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# Environmental Certification Program ISO 14001: A Study of Membership Motivation and Effectiveness

Lauren Egensperger

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## Introduction

In 1996, the International Organization of Standardization (ISO) launched the environmental standard known as ISO 14001 to provide a framework for managing ecological impacts. ISO 14001 is presented as a 47-page document that features a series of guidelines which help organizations introduce effective Environmental Management Systems (EMS). These systems allow companies from any size or sector to identify, manage, monitor and control environmental issues in a holistic manner while enhancing environmental performance. An updated version of the standard was released in 2015 so that newer challenges including climate change, water use, and energy consumption could be addressed.

Currently:

- Over 223,000 organizations are certified
- ISO 14001 exists in 159 countries
- 5,000 certifications issued in the United States
  - 8,000 total in North America
- 18,000 certifications issued in the United Kingdom
  - 120,000 total in Europe



Rank	Country	Certificates
1	China	137,230
2	Japan	27,372
3	Italy	26,655
4	United Kingdom	16,761
5	Spain	13,717
6	Germany	9,444
7	India	7,725
8	France	6,695
9	Romania	6,075
10	United States of America	5,582

## Motivations

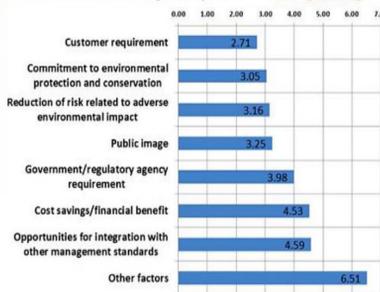
External

- Public image/ reputation
- Social and marketing positions/ relations with foreign consumers
- Stakeholders, customers, competitors, government, suppliers, and society

Internal

- Competitive advantage
- Employee awareness
- Environmental Management System effectiveness
- Efficiency, production, and financial position
- Environmental issue responsiveness
- Environmental performance

### Factors Influencing Adoption



\*Lowest rank = highest influence

This graphic is based on a 2013 survey by ISO designed to investigate factors that impact certification. The survey yielded the response of close to 5000 participants in 110 countries. Respondents ranked the strongest environmental motivations for adoption to be environmental protection/conservation and reduction of risk of adverse environmental impact. The strongest drivers related to business management included customer requirements and public image.

## Benefits

### Environmental Benefits

- **Meet legal requirements** - develop practices that ensure environmental performance satisfies government regulations
- **Improve environmental performance** - integrate updated technology/ create new procedures which reduce environmental impact
- **Leadership commitment** – managers address environmental issues
- **Employee involvement** – workers perceive Environmental Management Systems to be essential
- **Stakeholder relations**- business partners and investors support companies with green initiatives
- **Supplier commitment** – suppliers feel compelled to establish environmentally conscious practices

### Business Benefits

- **Meet stakeholder objectives** – enhance confidence in the quality being provided
- **Improve company reputation** –customers trust establishments willing to mobilize a positive agenda
- **Improve efficiency and production** –new equipment may result in more effective manufacturing techniques
- **Improved financial state** - reduced operation costs and increase in business opportunities
- **Connections to larger markets** –efficient transactions in international markets
- **Competitive advantage** – customers more likely to support those with extensive credentials



## Changes Expected Following Certification:

- Increased recycling
- Reduced paper use
- Reduced raw materials consumption
- Materials sourced from environmentally conscious suppliers
- Decreased energy consumption
- Decreased quantity of waste entering landfills
- Effective management of hazardous waste
- Reduced emission
- Decreased pollutant release
- Accurate documentation of environmental data

## Issues

### Variable outcomes

- Success depends on the severity of a country's established performance regulations
- Enforcement varies depending on requirement flexibility in each nation

### Symbolic adoption

- Defined as a way to legitimize environmental efforts while failing to institute real commitment
- Stakeholders perceive increased environmental awareness exists following certification
- Adoption by symbolic firms and committed firms may compromise confidence in the standard

### Motivation

- Firms driven by external motives experienced minimal lasting positive impacts

### Cost

- High certification costs hinder ISO implementation
- Smaller firms perceive Environmental Management Systems to be difficult and costly to adopt

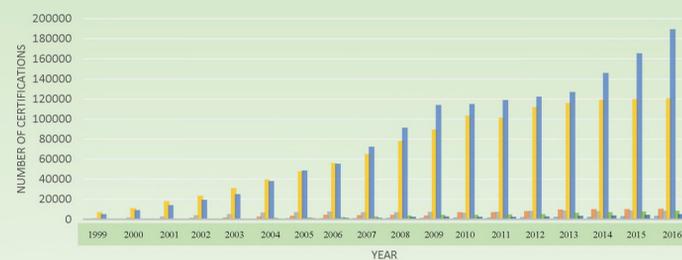
### Data

- Data challenging to analyze / numbers are not standardized
- ISO does not assemble a list of all certified organizations

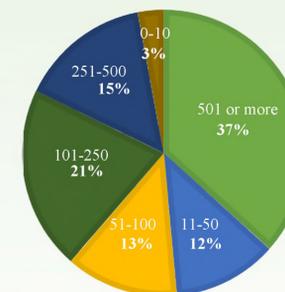
### Environmental impact

- The extent to which ISO 14001 improves environmental outcomes remains contested

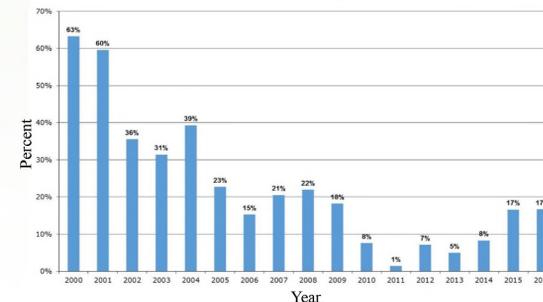
### Number of ISO 14001 Certifications vs. Year



### ISO 14001 USERS – SIZE OF ORGANIZATION (NUMBER OF EMPLOYEES)



### ISO 14001 – World annual growth (in %)



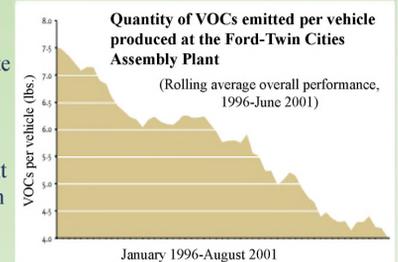
In recent years, the number of organizations obtaining ISO 14001 certification has experienced minimal growth compared to the growth of the early 2000s. This means that, while the number of companies adopting the standard is still increasing, the rate of increase is slower than it had been. The slower growth rate may indicate that the standard is receiving reduced attention.

## Factors Impacting Success/ Case Study

- Ford Motor Company adopted ISO 14001 in 1998
- Became the first automotive corporation to receive ISO 14001 certification at every manufacturing location in 2005
- All 140 plants in 26 countries have adopted the standard
- Ford now has more individual facilities certified under ISO 14001 than any other company

Performance improvements gained after ISO implementation include:

1. Decreased quantity of disposable packaging
2. Reduction in paint solvent usage and volatile organic compound emissions
3. Reduced hydrogen sulfate, sodium hydroxide, and chlorate used in wastewater pretreatment
4. Increased electrical output from hydroelectric power plant
5. Reduced water consumption
6. Switch to energy efficient light bulbs



## Conclusions

- Data must be standardized to compare environmental performance outcomes in different regions
- The extent to which ISO 14001 helps the environment remains uncertain due to the fact that companies determine their own objectives
- Motivating factors dictate the type of benefits gained from the standard
- Symbolic adoption may cause the level of commitment to environmental preservation seen in certified organizations to be highly variable

## ISO in the Future

Scholars have suggested means of improving ISO 14001 in order to make the standard more successful in the future.

1. Tax exemptions, eco-labelling, financial support, and exemptions from frequent inspections for certified corporations
2. Adoption encouraged among small, local, and private organizations
3. Technical/ financial support, training initiatives, and simplified targets for small and medium sized institutions
4. Increase in government regulation and involvement
5. Encourage primary focus to be on establishing internal motives and enhancing environmental performance

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