

EDUCATION, LEADERSHIP AND INNOVATION

THE ROLE OF NATIONAL CULTURAL PRACTICES,
ECONOMIC AND POLITICAL FACTORS

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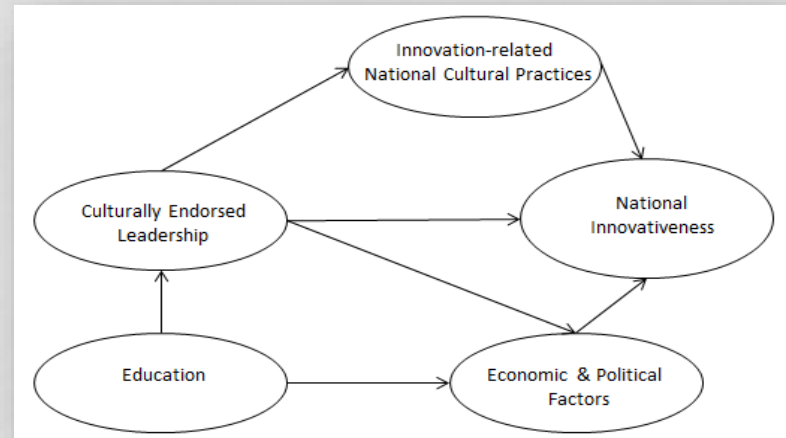
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OBJECTIVE AND RQ

- Relationship between cultural endorsement for leadership and national level innovation?
- Influence of national level contingency variables

- Level of education
- Innovation related national cultural practices
- Economic & political factors



BACKGROUND

GLOBE - CULTURALLY ENDORSED LEADERSHIP & NATIONAL CULTURAL PRACTICES

Culturally endorsed leadership dimensions

- Countries differ regarding acceptance and preference of leadership behavior

National cultural practices dimensions

- Countries differ regarding the “way things are done”

Innovation related culturally endorsed leadership dimensions

- Participative leadership
- Team-oriented leadership

Innovation related national cultural practices dimensions

- Uncertainty avoidance
- In-group collectivism
- Institutional collectivism
- Future orientation
- Performance orientation

(House et al., 2004; Triandis, 2004)

BACKGROUND (1)

EDUCATION & CULTURAL ENDORSED LEADERSHIP

Education & culturally endorsed participative leadership

- Qualifications, knowledge, maturity, and abilities of the country's citizens influence which kind of leadership is accepted and effective
- If no match: lower involvement, lower commitment and acceptance, desired results of participative leadership are decreased

H1a. The level of education in a country is positively related to the endorsement of participative leadership style

Amabile,1988; Hersey et al.,1996; Kerr et al.,1978; Reddin,1977, Javidan et al.,2006

Education & culturally endorsed team-oriented leadership

- Team building and implementation of common purposes and goals
- Providing safety and decreasing uncertainty for members
- Helpfulness and supportiveness vs. pure qualifications and knowledge
- Free riding possible

H1b. The level of education in a country is negatively related to the endorsement of team-oriented leadership style

Javidan et al.,2006; Hogg et al.,2008; van der Heijden et al.,2009; Costa et al.,2001

BACKGROUND (2)

EDUCATION, ECONOMIC & POLITICAL FACTORS AND INNOVATIVENESS

Education, economic & political factors and innovativeness

- Link between economic wealth, political stability the national level of innovation
- Importance of resources and environmental stability for innovation

H2a. The level of education in a country is positively related to favorable economic and political factors.

INSEAD, 2011; Leonard et al.,1998; Nonaka,1994; Scholl, 2010; Anderson et al., 2004; Huelsheger et al.,2009

Mediation effect of economic & political factors

- Higher educated workforce creates higher economic wealth, has more available and dispositional resources to invest and venture into innovations
- Economic factors are both influenced by education as well as influence the education-innovation relationship (= mediator)

H2b. Economic and political factors mediate the relationship between the level of education in a country and national innovativeness.

Ferreira, 2001; Baron et al.,1986

BACKGROUND (3)

CULTURAL ENDORSED LEADERSHIP & NATIONAL INNOVATIVENESS

Culturally endorsed participative leadership & innovativeness

- Participative leadership involves participation in decision making (motivation & trust)
- Link between cultural endorsement for participative leadership and organic organizations and continuous improvement and learning

H3a. Cultural endorsement for participative leadership is positively related to national innovativeness.

Culturally endorsed team-oriented leadership & innovativeness

- Positive and negative findings regarding team-oriented leadership and teamwork regarding innovation (contingency dependent)
- Negative effects are more likely on higher level of aggregation (groupthink, free-riding, social loafing, negative effects of heterogeneity)

H3b. Cultural endorsement for team-oriented leadership is negatively related to national innovativeness.

Hüttermann et al.,2011; van Knippenberg et al.,2004; West et al.,1996; de Dreu,2006

BACKGROUND (4)

CULTURAL ENDORSED LEADERSHIP & NATIONAL CULTURAL PRACTICES

Participative leadership & national cultural practices

- ↗: Future- & performance orientation, institutional collectivism and uncertainty avoidance
- ↘: In-group collectivism

H4a. Cultural endorsement for participative leadership is positively related to innovation supportive national cultural practices.

Schein,2004; Javidan,2004; Trompenaars et al.,2010; Venaik et al.,2008;

Team-oriented leadership & national cultural practices

- ↗: In-group collectivism
- ↘: Future- & performance orientation, institutional collectivism and uncertainty avoidance

H4b. Cultural endorsement for team-oriented leadership is negatively related to innovation supportive national cultural practices.

Dorfman,2004; Gelfand et al.,2004; Delton et al.,2012; Ashkanasy et al.,2004

Mediation effect of national cultural practices

- Innovation supportive national cultural practices are influenced by CLT as well as influencing the CLT – national innovation relationship (= mediator)

H4c. Innovation supportive national cultural practices mediate the relationship between CLT and national innovativeness.

Gelfand et al.,2004; Taylor et al.,2012; Schwartz et al.,1987

BACKGROUND (5)

CULTURAL ENDORSED LEADERSHIP, ECONOMIC & POLITICAL FACTORS

Participative leadership, economic and political factors

- Level of education is positively related to endorsement of participative leadership (H1a)
- Level of education is positively related to innovation supportive economic and political factors (H2a)

H5a. Cultural endorsement for participative leadership is positively related to innovation supportive economic and political factors.

Amabile,1988; Javidan et al.,2006; INSEAD, 2011; Scholl, 2010; Anderson et al.,2004; Huelsheger et al.,2009

Team oriented leadership, economic and political factors

- Level of education is negatively related to endorsement of team-oriented leadership (H1b)
- Level of education is positively related to innovation supportive economic and political factors (H2a)

H5b. Cultural endorsement for team oriented leadership is negatively related to innovation supportive economic and political factors.

Javidan et al.,2006; Costaet al.,2001; INSEAD, 2011; Anderson et al.,2004; Huelsheger et al.,2009

EMPIRICAL DATA

OUR SAMPLE

Criteria to be included into the sample

- Data about national culture and cultural endorsed leadership dimensions from the GLOBE study
- Data about innovation from the Global Innovation Index

Countries Included in the analysis

Albania	Finland	Kazakhstan	Slovenia
Argentina	France	Kuwait	South Africa
Australia	Georgia	Malaysia	South Korea
Austria	Germany	Mexico	Spain
Bolivia	Greece	Moroco	Sweden
Brazil	Guatemala	Namibia	Switzerland
Canada	Hong Kong	Netherlands	Thailand
China	Hungary	New Zealand	Turkey
Colombia	India	Nigeria	United Kingdom
Costa Rica	Indonesia	Philippines	United States
Denmark	Ireland	Poland	Venezuela
Ecuador	Israel	Portugal	Zambia
Egypt	Italy	Russia	Zimbabwe
El Salvador	Japan	Singapore	

Resulting sample

n = 55 countries; based on more than 13,500 observations

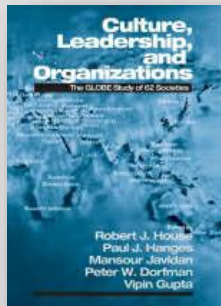
EMPIRICAL DATA

GLOBE STUDY & GLOBAL INNOVATION INDEX

Most up-to date and elaborate research project on national culture

Data for:

- 62 countries
- 17.300 observations
- 951 organizations (no multi nationals)



(House et al., 2004)

Aim:

Overcome the weaknesses of the Hofstede study

Most elaborate and comprehensive innovation index

- Integration of innovation relevant data (+60 variables)
- Every variable is based on multiple indicators
- Economical indicators (UN, World Bank, UNESCO)
- Survey data indicators



INSEAD, 2011

Aim:

Most elaborate measure of nation innovation

Benefits of our approach

No common source & common method bias & No culture specific bias & No ecological or reversed ecological fallacy

METHOD & RESULTS

MEASUREMENT MODELL

Composite	Components	Factor loadings & path coefficients	t-values	AVE	CR	R ²
Culturally endorsed leadership	-Participative -Team-oriented	.75 -.57	5.38 3.31	Formative		.22
Innovation related national cultural practices	-In-group collectivism -Institutional collectivism -Future orientation -Performance orientation -Uncertainty avoidance	-.78 .67 .87 .75 .91	10.43 6.88 13.61 6.84 28.45	.64	.76	.19
Education	-Education indicators -Tertiary education indicators	.91 .86	51.73 25.50	.78	.88	Exogenous
Economic and political factors	-GDP per capita -Political environment	.95 .94	97.06 55.05	.89	.94	.62
National innovativeness	- Scientific outputs - Creative outputs	.92 .86	72.49 17.98	.79	.88	.72

AVE: Average Variance Extracted; CR: Composite Reliability

METHOD & RESULTS

CORRELATION MATRIX OF THE LATENT CONSTRUCTS WITH ROOT OF AVE IN THE DIAGONAL

Table 6 - Correlation matrix of the latent constructs with root of AVE in the diagonal

Composite	(1)	(2)	(3)	(4)	(5)
1. Economic and political factors	.94				
2. Education	.77	.89			
3. Culturally endorsed leadership	.53	.46	Formative		
4. Innovation related national cultural practices	.62	.40	.43	.80	
5. National innovativeness	.79	.61	.46	.74	.89

METHOD & RESULTS

CORRELATIONS

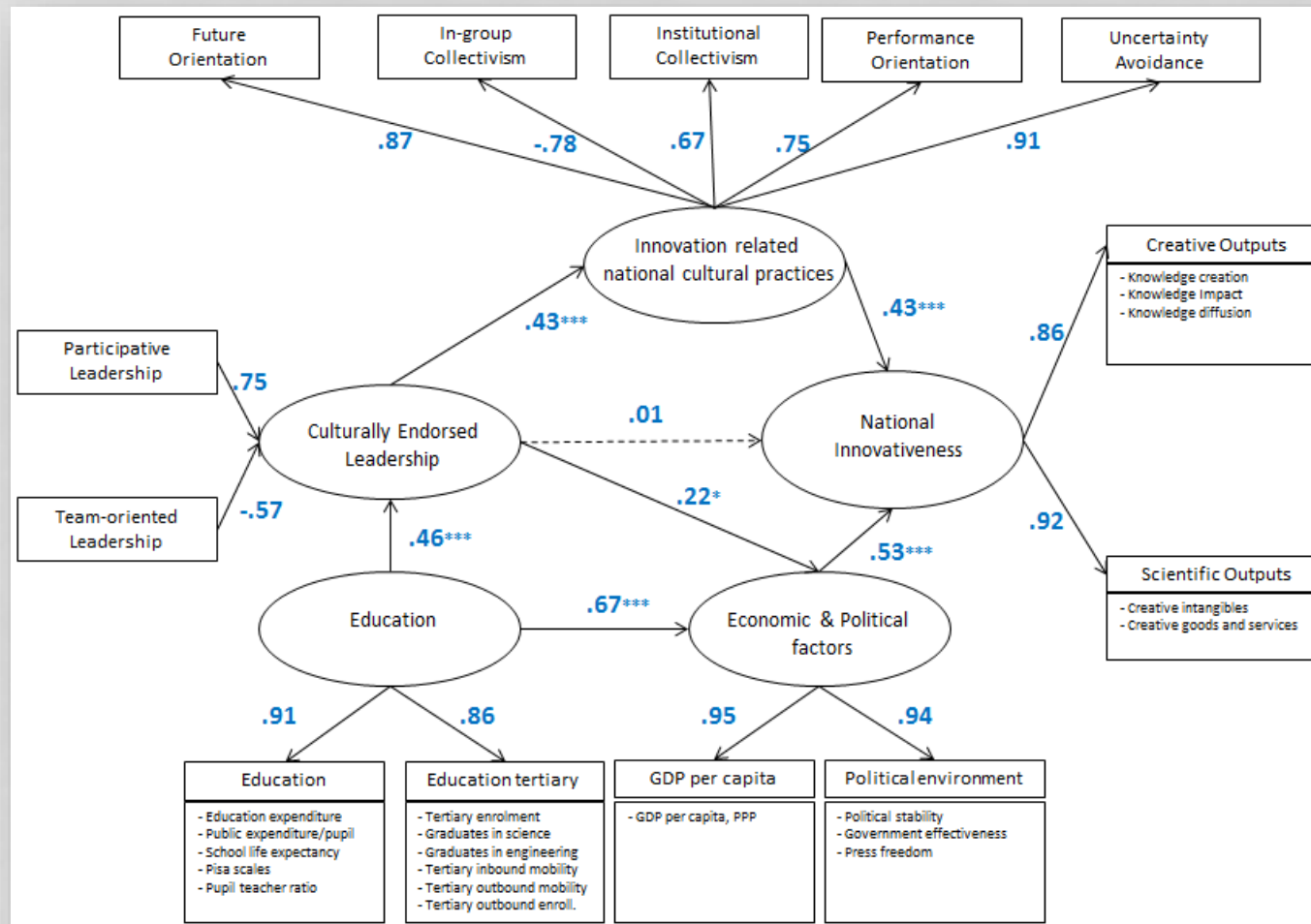
Indicators	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1st order factors																	
1. Participative Leadership	-																
2. Team-oriented Leadership	-.13	-															
3. Institutional collectivism	.03	-.31*	-														
4. In-group collectivism	-.48***	.25	-.37**	-													
5. Future orientation	.27*	-.22	.50***	-.54***	-												
6. Performance orientation	.14	-.22	.49***	-.34*	.64***	-											
7. Uncertainty avoidance	.03	-.32*	.50***	-.69***	.77***	.65***	-										
8. GDP per capita	.40**	-.29*	.29*	-.54***	.44**	.37*	.51***	-									
9. Political environment	.50***	-.28*	.33*	-.68***	.45**	.37*	.55***	.79***	-								
10. Education	.33*	-.36**	.29*	-.51***	.20	.12	.39**	.71***	.69**	-							
11. Tertiary education	.23	-.32*	.24	-.15	.29*	.21	.30*	.68***	.44*	.57***	-						
12. Creative outputs	.45**	-.11	.14	-.58***	.49***	.40**	.54***	.60***	.56***	.41**	.33*	-					
13. Scientific outputs	.31*	-.32*	.60***	-.62***	.56***	.50***	.64***	.78***	.68***	.61***	.51***	.59***	-				
2nd order factors																	
14. Economic & Political	.47***	-.30*	.33*	-.64***	.47***	.39***	.56***	.95***	.94***	.74***	.60***	.61***	.77***	-			
15. Education	.33**	-.38**	.30*	-.40**	.27*	.18	.39**	.79***	.66***	.91***	.86***	.43**	.64***	.77***	-		
16. Leadership	.82***	-.67***	.20	-.50***	.32*	.23	.38**	.47***	.54***	.46***	.36**	.40**	.41**	.53***	.46***	-	
17. National culture	.33**	-.33*	.67***	-.78***	.87***	.75***	.91***	.56***	.62***	.40**	.29*	.57***	.73***	.62***	.40**	.43**	-
18. National innovativeness	.42**	-.27	.45**	-.67***	.59***	.51***	.66***	.78***	.70***	.59***	.49***	.86***	.92***	.79***	.61***	.46***	.74***

Notes. Pearson correlations. Two-tailed significance. Sample size is $N=55$ countries

* $p < .05$. ** $p < .01$. *** $p < .001$.

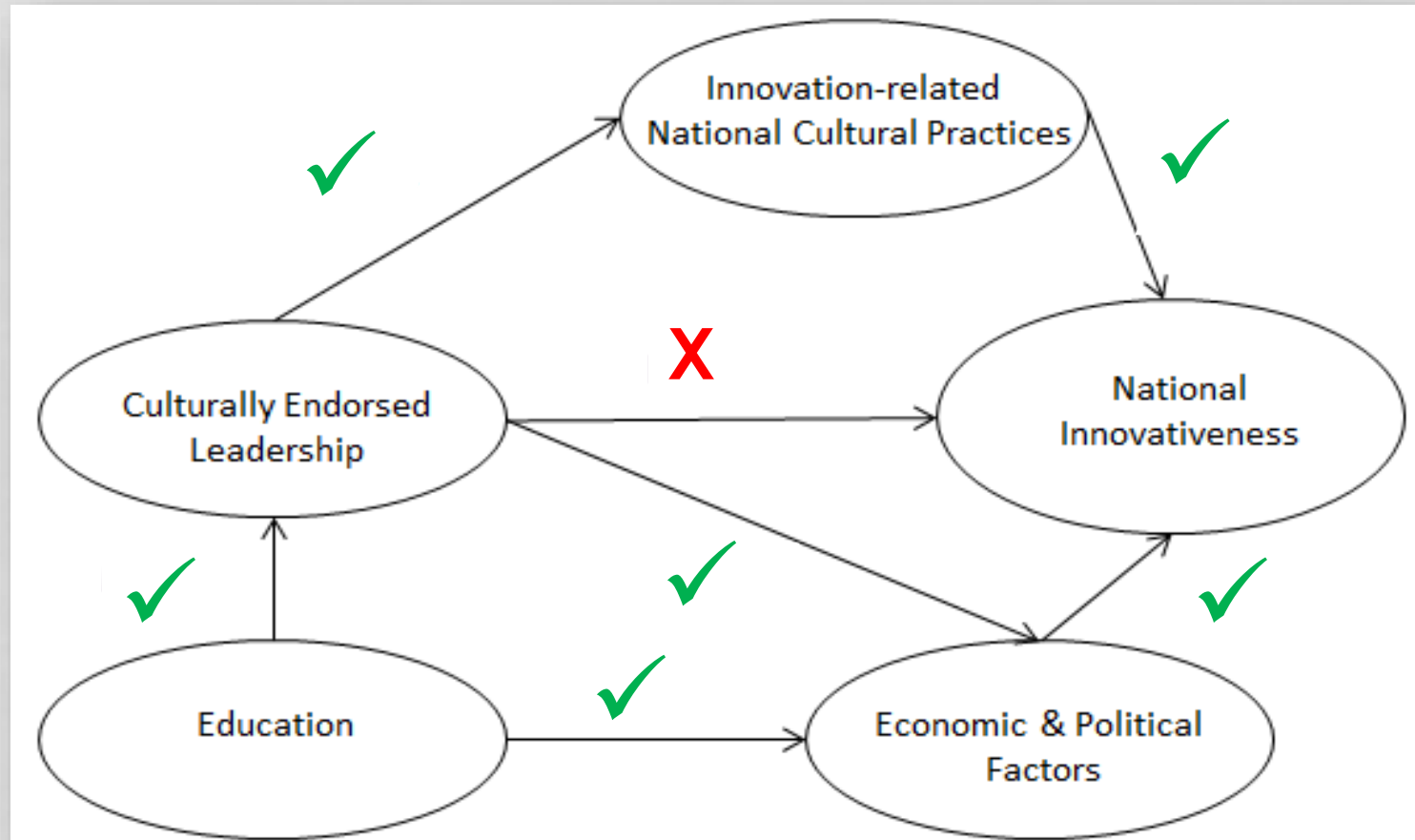
METHOD & RESULTS

STRUCTURAL MODELL



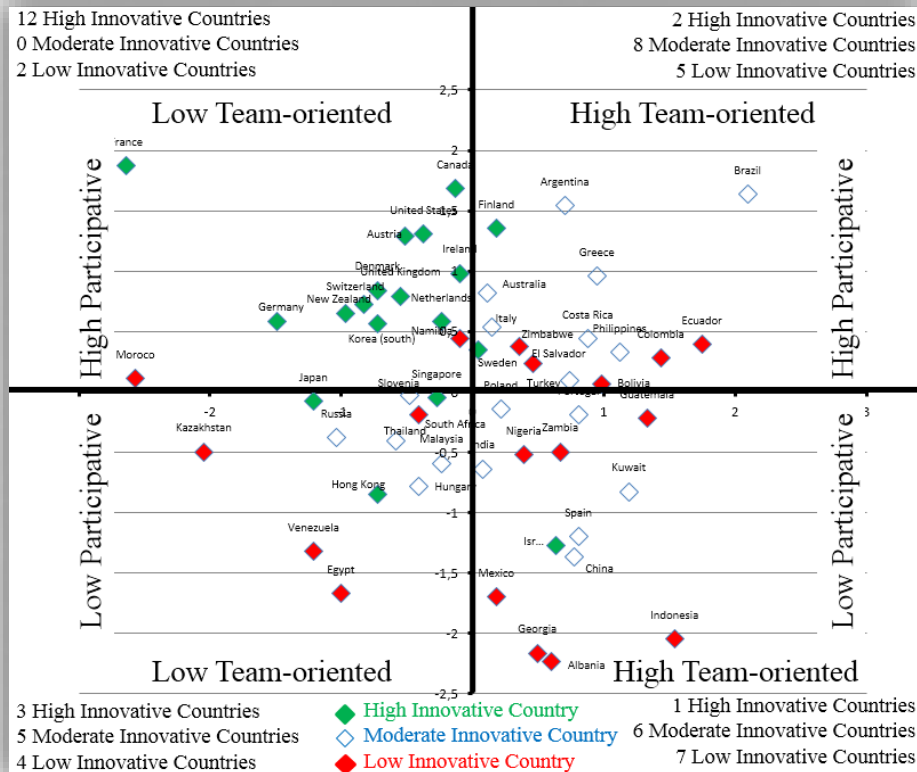
RESULTS

HYPOTHESES



RESULTS

DISTRIBUTION OF COUNTRIES



- High participative & low team-oriented
 - Only high innovative countries (exception Morocco, Namibia)
 - High participative & high team-oriented
 - Countries of all levels & tendency to higher innovation
 - Low participative & low team-oriented
 - Countries of all levels & tendency to higher innovation
 - Low participative & high team-oriented
 - Low and moderate innovative countries (exception: Israel)
-
- Cultural endorsement for participative and/or team-oriented leadership are independent factors

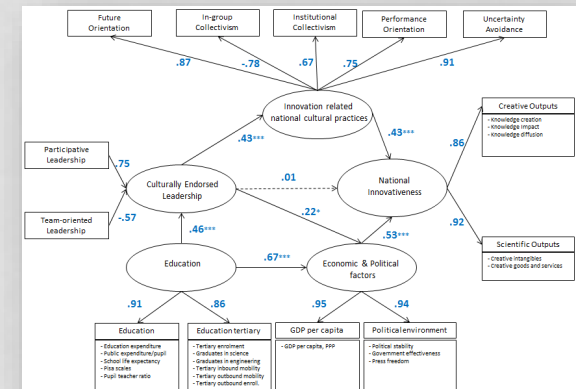
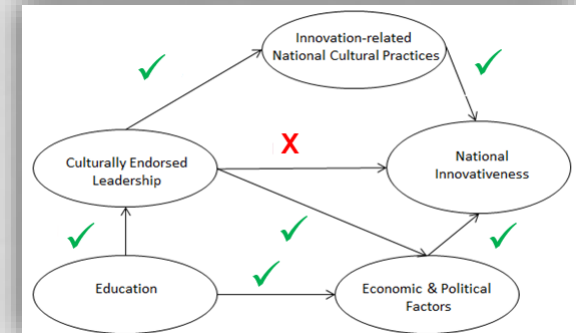
DISCUSSION & CONCLUSION

FINDINGS

- Existence of an **indirect** relationship between cultural endorsement of leadership and national innovativeness
 - Countries which endorse participative leadership are more innovative
 - Countries which endorse team-oriented leadership are less innovative

- National cultural practices, political and economic factors are important mediators

- The level of education is an important antecedence variable



DISCUSSION & CONCLUSION

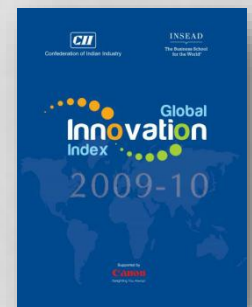
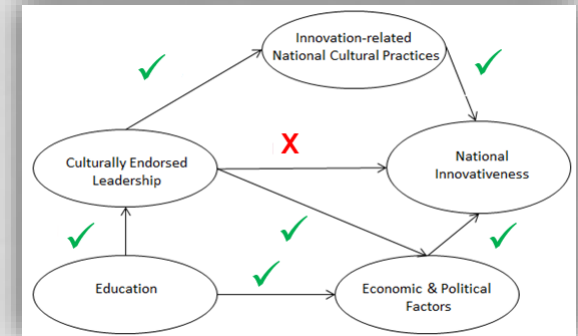
IMPLICATIONS

- Cultural endorsed leadership style **may not be** the appropriate one in the context of innovation
 - Innovation may require leadership behavior which is **not appreciated and accepted** in some countries
 - Resistance (vicious circle of education cultural endorsement for specific leadership, cultural practices, political and economic environment)
- Suggestions for Intervention
 - Education as a key factor
 - Personal selection
 - Leadership: Balanced approach

DISCUSSION & CONCLUSION

LIMITATIONS

- Model is always a abstraction of reality
- Sample Size
- Level of data aggregation
- Data Sources
 - Globe Study
 - Global Innovation Index



Thank you