

# Direction to Improve Maritime Safety using National Culture

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Culture Shock



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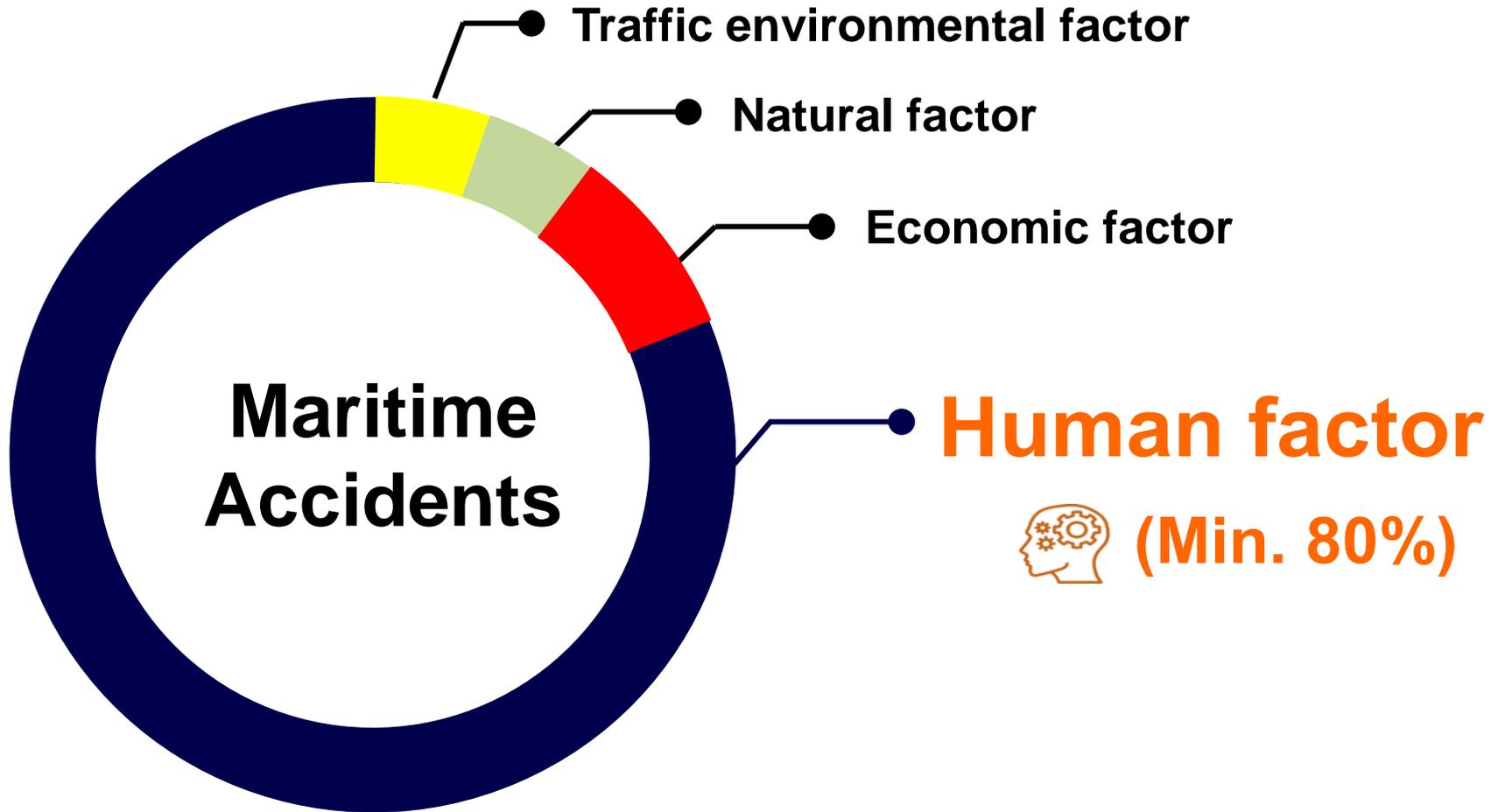
# 1

## Ship Maritime Accidents : The Importance of Culture

- Background
- Toward Just Culture in IMO
- Need to consider National Culture for International Maritime Safety
- Strategic Directions

# 1. Ship Maritime Accidents | Background

01



1) A Case Study of Marine Accident Investigation and Analysis with Focus on Human Error (Kim, 2011)

# 1. Ship Maritime Accidents I Toward Just Culture in IMO



There is a wealth of evidence from accident reports across a range of industries about the causes of accidents. Investigations consistently identify human error and organizational failings as a principal cause. Where technical failures are implicated, the technology is generally allowed to fail through human action, or often inaction, i.e. the problems are frequently with human behaviour and the organizational system in which the technology was required to operate, i.e.: the **human and organizational factors**.

MEPC 62/17/2 6 May 2011 in IMO



The conclusion of the research carried out by the United Kingdom is that a Just Culture is the essential component underpinning safety and business success:

- Business success depends on managing risks effectively
  - to manage risks you need an effective safety culture
    - to have an effective safety culture you need an effective learning culture
      - for an effective learning culture you need an effective reporting culture
        - which cannot exist without an **effective Just Culture**.

MSC 88/16/1 20 August 2010 in IMO

# Need to consider National Culture

## 1. Ship Maritime Accidents | for International Maritime Safety

### Cause



Safety experts have tried to shed lights on the safety issues at the technical and engineering level and through **training** and **communications** based on organizational management.



### Result



We see the improvement so far has been **far less than satisfaction**, which in turn reveals that such recommendations and applications show **discrepancies in the practice**.

# Need to consider National Culture

## 1. Ship Maritime Accidents | for International Maritime Safety

Cause



Difference of  
National Culture



Result



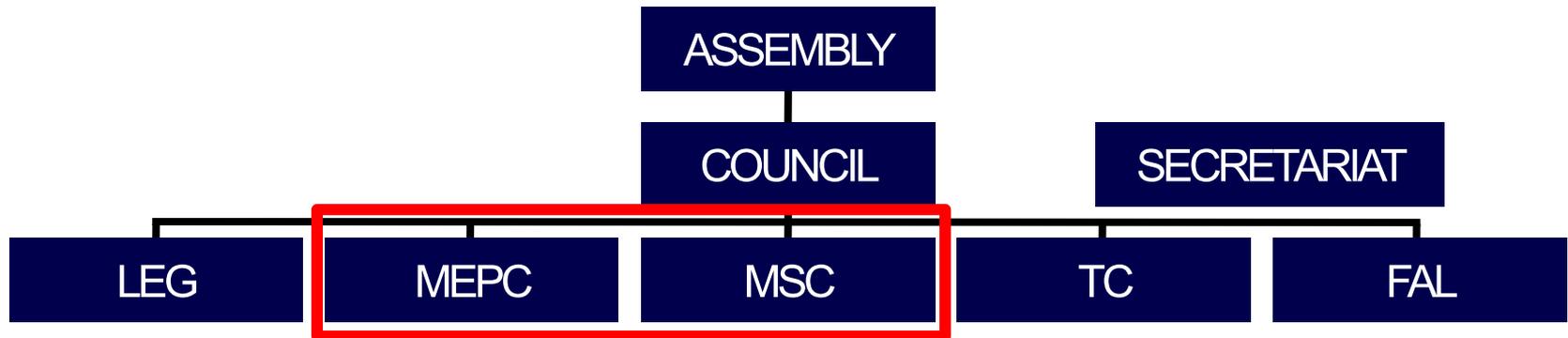
Implementation   
Efficiency 



**Necessity** of National Culture

# 1. Ship Maritime Accidents | Strategic Directions

01



## Strategic Directions 6

Ensure regulatory effectiveness

## Out number 6.4

Lessons learned and safety issues identified from the analysis of marine safety investigation reports

# 2

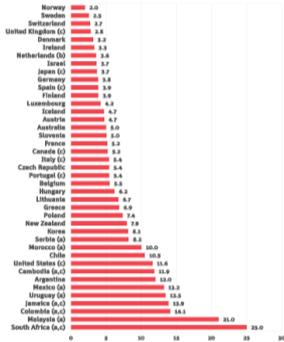
## National Culture : Analysis & Correlation

- **Correlation between Road Traffic and Maritime Traffic Accidents**
- **6 Dimensions of National Culture**
- **Correlation between OECD/ITF Road Traffic Accident Data and 6 Dimensions**
- **Correlation between Maritime Traffic Accident Data and 6 Dimensions**
- **Correlation between Traffic Accident Data, Maritime Accident Data and 6 Dimensions**

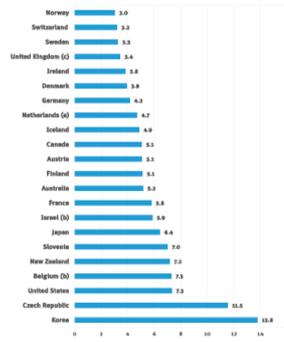
# Correlation between Road Traffic

## 2. National Culture I and Maritime Traffic Accidents

Road fatalities per 100 000 inhabitants 2017 (latest available)



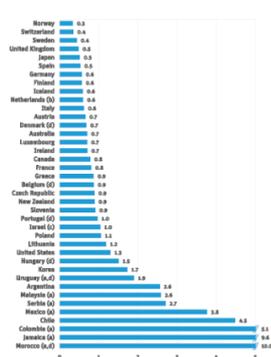
Road deaths per distance travelled 2016 (billion vehicles-kilometers)



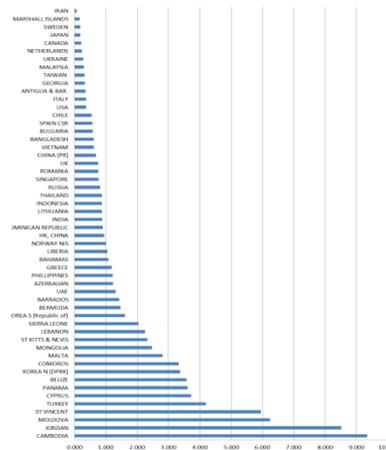
Among the OECD/ITF countries, 5 developed countries and 5 vulnerable countries as to deaths per 100,000 population, 10,000 vehicles, and billion kilometers - car.



Road deaths per 10 000 vehicles 2016 (registered vehicles)

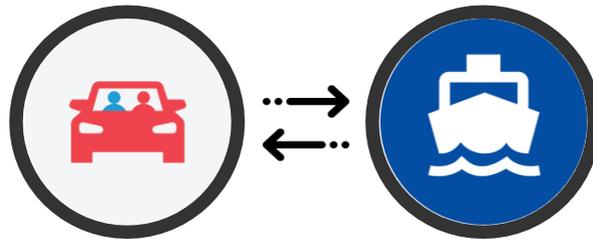


Cumulative (% of registered fleet) losses by flag of registration 1997 - 2011

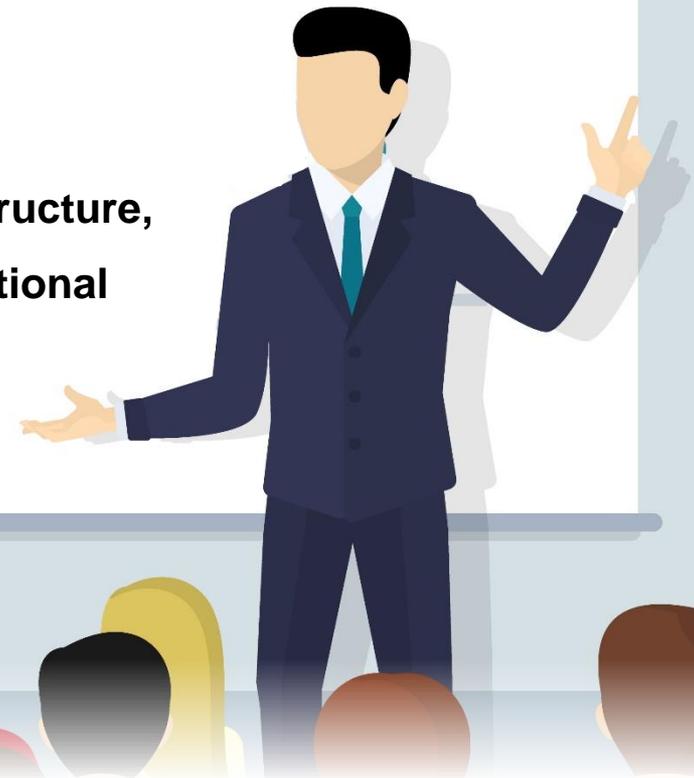


# Correlation between Road Traffic

## 2. National Culture I and Maritime Traffic Accidents



Road traffic is on an artificial and social infrastructure, therefore it has the **advantage** of securing additional information on safety and security issues.



## 2. National Culture | 6 dimensions of National Culture

### Hofstede's Cultural Dimensions

#### Power distance

Refers to how people perceive power and inequality between different hierarchical levels

#### Individualism - Collectivism

Refers to the importance of group membership to an individual

#### Masculinity - Femininity

Refers to the importance of masculine of feminine values to a society

#### Uncertainty Avoidance

Refers to how people perceive concepts such as risk, uncertainty and ambiguity

#### Long Term - Short Term Orientation

Refers to how a society deals with its past and its challenges for the present and future

#### Indulgence - Restraint

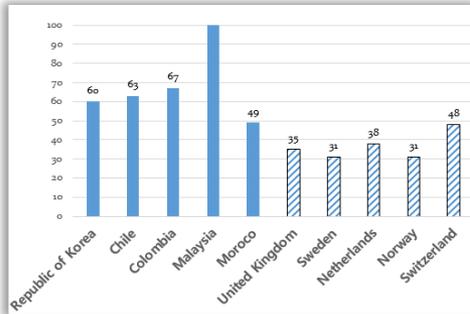
Refers to the importance of the satisfaction of immediate needs

1) *Cultures and Organizations: Software of the Mind, Third Edition* (Hofstede, 2010)

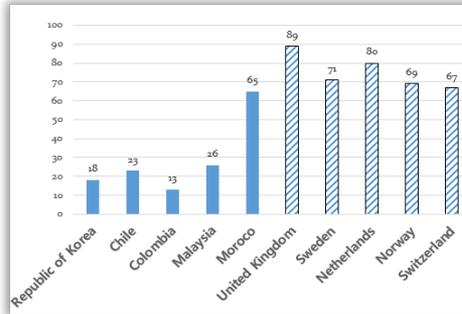
# Correlation between OECD/ITF

## 2. National Culture | Road Traffic Accident Data and 6 Dimensions

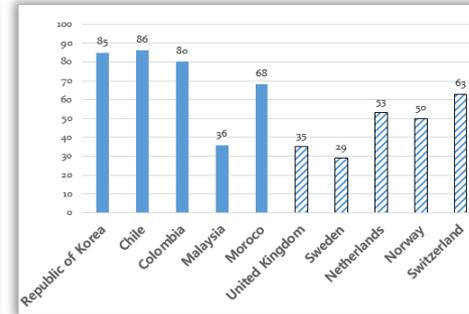
- **Developed countries :** UK, Netherlands, Sweden, Switzerland, Norway
- **Vulnerable Countries :** Chile, Malaysia, Republic of Korea, Colombia, Morocco



**Power Distance**

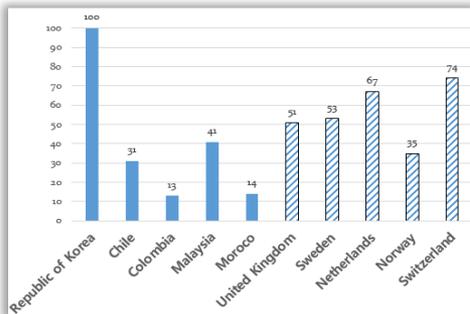


**Individualism - collectivism**

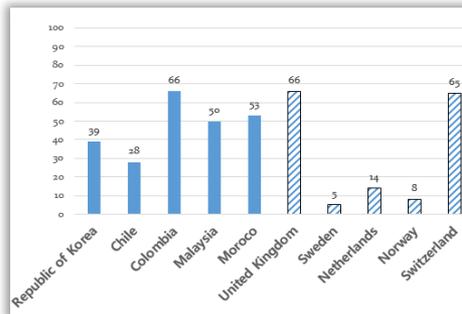


**Uncertainty Avoidance**

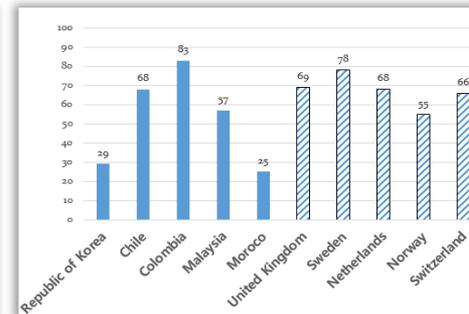
■ Vulnerables  
▨ Advanced



**Long-term Orientation  
- Short-term Orientation**



**Masculinity - Femininity**



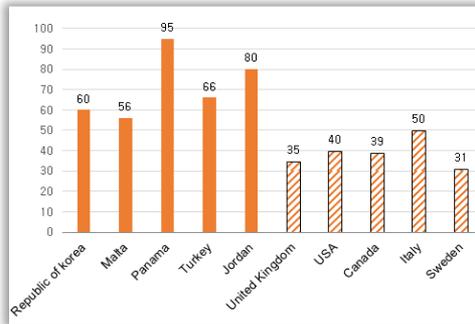
**Indulgence - Restraint**

- 1) *Road Safety Annual Report 2018*
- 2) *Cultures and Organizations: Software of the Mind, Third Edition (Hofstede, 2010)*

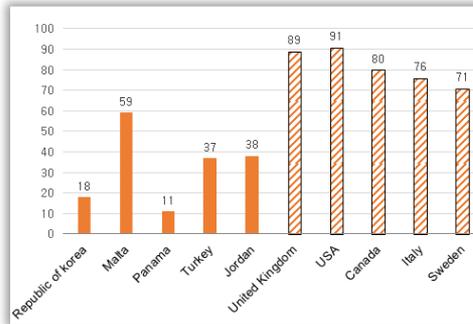
# Correlation between Maritime Accident Data

## 2. National Culture I and 6 Dimensions

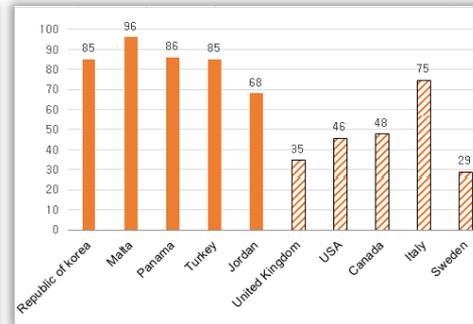
- **Developed countries :** UK, USA, Canada, Italy, Sweden
- **Vulnerable Countries :** Republic of Korea, Malta, Panama, Turkey, Jordan



**Power Distance**

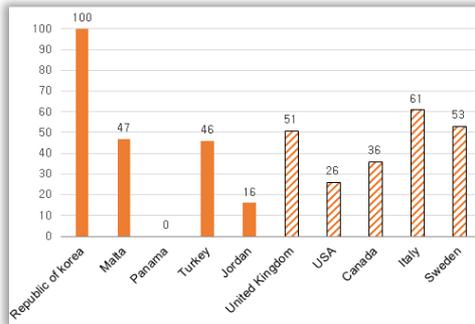


**Individualism - collectivism**

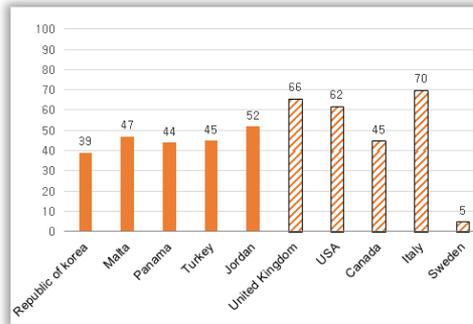


**Uncertainty Avoidance**

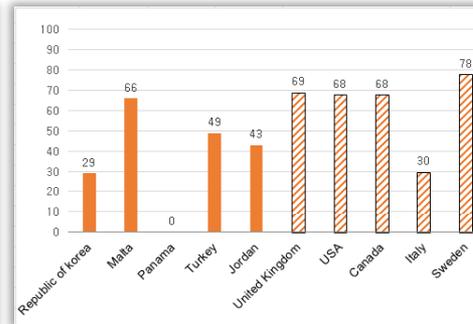
Vulnerables  
 Advanced



**Long-term Orientation  
- Short-term Orientation**



**Masculinity - Femininity**



**Indulgence - Restraint**

- 1) *Cultures and Organizations: Software of the Mind, Third Edition (Hofstede, 2010)*
- 2) *15 Years of Shipping Accidents : A review for WWF Southampton Solent University*

# Correlation between Traffic Accident Data, 2. National Culture | Maritime Accident Data and 6 Dimensions

02

1

## Power Distance

High distances can lead to **abuse** of traffic. Accidents can occur due to **lack of communication** in road air and sea traffic.

2

## Individualism - Collectivism

Collectivism, which emphasizes group needs and goals, promotes **selfishness** because of social rules. **Irresponsible behavior, lack of attention, and offensive behavior** can appear and cause accidents.

3

## Uncertainty Avoidance

Uncertainty the high propensity to avoid uncertainty affects **fast driving** to avoid ambiguities or uncertainties. This can cause **fatal accidents**.

1) *A Review on the Transportation Safety and National Culture (Kwon, 2018)*

2) *A Review on the National Culture and its Effects on the Transportation Safety Perspectives (Kwon, 2019)*

# 3

## Conclusion

### : Solution using National Culture

- Toward National Culture in IMO
- Perspective

### 3. Conclusion I Toward National Culture in IMO

#### MSC-MEPC.7/Circ.7

Approved on 10 October 2008

#### Guidance on near-miss reporting

**ISM** Code

- **The near-miss investigation process**

- As a minimum, the following information should be gathered about any near miss:
  1. Who and what was involved?
  2. What happened, where, when, and in what sequence?
  3. What were the potential losses and their potential severity?
  4. What was the likelihood of a loss being realized?
  5. What is the likelihood of a recurrence of the chain of events and/or conditions that led to the near miss?

#### MSC-MEPC.(x)/Circ.(x)

#### Consideration of national culture

**ISM** Code

- **Process for utilizing National Culture**

1. Use the Hofstede's 6 dimensions to consider National Culture.
2. Use the latest 3 to 5 years data to select criteria for the 6 dimensions. (Updated e.g every 2 years?)
3. Select appropriate improvements and conduct education and training.



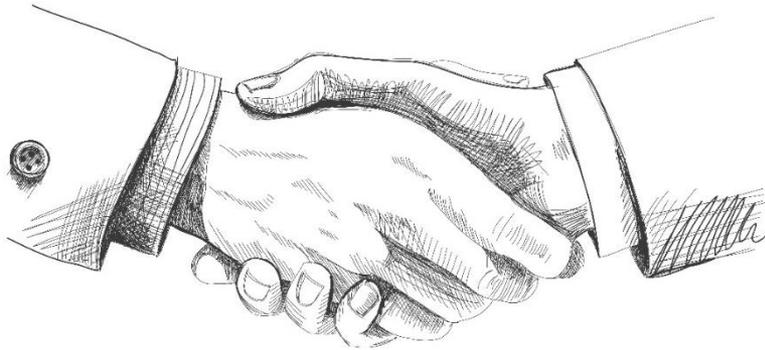
### 3. Conclusion I Toward National Culture in IMO



Country



IMO



Then, every 3 to 5 years, for instance, each member country of the IMO would be asked to report the **outputs of the study on the relevance of its own National Culture and maritime accidents**. It is anticipated that each country shall be able to set up its own strategy consulting the result to achieve national aim of better safety.

For example) Country A may find the individualism is much less than average of the world.

### 3. Conclusion I Perspective

#### Efficiency

The issues of earth environment and weather, politics and economy, incorporating certain aspects of national culture shall be of fundamental help

in order to **reduce the accidents** and **minimize the outcomes**, along with the help of **conventional approach**.



Agencies & Associations



Country



National Culture

#### Development

This perspective will develop the Just Culture. If the Just Culture develops further, a Safety Culture will be built for safe ship operation.

Just Culture



Safety Culture



# Thank you

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**Culture Shock**