

Rethinking Higher Education Research: Ontology Mapping of Higher Education Systems

Tanveer Hasan¹, Arkalgud Ramaprasad² and
Chetan Singai³

¹*Tata Institute of Social Sciences, V.N. Purav Marg, Deonar, Mumbai
400088, India*

²*College of Business Administration, University of Illinois at Chicago,
601 S Morgan Street, Chicago, IL, USA*

³*EDGE and National Institute of Advanced Studies, Bengaluru 560012,
India*

Agenda

- Mapping as an alternative to ranking
- An Ontology of Higher Education (HE)
- Mapping a HE system
 - The institutions in the system
 - Data collection
 - Data coding
- Results
- Conclusion
- Contribution and limitations



zw.google.com.hk/imgres?imgurl=http://www.gscadventist.org.au/web/wp-content/uploads/2012/10/children1.jpg&imgrefurl=http://www.gscadventist.org.au/web/ministries/children/&h=1429&w=4134&brid=KJd_cja300xbIM:&zoom=1&docid=k6bdxWNL0mTGM&ei=ZcK7U-DBB4648p0X_IhYDQ&tbm=sch&client=firefox-a&ved=0CD4QMgNMA0

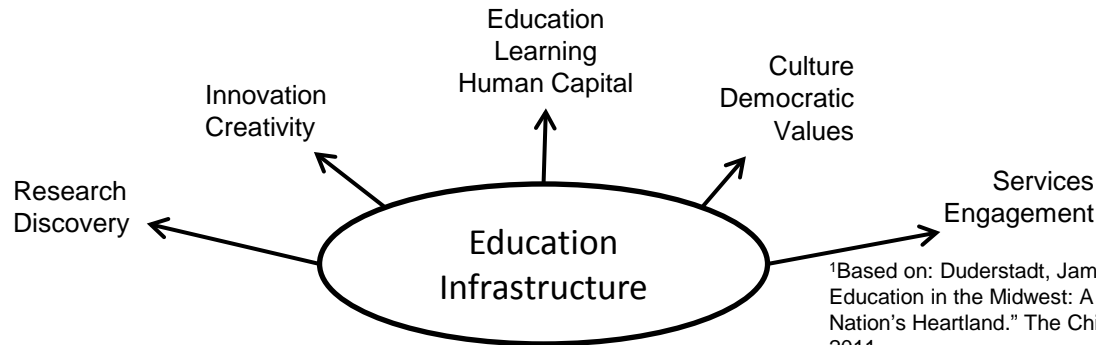
An Ontology of HE

<u>Aspiration</u>		<u>Scope</u>		<u>Function</u>		<u>Focus</u>		<u>Outcome</u>	
The	[+]	Premier	[institution in the]	[in]	Research	[in]	Sciences	[for]	Scientific
A/An		Leading			Education		Professions		Technical
		Advanced			Service		Vocations		Economic
		Basic					Fine Arts		Social
							Humanities/SS		Cultural
									[development in a knowledge society]

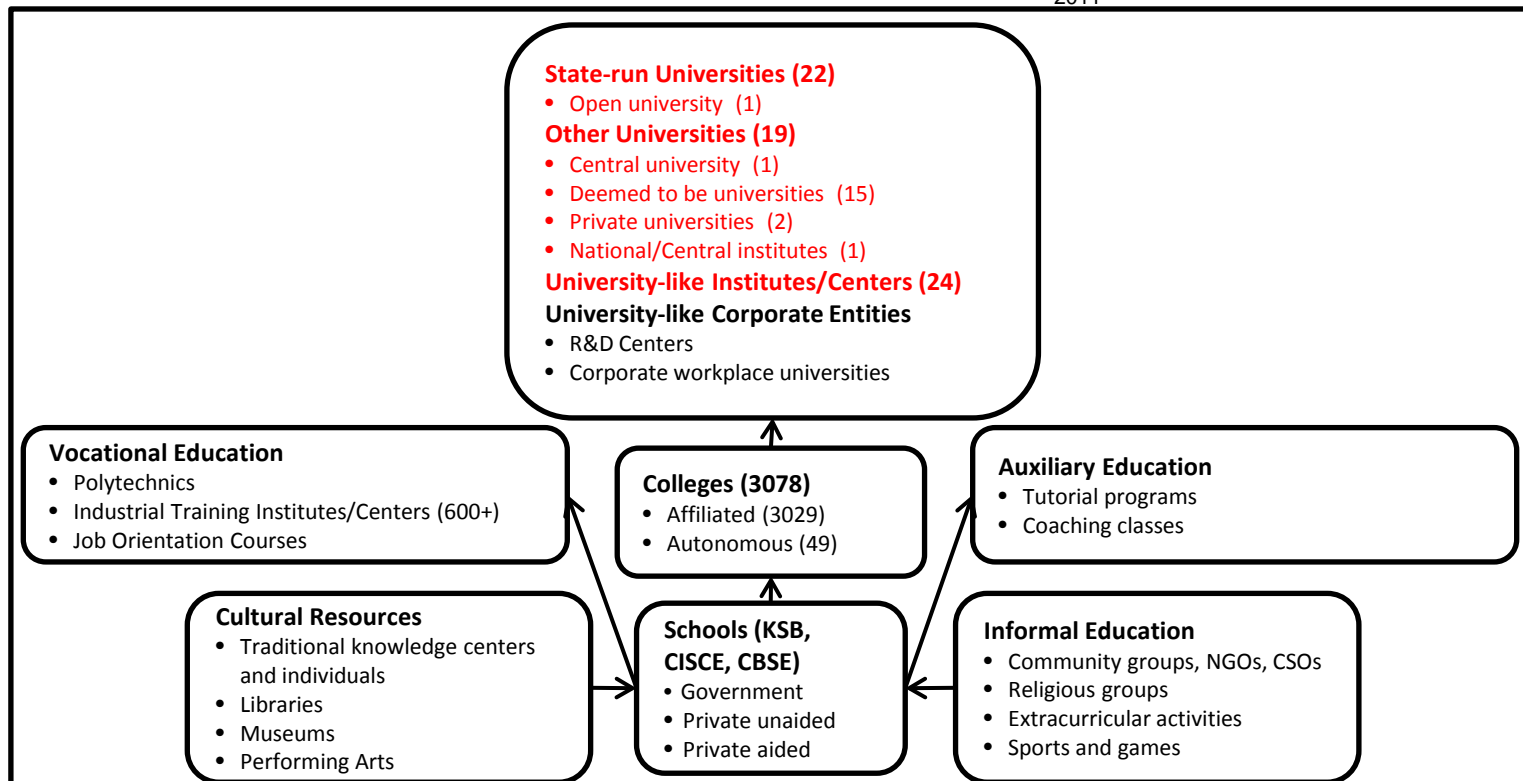
Illustrative synthetic vision/mission statements from the 3,000 possible combinations:

- The premier institution in the world in research in sciences for scientific development in a knowledge society.
- A basic institution in the city in service in arts for cultural development in a knowledge society.
- ...

HE Institutions in Karnataka



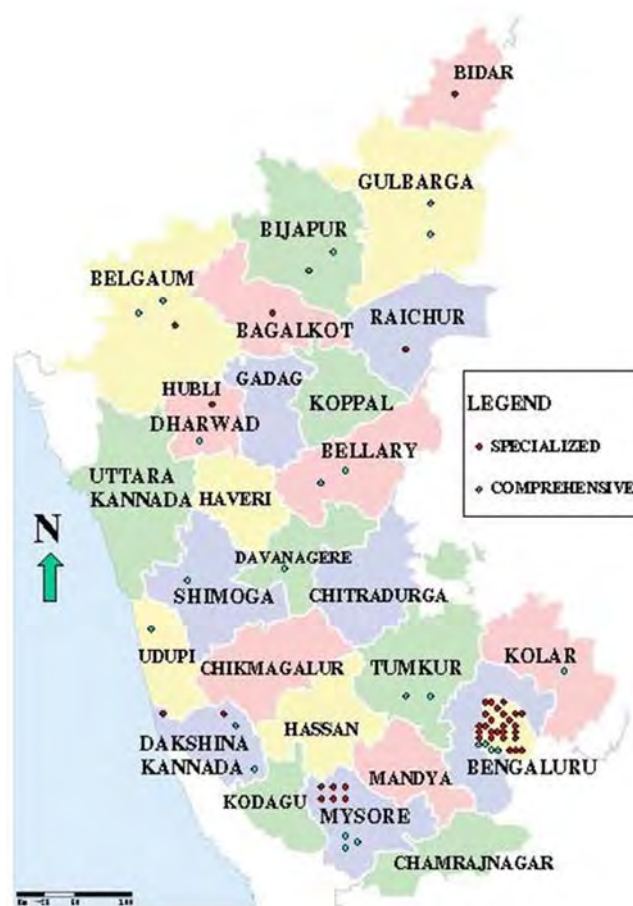
¹Based on: Duderstadt, James J. "A Master Plan for Higher Education in the Midwest: A Roadmap to the Future of the Nation's Heartland." The Chicago Council on Global Affairs, 2011



Data Collection

- Population of HE institutions in Karnataka (N=65)
- Vision statements, mission statements, objectives, Vice Chancellor's speeches, Strategic Plans, etc. downloaded from the web for all 65
- Description of the institution if the above are not available
- Classification of HE institutions
 - Specialized (41)/Comprehensive (24)
 - Research (10)/Private (7)/State (24)/ Deemed (16)/National (8)
 - Location (map)

HE in Karnataka



Data Coding: Synthetic Vision/Mission

- Construction of a synthetic vision/mission statement for each institution within the framework
- Examples:
 - Alliance University
 - Original: “Alliance University’s vision is to be a world-class University that nurtures talent and catalytically transforms the lives of millions through excellence in teaching, research, service and community development. To uphold a commitment to shaping lives through scholarly teaching and learning, and that which contributes to an equitable and holistic transformation of society at large.”
 - Synthetic: A leading institution in the world in education, service and research in sciences, professions, humanities, and fine arts for scientific, technical, economic, social and cultural development in a knowledge society.
 - Tumkur University
 - Original: “To create a generation of human resources to successfully meet the global challenges.”
 - Synthetic: An advanced institute in the state/province in education, research, and service in humanities, sciences, and fine arts for social development in a knowledge society.

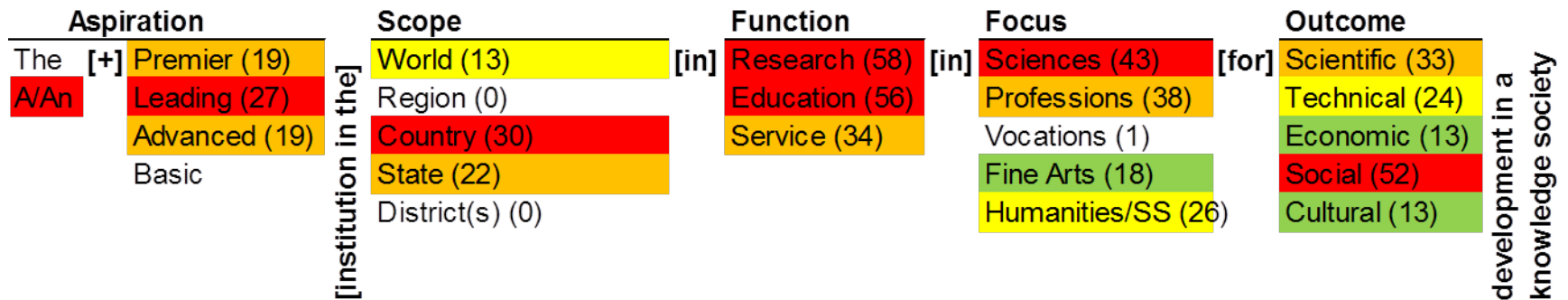
Coding Method: Synthesizing Vision/Mission

- Consensus coding
 - Agreement by four (Ramaprasad, Tanveer, Chetan, Bhumika) on 35 institutions
 - Agreement by three (Ramaprasad, Tanveer, Chetan/Bhumika) on 30 institutions
- Initial coding by one person (Chetan/Bhumika)
- Verification by a second person (Bhumika/Tanveer)
- Discussion by all four (35) or by Ramaprasad and Tanveer (30) and final coding
- Priority of Function, Focus, and Outcome determined by order of presentation and emphasis

Data Coding Spreadsheet

Name	Type	Scale	Location	Application						Scope					Function			Focus				Outcome					Synthetic Vision/Mission statement							
				The Premier	A Premier	The Leading	A Leading	The Advanced	An Advanced	The Basic	A Basic	World	Region	Country	State	District	Research	Education	Service	Sciences	Professions	Vocations	Arts	Hum./Soc. Sci.	Scientific	Technical		Economic	Social	Cultural				
University A	Private	Comprehensive	City 1				1						1										1	1	1	1	1	1	1	1	1	1	1	A leading institution in the world in education, service and research in basic, professional, humanities, and arts for scientific, technical, economic, social and cultural development in a knowledge society.
University B	State	Comprehensive	City 2										1																		1	1	An advanced institute in the state/province in education, research, and service in humanities, sciences, and arts for social development in a knowledge society.	

Ontological Map of the State-of-the-Aspiration



The bright, light, blind/blank spots of the HE system.

Contributions

- Conceptual
 - Ontology of HE: Parsimonious, Systematic, and Systemic
- Method
 - Ontological mapping of HE Institutions: Comprehensive
- Results
 - Bright, Light, Blind/Blank spots of HE System: Directive

Limitations

- Focused on one state – can be generalized
- Limited to publicly available data on the web
- Limited to analysis of monads – dyads, triads, and other analysis not presented in this paper