. As a result of enhanced environmental awareness, they applied the knowledge to their daily lives.

(Eric S.W.chan, el.al.2014)

Awareness of products and services refers to the understanding and acknowledgement of the existing tradable items, the content of products/services as well as the functions. The knowledge of these are acquired by having in touch with the products and services directly or hearing from other sources on it. Beside the growing development of

Islamic banking in all over the worlds particularly in Bahrain, the awareness employees who work at those banks are not rigorously evaluated and assessed.( Imam Buchari <sup>a</sup>, Ahmad Rafiki <sup>b</sup>, Mahmood Abdullah Hadi Al Qassab 2015)

Environmental awareness scale (EAS) it is sensitivity to the total environmental and its allied problems. The development of environmental awareness means to understand the environmental problems and to develop critical thinking and problem –solving skill in the people.

### **Environmental concern:-**

Environmental concern has been defined as a general or global attitude associated with an individual's behavioral intentions environmental concern is often used interchangeably with the term “environmental attitude”, defined as “the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues”. [Eric S.W Chan. At: al 2014]. It also found that environmental concern was positively related to consumers 'intention to purchase green products. Other studies also confirmed that environmental concern positively affected pro-environmental intentions and behaviour .Similarly; several studies have indicated a positive relationship between a person's environmental concern and environmentally friendly behaviour.

For instance indicated that, general attitude of environmentally concern was a significant predictor of purchasing environmentally safe products and recycling emphasized the relationship between environmental attitude and environmental behaviour when researching environmental education investigated the relationship between the attitude and conservation behaviour while focused on the relationship between

environmental attitudes and political participation when studying gender differences in environmental concern is and activism all these studies suggest that environmental concern is a predictor of an individual's ecological behaviour. {Eric S.W Chan 2014}.

### **Environmental attitude:-**

Previous studies defined an attitude as a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence on the individual's response to all objects and situations to which it is related. In a simple definition of attitude is a mindset to act in a particular manner due to both an individual's experience and knowledge. According to previous studies, attitude is a person's consistently favorable or Unfavorable evaluation, feelings, and tendencies toward an object or idea. And it Defined attitudes as a psychological tendency that is expressed by evaluating a particular entity with Some degree of favor or disfavor aimed to predict whether health consciousness and environmental attitudes influence Taiwanese consumer's attitude toward organic Foods. Believes that environmental attitudes determine a person attitude toward organic and if a person is determining to become healthier, he or she will shows a positive attitude toward organic. Determined that the paramount aspect in identifying the attitude of clients was religious beliefs than profitability.

## **Ecological behaviour and intention to implement green practices in industries foundation:-**

Ecological behaviour is defined as (actions which contribute towards environment preservation and \or conservation)"Axelrod and Lehman .1993 .p.153"the saving of energy and water reuse of shopping bags and recycling used paper are some examples of such behaviour.

Although behaviour intentions are consider to be an important contributing factor in explaining an individual behaviour and performance "Ajzen, 1991" previous studies have indicated that an individual past behaviour as a" habit" had an independents effect on this /her intention and subsequent behaviour "Conner and armitage ,1998" As mentioned by Ajzens theory of planned behaviour(TPB)(1991)an individual behaviour intentions can lead his \her actual behaviour .

More specifically, the theory depicts behaviors' as a function of behavioral intentions and perceived behavioral control which is the behavioral is easy or difficult not withstanding an individual's ecological behaviors when considered as a habit will affect his or her intentions and subsequent behavior (conner and armitage.1998).

When reviewing the addition of some possible variables to (TPB) the scholars the control of habitual processes and past behavior often conceptualized as (habit) has a contributing role of predicting and individual's intentions and subsequent behavior.

Claim that the increase in ecological behavior by customers is the main reason behind their intention to pay more for green products.

Their study implies that ecological behavior is associated with the effect of expected evaluation on intention to implement."Eric S.W et.al.2014"

## **Behavioral intention:-**

According to the theory of planned behaviour the intention is a feeling and emotion that are inside the human generate a motive for the direction of a specific path. The motive is a human behaviour that is being used. In contemporary attitude theory a distinction is made between attitude, intention, and behaviour. An

influential theory was overfed by Fishbein and Ajzen

(1975) as the theory of reasoned action (TRA) later revised and extended in the theory of planned behaviour (TPB). In TPB, intention strength is a proximal cause of behaviour. A positive or negative attitude to-wards the behaviour, a subjective norm to perform the bahaviour, and perceived control over the behaviour are causes of intention. Attitude in turn is jointly determined by strengths of beliefs about consequences of the behaviour and evaluations of these consequences. Value priorities play an important role for these evaluations.

Environmental concern has been treated as an evaluation of, or an attitude towards facts, one's own behaviour, or others' behaviour with consequences for the environment. Previous studies maintain an inclusive Dentition of environmental concern, ranging from a septic attitude toward environmentally relevan tbehaviour to a more encompassing value orientation. and both septic attitudes towards behaviours and general value orientations are likely to play important roles as behavioural determinants, although possibly at deferent stages in the process of changing and implementing a behaviour.(Nikolas Fransson and Tommy Gorling).

Demonstrated that customers perception of green practices significantly inflations their ecological behavioral intentions toward the restaurant. "yony namkung ,soo cheong (2013)".

## **Relationship between variables:-**

The linear progression of environmental knowledge leading to environmental awareness and environmental concern is thought to be positively related to ecological behaviour and, in turn, to influence intention to implement. The hypotheses of previous studies indicate a mediation effect; such that the three environmental triggers – environmental knowledge, environmental awareness, environmental attitude and environmental concern – each influences ecological behaviour, and ultimately, positively affects intentions to implement green practices. More specific, ecological behaviour facilitates employees' understanding on environmental knowledge, environmental awareness and environmental concern assigned to them. This is more likely to increase their levels of intentions to implement green practices in industrial foundations in Sudan. Therefore, ecological behaviour should act as a mediator in the process through which the environmental triggers influence employee intentions to implement green practices. Generally factors may affect the consumers' behavioral intention toward the choice of environmentally friendly products or services can be classified in two groups, internal and external factors. attitudes, value, knowledge and personal differences of consumers as well as their demographical contexts including financial situation, educational level, gender, marital status, education as be consider internal factors while the political, cultural, social expectation environmental training, advertising can be consider as external factors which both factors may influence consumer environmental behavior directly or indirectly in a positive or negative trend (nezakate et.al 2015).

Linking Customers' behavioral intentions to green practices, demonstrated that customers' perceptions of

Green practices significantly influence their ecological behavioral Intentions toward intention to implement green practices. (Young Namkung, Soo Cheong(Shawn) Jang 2013). In contrast to findings by (g Kaiser), the third substantive outcome supports the. Notion that the relation between environmental attitude and ecological behavior remains comparable even for ideologically heterogeneous groups. Given that the participants are rather numerous, the model fit indicators are quite acceptable. (Florien )



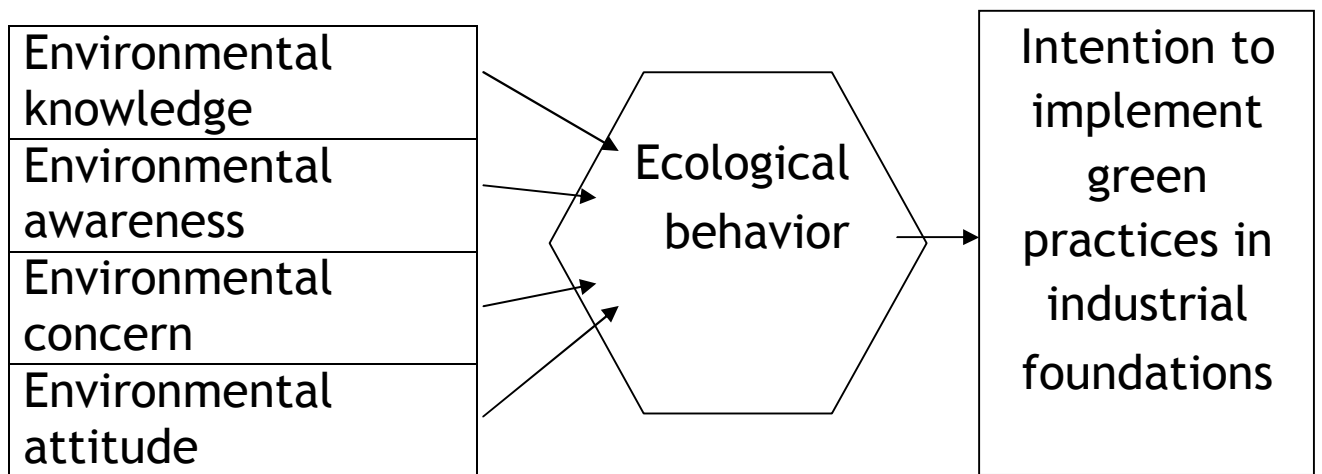
# Chapter three

This chapter contains the model, hypothesis and theory of planned behavior

The first section:

### Case study:-

The model:-



[Chan2014]

## **The second section**

### **The research hypotheses:**

H1. The psychological behaviour leads to intention to implement green practices in industrial foundations in Sudan.

H1A. Environmental knowledge leads to intention to implement green practices in industrial foundations in Sudan.

H1B. Environmental awareness leads to intention to implement green practices in industrial foundations in Sudan.

H1C. Environmental concern leads to intention to implement green practices in industrial foundations in Sudan.

H1D. Environmental attitude leads to intention to implement green practices in industrial foundations in Sudan.

H2. The psychological behaviour leads to ecological behaviour.

H2A. Environmental knowledge positively leads to ecological behavior in industrial foundations.

H2B. Environmental awareness positively leads to ecological behavior in industrial foundations.

H2C. Environmental concern positively leads to ecological behavior in industrial foundations.

H2D. Environmental attitude positively leads to ecological behaviour.

H3. Ecological behavior positively leads to intentions to implement green practices in industrial foundations in Sudan.

H4. Ecological behaviour mediates the relationship between psychological behaviour and intention to implement green practices in industrial foundations in Sudan.

H4A. Ecological behavior mediates the relationship between environmental knowledge and intentions to implement green practices in industrial foundations in Sudan.

H4B. Ecological behavior mediates the relationship between environmental awareness and intentions to implement green practices in industrial foundations in Sudan.

H4C. Ecological behavior mediates the relationship between environmental concern and intentions to implement green practices industrial foundations in Sudan.

H4D. Ecological behaviour mediates the relationship between environmental attitude and intention to implements green practices in industrial foundations in Sudan.

## The third section

### Theory of planned behavior:-

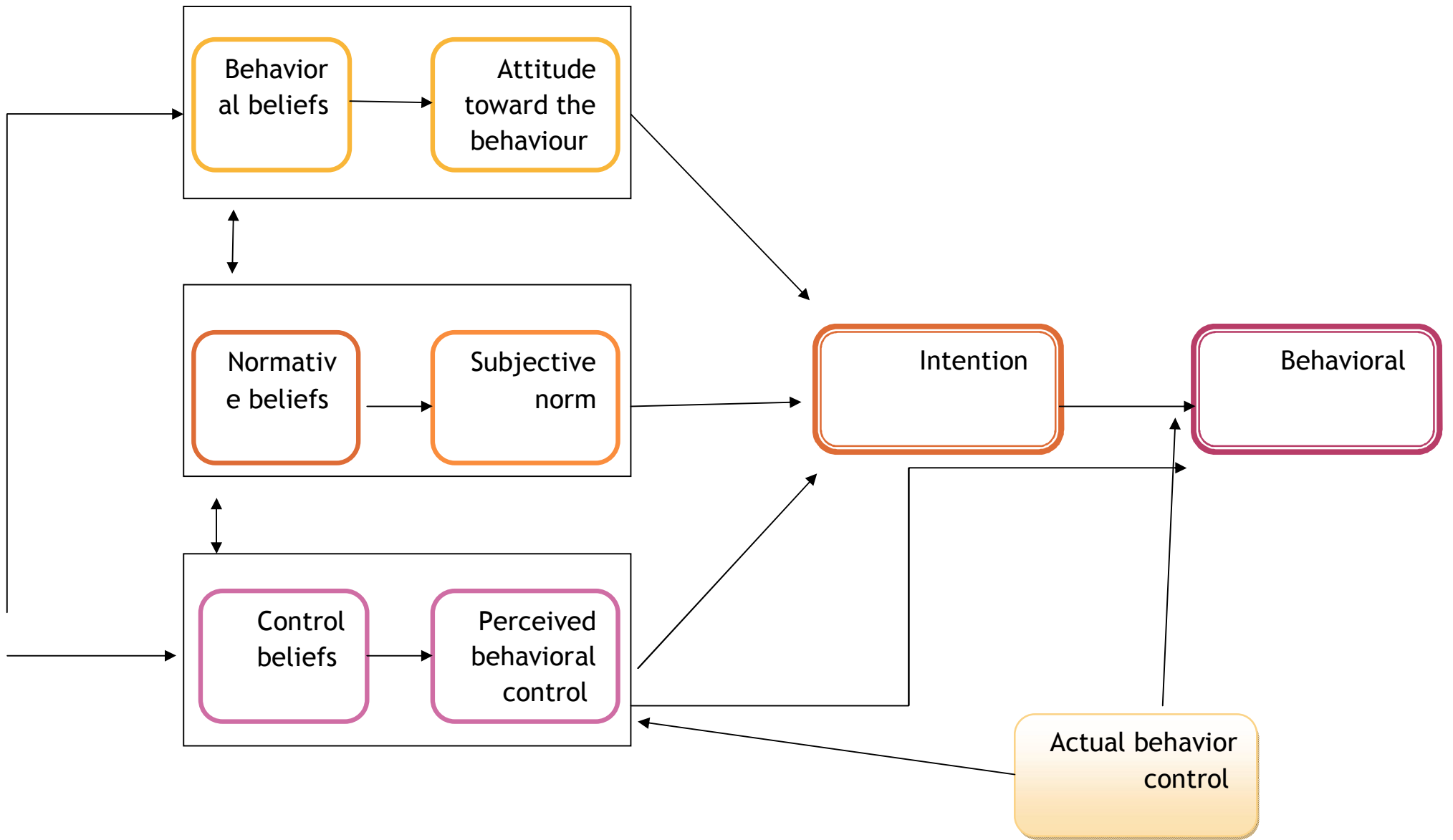
In psychology the [abbreviated] is a theory that links benefit and behaviour. That concept was proposed by Icek Ajzen to improve on the predictive power of the theory of reasoned action by including perceived behavioral control. It is a theory explaining human behaviour. It has been applied to studies of the relations among beliefs, attitudes, behavioral intention and behavior in various fields such as advertising, public, relations, advertising campaigns and healthcare.

The theory states that Attitude toward behavior, subjective norm, perceived control together shape an individual's behavioral intention and behaviour.

Human behaviour is guided by three kinds of consideration,[behavioral beliefs,] [normative beliefs] and [control beliefs] result in [subjective norm] and [ control beliefs] give rise to [perceived behavioral control].

In competition,[ attitude toward the behaviour] [subjective norm] and [perceived behavioral control] lead to the formation of a [behavioral intention]. In particular perceived behavioral control is presumed to not only affect actual behaviour directly, but also affect it indirectly through behavioral intention.

As a general rule, the more favorable the attitude toward behaviour and subjective norm, and the greater the perceived behavioral control, the stronger the person's intention to perform the behaviour in question should be. Finally, given sufficient degree of actual control over the behaviour, people are expected to carry out their intentions when the opportunity arises.[wiki].



## The forth section

### Population and sample:-

The study population is the employees of industrial foundations in Sudan.

According to industrial union the total of industrial organization according to the state is 5941 is as follow:-

Table(3-1)

Activity	working			Closed	total
Organizations	3622	727	1684	150	5728

### Research methodology:-

To analyzing the study data and testing the hypotheses and extraction The result the researchers based on the descriptive approach to know the impact of psychological factors on the intention to implement green practices in industrial foundations in Sudan.

### The study sample:-

In order to reach the largest possible number of member of the study population it was used a conveniences sample in different industrial foundations and the researchers choose the convenience sample due to the lake accuracy of the data relating to the study sample and to access to the basic data quickly and in low cost . (215) questionnaire were distributed and only (193) returns.

## **Data collection:-**

### **Primary sources:**

This source is assimilating in: books, papers, magazines, websites and previous studies that related with this study scope.

### **Secondary sources:**

The data for this study were collected through the questionnaire which the researcher distributed on the study sample then it was analyzed by a proper statistical ways. And the questionnaire as a majoring tool was designed based on a group of writers and researchers in the study scope to get the primary and secondary data to complete the practical side of this study. Thus and it was include many consideration.

The questionnaire considers three dimensions as follow:-

The first part is the demographic factors for the sample which is made from seven paragraphs:-

Table(3-2)

Gender	Age	qualifications	job	specialization	Experience	activity
--------	-----	----------------	-----	----------------	------------	----------



**The fifth section:**

**The second consideration majoring the study variables as follow:-**

**The questionnaire:-**

**Table (3-3) the environmental knowledge items:**

<b>Phrases</b>
Environmental Knowledge:- 1) I know very well what the term "global warming" means. 2) I know very well what the term "organic product" means. 3) I know very well what the term "climate change" means. 4) I know very well what the term "greenhouse gas" means. 5) I know very well what the term "recycling" means.  (Chan et.al 2014)

**Table (3-4) the environmental awareness items:-**

<b>Phrases</b>
Environmental Awareness:- 1) I prefer The products that made of recyclable materials even though they are more expensive. 2) I always choose the product that contributes to the least amount of pollution. 3) I know the meaning of the term “energy-efficient.” 4) I use environmentally friendly product. 5) I always think if my actions harm the environment. (Chan et.al 2014)( (Ray Ballantyne, Jane packer and Karen Hughes 2008)

**Table (3-5) the environmental concern items:-**

<b>Phrases</b>
<p><b>Environmental Concern:-</b></p> <ol style="list-style-type: none"><li>1) I am doing enough efforts to save scarce natural resources from being used up.</li><li>2) I am going to read out some statements about the environment.</li><li>3) Everyone's should do small daily efforts to reduce CO2 emission reduction.</li><li>4) Using daily necessities carefully over a long period will be effective in avoiding global warming.</li><li>5) I donate money to environmental organizations.</li></ol> <p>(Chan et.al 2014) (Ray Ballantyne, Jane packer and Karen Hughes 2008)(Florian G Kaiser et.al)</p>

**Table (3-6) the environmental attitude items:-**

<b>Phrases</b>
<p><b>Environmental attitude:-</b></p> <ol style="list-style-type: none"><li>1) I like the idea of green products.</li><li>2) I have a favorable attitude towards a green version of a Product.</li><li>3) For shopping I prefer paper' bags to plastic ones.</li><li>4) Adopting green practices is meaningful.</li><li>5) Adopting green practices is worthwhile.</li><li>6) Adopting green practices is wise.</li></ol> <p>(lizwati aman)( G kaiserl, Sybille Wolfing and Urs Fuhrere 1996)(Chia Jung Chou, Kuo Sheng Chen, Yueh Ying Wang)</p>

**Table (3-7)the ecological behaviour items:-**

<b>Phrases</b>
<p><b>Ecological behaviour:-</b></p> <ol style="list-style-type: none"><li>1) Protecting the environment should Be given priority, even if it causes some loss of jobs.</li><li>2) I would be better informed about a modern future-oriented energy producing technology.</li><li>3) I never claim to know more than I actually do about environmental practices.</li><li>4) I would better inform about environmentally programs to promote the use of renewable energy forms.</li></ol>

5) I prefer to announce about governmentally program to encourage the use of renewable energy forms.

(G kaiserl, Sybille Wolfing and Urs Fuhrere 1996)(Sebastian Bambreg)

### **Table (3-8)The intention to implement items:**

#### **Phrases**

#### **Intention to implement:-**

- 1) I am ready to pay environmental taxes.
- 2) I try to separate trash for recycling on a regular basis.
- 3) I prefer to use environmentally-friendly products.
- 4) I want to use products that I currently have as long as possible.
- 5) I try only to buy products that can be recycled.

(Ray Ballantyne, Jane packer and Karen Hughes 2008) (Florian G Kaiser et.al)

## **The sixth section:**

### **Statistical tools:-**

#### **1. Case Screening**

1. Missing data in rows
2. Unengaged responses
3. Outliers (on continuous variables)

#### **2. Variable Screening**

1. Missing data in columns
2. Skewness & Kurtosis

#### **3. Exploratory Factor Analysis**

1. Iterate until you arrive at a clean pattern matrix
2. Adequacy
3. Convergent validity
4. Discriminant validity
5. Reliability

#### **4. Confirmatory Factor Analysis**

1. Obtain a roughly decent model quickly (cursory model fit, validity)
2. Do configural and metric invariance tests (if using grouping variable in causal model)
3. Validity and Reliability check
4. Common method bias (marker if possible, CLF either way)
5. Final measurement model fit
6. Optionally, impute factor scores

## 5. Structural Models

### 1. Multivariate Assumptions

1. Outliers and Influential's
2. Multicollinearity

### 2. Include control variables in all of the following analyses

### 3. Mediation

1. Test indirect effects using bootstrapping
2. If you have multiple indirect paths from same IV to same DV, use AxB estimand

### Pre test:-

### Table(3-9)

The phrase	%
1\ environmental knowledge	0.6
2\ environmental awareness	0.71
3\ environmental concern	0.75
4\ environmental attitude	0.75
5\ ecological behaviour	0.83
6\ intention to implement	0.94

# **Chapter four**

## The first section:

### **Data analysis:-**

#### **An introduction:**

In this section reviews the search initial actions by the data analysis (data cleaning), in response to the sample rate, the analysis of the underlying data in the study sample, the global exploratory analysis, factor analysis affirmative reliability, averages and standard deviation, correlation addition to knowing the effect relationship between variables by track or analysis of regression analysis.

#### **Cleaning data:**

#### **Missing data**

Many of the data lifted without and unanswered by the respondent generate many of the problems that is, they represent sometimes bias responder to the specific question or forget respond to that question is the general rule in dealing with missing data are less than 10% of the questions the size if it is more than that it must get rid of the questionnaire as completely unfit for analysis and it is used to average a way to deal with it if I said about the acceptable limit are deleted.

#### **Identical answers: Unengaged responses:**

Giving Respondents one answer for each questionnaire, it could mean a lack of interest of the responder to those questions, especially if there was an inverse questions in the questionnaire if it is impossible to give it the same answer for that there should be a dispersion in responders' answers between any that there is no homogeneity fully to those answers are identified on this by calculating the standard deviation of the answers. If there was a high standard deviation means that some dispersion in the answers and vice versa, and therefore any questionnaire at least a standard deviation from the 5. Should be deleted.



## **The sample rate of responses**

Data were collected from the field through the questionnaire directed to a sample of employees questionnaire was distributed was (215), It enables the student to get the (193) questionnaire among questionnaires distributed by (89%) did not recover ( 22) questionnaires by (11%) of the cleaning action of the data and it has been prepared summary of all operations data cleaning, as well as the response rate as in the table (4-1).

Table (4-1)

No	Statement	response
1-	Total distributed questionnaires to respondent	215
2-	Total questionnaire that was returned	193
3-	Questionnaires that have not recovered	22
4-	Questionnaires invalid proportion of the lost data	0
5-	Questionnaires invalid proportion to their answers because of the symmetry	1
6-	Number of valid questionnaire for analysis.	193
7-	Response ratio	89%

Source: researchers 2016.

### **The basic data contain seven elements:**

Type: Age: Qualification, scientific specialization, years of experience, type of activity: where we find with regard to gender that the sample included) 75.6% of the 24.4% of females (, The Age found in the respondents ages (less than 30 years old increased by 32.6% and 44.0% of the category 30-40 years of age and 15.5 percentage% were aged from 40 to 50. The top category of 50-year 7.8% (, either with respect to the years of experience, we find that 31.1% less than 5 years, and the proportion of 23.3% of them are from 5 to 10 years and the proportion of 20.2% of them are 11-15 years old, and 13.5% were 15 to 20 years, 11.9% of them are over 20 years old), regarding the qualification of university, we find that 9.8% of respondents without the university level and the proportion of 68.9% of respondents said they universal, and the proportion of 21.2% of respondents have qualifications above the university (. as with regard to career center, we find that the rate of 56.5% employees, and the percentage of 15.5 are the heads of departments, and the percentage of 16.1 are the directors of administration and 2.6% are two deputy directors and the ratio of 1.6 are two managers, and the ratio of 7.8 are in other jobs (either with respect to scientific specialization, we find that the rate of 26.4% engineers, the ratio of 4.1 in the medical specialties, the ratio of 8.8 are on a humanitarian disciplines and the proportion of 27.5% are in the business disciplines and the percentage of 33.2 are in other disciplines, either as to the type of activity, we find that the rate of 15.5% is in the food sector and that the ratio of 11.4% is in the chemical sector and the proportion of 18.1% is in the engineering sector, the ratio of 6.7% is in the pharmaceutical sector and 3.1% are in the textile sector and the proportion of 45.1 % are in other sectors.

### **Analysis of key data:**

Contained basic data on the six elements: Type: age, educational qualification, years of experience, career center, type of activity.

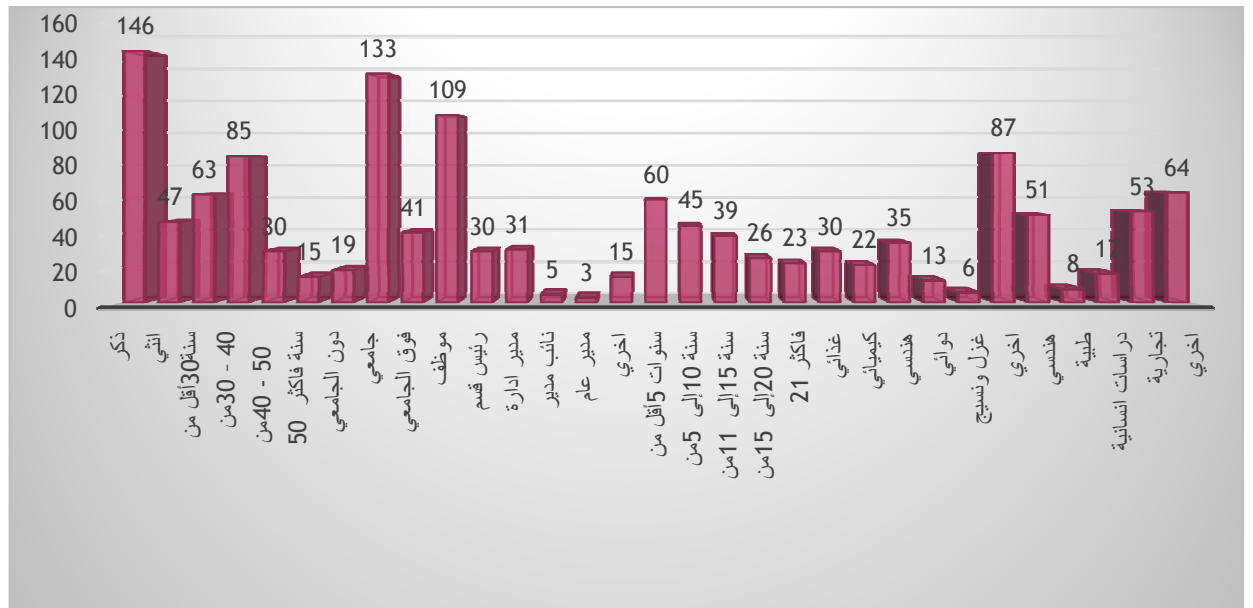
**Table (4-2)**

<b>Demographic factor</b>	<b>statement</b>	<b>Numbers</b>	<b>%</b>
Gender	Male	146	75.6%
	Female	47	24.4%
Total		169	100%
Age	Less than30	63	32.6%
	From 30 to40	85	44.0
	From 40 to 50	30	15.5
	More than 50	15	7.8%
Total		169	100%
Qualifications	Without university level	19	9.8%
	Universal	133	68.9%
	Above university level	41	21.2%
Total		193	<b>100%</b>
Functional class	employees	109	56.5%
	Head of department	30	15.5%
	Director of departments	31	16.1%
	Deputy director	5	2.6%

	General director	3	1.6%
	Others	15	7.8%
Total		193	100%
Year of experience	Less than 5 years	60	31.1%
	From 5 to 10	45	23.3%
	From 11 to 15	39	20.2%
	From 16 to 20	26	1.3%
	21and above	23	11.9%
Total	Others	193	100%
Type of activity	Atrophic	30	15.5%
	Chemical	22	11.4%
	Geometric	35	18.1%
	Medical	13	6.7%
	Textiles	6	3.1%
	Others	87	45.1%

Total		193	100%
Scientific specialization	Engineering	51	26.4%
	medical	8	4.1%
	Humanities	17	8.8%
	commercial	53	27.5%
	Others	64	33.2%
Total		193	100%

The basic data :



## The second section

### **Exploratory Factor Analysis:-**

This type is used in cases where the relationships between variables underlying factors are not known to be so the factor analysis is aimed at discovering the factors that describe the variables and test the differences between the statements that measure each variable of the variables of the study, where the process of analysis, the global distribution of the questionnaire phrases on standardized variables It is imposed and distributed by phrases that measure each variable by deviation from the mean, on the relationship between the variables within a single factor is stronger than the relationship with the changes in the other factors (Zaghloul, 2003: 178), the lead factor analysis to reduce the size of data, summarize and reduce the numerous variables to a small number of factors, so based on a correlation coefficient between variable and for other variables (Sami, 2009: 43), which are based screening study variables by factor analysis on a number of assumptions (Hair et al, 2010) as conditions for accepting the results, namely:

- 1 / the existence of sufficient number of correlations were statistically significant in the rotation matrix.
- 2 / is not less than the value of (KMO) from 60% to fit the sample.
- 3 / is not less than the value of test (Bartlett's Test of Sphericity) for each.
- 4 / To be the value of the initial subscriptions (Communities) more than 50% of the items.
- 5 / saturation factor shall not be less than 50%, taking into account the lack of cross-values of more than 50% in the other factors.
- 6 / is not less than the underlying roots of the values (Eigen values) for each.



### Factor analysis exploratory Models of the study:

was the use of statistical analysis software package (SPSS) in conducting the process of factor analysis Exploration for the independent variance where it was given all of the statements that were used to measure each questionnaire variables, and Table (4-2) the results of the factor analysis exploratory study component from a number of phrases (the total number of phrases 50 word

Table (4-3) global exploratory analysis of the model (sample size: 193)

	Attitude	Awareness	Concern	Ecological	Intention	Knowledge
	<b>0.769</b>					
attitude2	<b>0.759</b>					
attitude4	<b>0.830</b>					
attitude6	<b>0.843</b>					
awareness2		<b>0.872</b>				
awareness4		<b>0.879</b>				
concern1			<b>0.796</b>			
concern2			<b>0.788</b>			
concern4			<b>0.725</b>			
ecological2				<b>0.813</b>		
ecological4				<b>0.801</b>		
ecological5				<b>0.764</b>		
intention3					<b>0.884</b>	
intention4					<b>0.805</b>	
knowledge1						<b>0.827</b>
knowledge2						<b>0.806</b>
knowledge3						<b>0.810</b>

Source: preparing students of the questionnaire data

## **Structural Equation Modeling [SEM] :-**

The researcher in the process of statistical analysis of the data on the modeling of structural formula method, which is supposedly the direct and indirect linear relationships between a group of underlying variables and viewing pattern, and in a broader sense represents the structural formula models translations of a series of relationships is why the supposed result of a variety of variables. Specifically use the path analysis method, as it enjoys this method has several advantages, commensurate with the nature of the study in this research; the following is a brief overview of this method and justification for its use:

### **Path Analysis:-**

It is a modeling equation constructivist methods, which means study and analyze relationships between a variable or more independent variables, whether these variables were continuous or intermittent or more of the dependent variables, whether these variables are continuous or intermittent in order to identify the most important indicators or factors that have an impact the variable or dependent variables, as the structural equation modeling approach combines multiple regression analysis and global analysis (Barbara G. Tabachnick and Linda S. Fidell, 1996)

And uses the path analysis with similar purposes which uses multiple regression analysis, where the path analysis is an extension of the analysis of regression, but the path analysis, more effective in that it takes into account the modeling of interactions between variables, The Modeling of Interactions and Nonlinearities measurement errors, and Multicollinearity between independent variables ((Jeonghoon, 2002

Path Analysis also differs from the multiple regression analysis are as follows:

1. A model to test certain relationships between the variables of a group, not to reveal the causal relationships between these variables.
2. Statistics supposed linear relationships between each pair of variables.
3. The dependent variable can be turned into an independent variable for the dependent variable last.
4. Can be in the form of intermediate variables in addition to the independent variables and the dependent variables
5. Facilitating effect relationships between variables, regardless of whether they are affiliated variables or independent variables, which represent a bidirectional arrow in the diagram of the model.
6. The path model analysis means, to sum up certain phenomenon and put it in the form of a coherent model to explain the relationships between variables of this phenomenon, which requires from the researcher, causal interpretation, and communication variables to each other and which are called tracks.
7. Tracks coefficients in the model are standard.

### **quality Model indicators:-**

In light of the presumption of congruence between the covariance matrix of the variables involved in the analysis assumed by the model and the matrix produces many of the function on the quality indicators such conformity, and that is to accept the supposed data or rejected in the light of which are known indicators of the corresponding quality model, including:

#### **1. The relative chi-square DF**

It is a value calculated from the model Chi-square divided by the degrees of freedom, if this ratio was less than (5) indicate the acceptance of the model, but if less than (2) indicate that the proposed model is exactly the same model is supposed to data from the sample

## **2. Goodness of Fit Index (GFI)**

This indicator measures the amount of variation in the matrix analyst throw the study model which thereby corresponds to the multiple regression analysis or selection coefficient of multiple correlation coefficient square between \$ (1.0) The high value of this range to best match the model with sample data and whenever such value is greater than 0.9 indicates that the quality of the model, and if the value of one indicates that the exact match **between the proposed model and the model assumed (Barbara G. Tabachnick and Linda S. Fidell, 1996)**

## **3. Root Mean Square Error of Approximation (RMSEA)**

It is the most important corresponding quality indicators and if equaled the value of( 0.05) or less indicates that the that the model matches exactly the data, and if the value is limited to between( 0.05) and( 0.08) indicates that the model corresponds to a large degree the sample data but if its value exceeds( 0.08) are model is rejected. ( james Lattin and Others, 2002 & George A. Marcoulides and Irini Moustaki2002)

## **4. Normed Fit Index (NFI)**

This index value ranging between (0.1) and indicate the high value of this range to best match the model with sample data, (Barbara G. Tabachnick and Linda S. Fidell1996)

## **5. Comparative corresponding index Comparative Fit Index (CFI)**

The value of this indicator ranges between (0.1) and indicate the high value of this range to best match the model with sample data, (Barbara G. Tabachnick and Linda S. Fidell1996)

## **6. Incremental Fit Index (IFI) Index**

The value of this indicator ranges between (0.1) and indicate the high value of this range to best match the model with sample data (Barbara G. Tabachnick and Linda S. Fidell, 1996)

## **7. Tucker Lewis Index (TLI)**

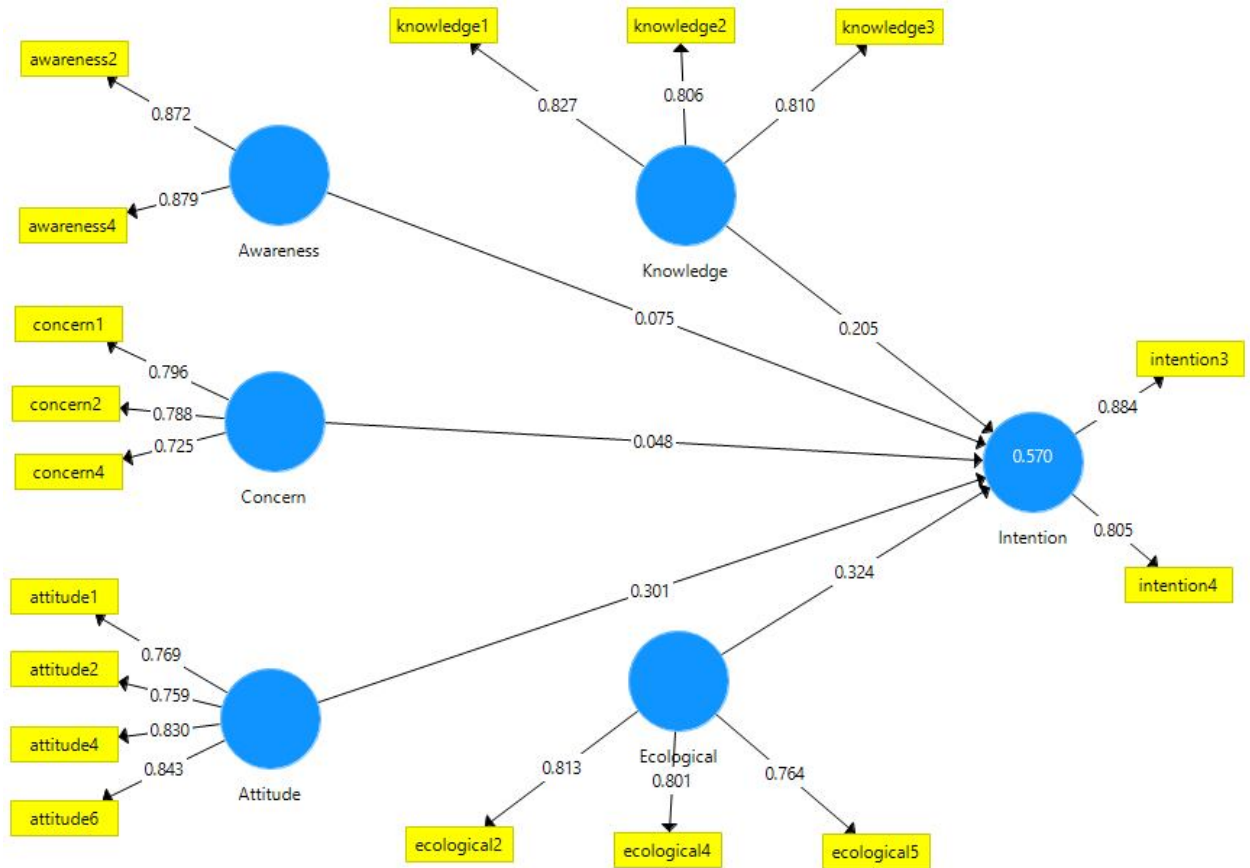
The value of this indicator ranges between (1.0) and indicate the high value of this range to best match the model with sample data, where (Joseph F. Hair, JR. And Others1995).

### **Confirmatory Factor Analysis**

This type is used in order to test hypotheses that related to the existence or non-existence of a relationship between variables underlying factors as assertive factor analysis is also used to assess the ability of the model factors on the expression of the actual data collection as well as in the comparison of several models of the factors in this area. The use of the matrix, which includes partial links in the prototype test using the program ((AMOS 23)) analysis of moment structure>

Table, shows the corresponding good indicators goodness of fit.

## Factor analysis assertive:



After a proposed amendment to delete the phrases that weaken the measure has been reached on the quality of the model.

The quality of the proposed structural model: R Square

	R Square	R Square Adjusted
<b>Intention</b>	0.570	0.558

## Co linearity Statistics

	Attitude	Awareness	Concern	Ecological	Intention	Knowledge
Attitude					<b>1.885</b>	
Awareness					<b>1.308</b>	
Concern					<b>1.713</b>	
Ecological					<b>2.061</b>	
Intention						
Knowledge					<b>1.404</b>	

## Model Fit

	Saturated Model	Estimated Model
SRMR	0.078	0.267
d_ULS	0.927	10.871
d_G	0.454	0.791
Chi-Square	469.155	715.633
NFI	0.642	0.454

## Analysis of reliability and validity:

To make sure of the reliability was tested questionnaire questions based on the reliability scale where Table (4-6) below the reliability coefficient (Cronbach's alpha)

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Attitude	<b>0.814</b>	<b>0.823</b>	<b>0.877</b>	<b>0.642</b>
Awareness	<b>0.696</b>	<b>0.696</b>	<b>0.868</b>	<b>0.767</b>
Concern	<b>0.656</b>	<b>0.658</b>	<b>0.814</b>	<b>0.593</b>
Ecological	<b>0.704</b>	<b>0.705</b>	<b>0.835</b>	<b>0.628</b>
Intention	<b>0.606</b>	<b>0.628</b>	<b>0.833</b>	<b>0.715</b>
Knowledge	<b>0.746</b>	<b>0.747</b>	<b>0.855</b>	<b>0.663</b>

## Correlation analysis and variance

Been using correlation analysis between the variables of the study in order to identify the correlation between the independent variables dependent variable, and the mediator, the closer a correlation coefficient close to the right one, it means that a strong correlation between the two

variables and the lower the correlation from the correct one whenever weakened the relationship between two variables may be The relationship is a direct or inverse, generally considered a weak link if the value of the correlation coefficient is less than (0.30) and can be considered medium if the value of the correlation coefficient ranged between (0.30 - 0.70) If the correlation value is more than (0.70) is the strong relationship between the two variables

### Analysis of the links between the variables of the study

Table Person's Correlation Coefficient for All Variables

	Attitude	Awareness	Concern	Ecological	Intention	Knowledge
Attitude	1.000					
Awareness	0.347	1.000				
Concern	0.507	0.393	1.000			
Ecological	0.619	0.412	0.606	1.000		
Intention	0.652	0.404	0.499	0.652	1.000	
Knowledge	0.491	0.355	0.354	0.402	0.527	1.000

The contrast between the study variables analyzed

	Attitude	Awareness	Concern	Ecological	Intention	Knowledge
Attitude	1.000					
Awareness	0.347	1.000				
Concern	0.507	0.393	1.000			
Ecological	0.619	0.412	0.606	1.000		
Intention	0.652	0.404	0.499	0.652	1.000	
Knowledge	0.491	0.355	0.354	0.402	0.527	1.000



## **The third section:**

### **Hypotheses result:**

#### **An introduction:**

In this section we discuss the hypothesis of the study after a global analysis of the data. According to the aim of the research on behavioral factors influencing the adoption of green practices, the assumptions are as follows

#### **Research hypotheses**

1/Environmental knowledge positively related to intention to implement this result agree with the study of (Eric S.W. chan , Alice H.Y.Hon ,Wilcochan , FewziOkumus. 2014)

A generally positive view of environmental green

Practices in the Surveyed organizations.

2/There was positive relation between ecological behavior and intention to implement of green practices in industrial organizations like study of (Eric S.W. chan, Alice H.Y.Hon ,WilcoChan , FewziOkumus. 2014)

3/environmental attitude was positively relation with intention to implement of green practices in industrial organizations like study of (Eric S.W. chan , Alice H.Y.Hon ,Wilcochan , FewziOkumus. 2014)

4/Hypothesis which states that there is appositive relationship between in environmental awareness and intention to adopt

green practices did not support the ratio of the deferent culture and the low percentage of environmental awareness in Sudan.

5/Hypothesis which said states that there is a positive relationship between environmental concern and intention to adoption of green practices did not support attributed to the lack of environmental concern in Sudan.

6/hypothesis which said that there is positive relationship between environmental knowledge and ecological behavior did not support

7/Hypothesis which said that there is positive relationship between environmental awareness and ecological behavior was support like study (Eric S.W. chan , Alice H.Y.Hon ,Wilcochan , FewziOkumus. 2014)

8/There was positive relation between environmental attitudes with ecological behavior was support like study

9/There was positive relation between environmental concern with ecological behavior like study of (Eric S.W. chan , Alice H.Y.Hon ,Wilcochan , FewziOkumus. 2014)

10/Environmental behavior mediates the relationship between environmental awareness and intention to adopt green practices like study of (Eric S.W. chan , Alice H.Y.Hon ,Wilcochan , FewziOkumus. 2014)

11/ecological behavior mediates the relationship between environmental concern and intention to adopt green practices like study of (Eric S.W. chan , Alice H.Y.Hon ,Wilcochan , FewziOkumus. 2014)

12/ecological behavior mediates the relationship between environmental attitude and intention to adopt green prac It have been using path analysis test (By using Smart PLS), which aims to identify the behavioral factors influencing the adoption of green practices as in the table (4-8). Been relying on coefficient (T statistic) to know the expected change in the dependent variable due to the change in one unit of the independent variable, and have been relying on ( $R^2$ ) to learn about the ability of the model to explain the relationship between the independent variable variables of. They have been relying on the level of significance 0:05 to judge the moral influence, where it was compared to the level of significance calculated with the value of the significance level certified, and is statistically significant effects if the level of significance value calculated is smaller than the significance level of merit (0.05) where is recognized as the moral through the path that goes from variable etc.

	Original Sample (O)	Sample Mean (M)	(STDEV)	T Statistics	P Values
<b>Attitude -&gt; Intention</b>	0.301	0.294	0.081	3.700	0.000
<b>Awareness -&gt; Intention</b>	0.075	0.077	0.062	1.216	0.224
<b>Concern -&gt; Intention</b>	0.048	0.046	0.069	0.691	0.490
<b>Ecological -&gt; Intention</b>	0.324	0.329	0.077	4.189	0.000
<b>Knowledge -&gt; Intention</b>	0.205	0.211	0.077	2.658	0.008

tices like study of (Eric S.W. chan , Alice H.Y.Hon , Wilcochan , FewziOkumus. 2014)

### Test hypotheses

	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>
<b>attitude_ -&gt; ecological</b>	0.450	0.445	0.073	6.156	0.000
<b>attitude_ -&gt; intention</b>	0.346	0.339	0.081	4.253	0.000
<b>awareness -&gt; ecological</b>	0.217	0.218	0.070	3.097	0.002
<b>awareness -&gt; intention</b>	0.084	0.084	0.061	1.377	0.169
<b>concern -&gt; ecological_</b>	0.482	0.484	0.070	6.898	0.000
<b>concern -&gt; intention</b>	0.060	0.063	0.058	1.046	0.296
<b>ecological -&gt; intention</b>	0.252	0.251	0.084	2.986	0.003
<b>knowledge -&gt; ecological</b>	0.117	0.122	0.082	1.425	0.155
<b>knowledge -&gt; intention</b>	0.205	0.209	0.078	2.615	0.009

### The forth section:

#### Confirmation of hypothesis:

Psychological factor positives leads to intention implement green practices

Proof case	The first hypothesis
Support	Environmental knowledge positively leads to intention implement green practices
Did not support	Environmental awareness positively leads to intention implement green practices
Did not support	Environmental concern positively leads to intention implement green practices
Support	Environmental attitude positively leads to intention implement green practices
Support	Ecological behavior positively leads to intention implement green practices
The level of support the hypothesis <span style="float: right;">partial support</span>	

The psychological factor leads to ecological behavior

Proof case	The second hypothesis
Did Not support	Environmental knowledge positively leads to ecological behavior
Support	Environmental concern positively leads to ecological behavior
Support	Environmental awareness positively leads to ecological behavior
Support	Environmental attitude positively leads to ecological behavior
The level of support the hypothesis	
	full support

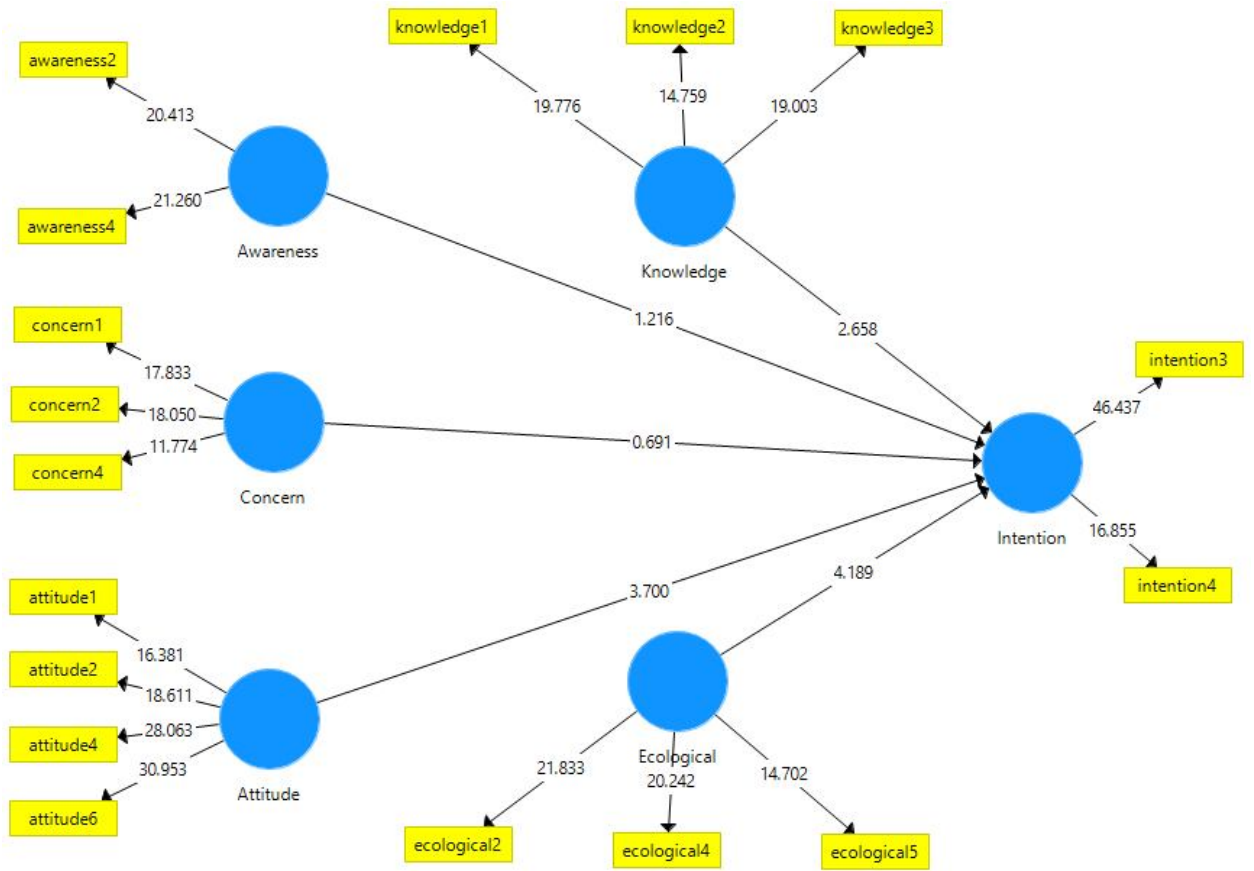
Ecological behavior positively leads to intention to implement green practices

Proof case	The Third hypothesis
Support	Ecological behavior positively leads to intention to implement green practices
The level of support the hypothesis	full support

Ecological behavior mediates the relationship between psychological behavior and intention to implement green practices

Proof case	The fourth hypothesis
Support	Ecological behavior mediates the relationship between the environmental awareness and intention to implement green practices
Support	Ecological behavior mediates the relationship between the environmental concern and intention to implement green practices
Did Not support	Ecological behavior mediates the relationship between the environmental knowledge and intention to implement green practices
Support	Ecological behavior mediates the relationship between the environmental attitude and intention to implement green practices
The level of support the hypothesis	full support

:





# CHAPTER FIVE

## **The first section:**

### **Results: -**

Results showed that employees in the Sudanese industrial enterprises Affected by behavioral factors in their behavior towards green practices. The study also demonstrated that this behavior leads in part to the intention of implement of green practices and green practices with a positive impact on these institutions.

### **Discussion of result:-**

1. Behavior factors and their impact in the intention of adopting green practices:-

Studies have shown a positive relationship between environmental knowledge of the direction of green practices and the intention of adopting these green practices, and the existence of a negative relationship between environmental awareness and intention to adopt green practices and the existence of a negative relationship also the environmental concern of green practices and the intention of adopting these practices and the existence of a positive relationship between environmental attitude of green practices and adopt these practices and the environmental behavior has a positive effect on the intention to adopt green practices as study of (Chia – Jung et.al2012) .if this indicates it shows the weakness of the environmental and interest of the Sudanese employee of the industrial enterprises of green practices, a Sudanese employee of the industrial enterprises is not aware of anything about green practices, despite the presence of environmental knowledge will help to adopt these practices. This study has shown that there is partial support of this hypothesis.

2. Behavioral factors leading to environmental behavior: -

This study showed that there is total support for this hypothesis through

its support for the three hypotheses of the four hypotheses, it showed that there is a positive impact of three variables, namely environmental awareness and environmental concern and environmental attitude towards environmental behavior, as explained study of (Foran G . et.al) , which stipulates that there is a positive relationship between these hypotheses and also there is a positive relationship between environmental knowledge and environmental behavior, unlike what it shown this study, due to the different culture in the study communities means that there is a negative relationship between knowledge and behavior and conduct environmental.

3. Environmental behavior mediates the relationship between behavioral factors and the intention of adopting green practices: -

Through the analysis of the data turned out to be the environmental behavior mediates only the relationship between each of the environmental awareness and environmental concern, environmental attitude with the intention of adopting green practices, but he did not mediate the relationship between environmental knowledge and intention to adopt green practices as study of (Hussien Nezakati et.al 2014).

The study proved that there is partial support for this hypothesis.

4. Environmental behavior leads to a positive intention to adopt green practices: - The study showed that there is total support for this hypothesis, which states that there is a positive impact on the environmental behavior intention to adopt green practices also agreed with a number of studies, including a study (Emad) and also study of (Eric chan )

## **The second section:**

### **The study effects:-**

#### **Theoretical effects:**

This study tested the relationship between the psychological factors and intention to implement green practices in industrial foundation in Sudan and knowing the most factor that have influence green practices and also the contribute of this study is felling the gab in the previous study. And the results of this study have shown the effects of the psychological factors on the employee's intention to impalement green practices in Sudanese industrials foundations.

#### **Practical effect:**

Contribute of this study significantly is offering the help to the industrial managers to know more about their employees intention to implement green practices and enhanced the employees intention to implement green practices in industrials foundation in Sudan. It also helps the organizations to guide their employees toward green practices implementation. And aware the managers about the factors that have the most impact on implementing green practices.

### **The third section:**

#### **The challenges which are faced the research:-**

- 1/The Lack of response and cooperation by some companies
- 2/Lack type of a culture of respect for this scientific and academic works, despite their importance
- 3/Rising cost of doing the research and movement to reach the study sample
- 4/ Difficulties and problems concern the environment.

### **The fourth section:**

#### **Recommendations:-**

- 1/ Expansion and greater depth in the study.
- 2/spreading the culture of community awareness regarding the adoption green practices and green marketing.
- 3/the application of this study in the service section rather than the industrial.
- 4/The use new phrases related the environmental in which study will be carried out.

## **The sixth section:**

### **Conclusion:-**

This research studied the psychological factors that influencing on the adoption of green practices in the Sudanese companies employees and it is described the psychological factors as an independent variables and the intention to implement green practices as a dependent variable and it used these variables in data collection to know these factors (which including: Environmental knowledge, Environmental awareness, environmental attitude and environmental concern) influence on green practices.

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