ANNEX 1

Acronyms

AVE	Average variance extracted
HC	Human capital
HEIs	Higher education institutions
HTMT	Heterotrait-Monotrait
IC	Intellectual capital
NUTS	Nomenclature of territorial units for statistics
PLS	Partial least squares
QAL	Quality of academic life
QoI	Quality of life
QWL	Quality of work life
RC	Relational capital
SC	Structural capital
SD	Sustainable development
SEM	Structural equation model
SRMR	Standardized root mean square residual
VIF	Variance inflation factor
GDP	Gross domestic product

ANNEX 2

Table S1. List of constructs and respective indicators referring to models 1 and 2

Constructs/ dimensions	*Indicators*	*Type*	*Acronym*
IC (2nd order)	(HC + SC + RC)		IC
Human capital (1st order)	1. Percentage of expenditure on staff (teachers, researchers and administrative staff) in the university's total expenditure.	R	HC1
	2. Leadership capacity.	R	HC2
	3. Average age of staff (teachers, researchers and administrative staff).	R	HC3
	4. Weight of all teachers/researchers in relation to total number of students.	R	HC4
	5. Academic and professional qualifications of teachers/researchers.	R	HC5
	6. Weight of all students in the 3rd and 2nd cycles in relation to total number of students.	R	HC6
	7. Total number of students.	R	HC7
	8. Number of new students admitted in the current academic year.	R	HC8
	9. Number of student complaints.	R	HC9
	10. Number of teachers with aggregation.	R	HC10
	11. Number of participations in research projects.	R	HC11
Structural capital (1st order)	12. Weight of expenditure on information and communication technology in relation to total expenditure.	R	SC1
	13. Weight of expenditure on scientific journals in relation to total expenditure on R&D.	R	SC2
	14. Weight of financing by third parties (public and private) for research and development (R&D) activities, in relation to total financing.	R	SC3
	15. Mission, vision, values and strategic and operational processes.	R	SC4
	16. Management and organisation of teaching activities.	R	SC5
	17. Management and organisation of R&D activities.	R	SC6
	18. Total number of citations of teachers and researchers' publications.	R	SC7
	19. Total number of publications (including co-authorship), by scientific area.	R	SC8

	20. International public recognition, through the number of national/international awards received.	R	SC9
	21. Total number of assessment, qualification, accreditation and certification processes.	R	SC10
	22. Total amount of infrastructure for research/incubation and laboratories is appropriate.	R	SC11
Relational capital (1st order)	23. Total number of contracts/cooperation agreements/protocols (teaching/research) with national and foreign public and private organisations.	R	RC1
	24. Percentage of drop-out.	R	RC2
	25. Percentage of graduates (degree, master and Ph.D.).	R	RC3
	26. Ph.D. programmes with official recognition of quality.	R	RC4
	27. Image/opinion/reputation of the HEI (society, media, etc.) regionally, nationally and internationally.	R	RC5
	28. Relations with society (Nº of positions in organs of management/public governance/civic participation/consulting/accreditation/social or specialist consultancy forums and/or discussion).	R	RC6
	29. Student satisfaction (with studies, services, infrastructure, etc.).	R	RC7
	30. Number of foreign students (degree, master, Ph.D.) and in post-graduate programmes.	R	RC8
	31. Number of international speakers invited to learning programmes.	R	RC9
	32. Number of countries with collaborations developed with the HEI.	R	RC10
Sustainable development practices (2nd order)	(Economic + environmental + social + organizational)		SD
Economic (1st order)	Positive evolution in the financial situation.	R	ECO1
	Increased scientific productivity and economic valorisation of research results.	R	ECO2
	Reinforced pro-efficiency orientation, reducing operational costs.	R	ECO3
Environmental (1st order)	Reinforced pro-sustainability orientation, reducing the environmental impact arising from activities.		ENV
Social (1st order)	Demonstration of social impact and openness to society.	R	SOC
Organizational (1st order)	High levels of student satisfaction.	R	ORG1
	Providing students with value through activities.	R	ORG2

	Ability to retain and attract new students.	R	ORG3
	Attaining the desired levels of growth.	R	ORG4
QAL (1st order)	Cognitive component – Satisfaction with: health and safety; family and economy; socialization; self-esteem; updating; knowledge; aesthetics.	R	QALCC
	Affective component (positive emotions less negative ones) Positive emotions include feeling: enthusiastic; interested; determined; lively; inspired; alert; active; strong; proud; and affectionate. Negative emotions include feeling: afraid; bored; anxious; nervous; ashamed; guilty; irritated; and aggressive.	R	QALCA
QWL (1st order)	Lower order needs – Need for satisfaction with health and safety: physical safety, health benefits, health; Need for satisfaction with economy and family: remuneration, security, work/family relationship; Need for satisfaction with socialization: relations at work, free time.	R	QWLLO
	Higher order needs – Need for satisfaction with esteem: esteem, respectability; Need for satisfaction with updating: perceived potential at work, perceived potential as a specialist. Need for satisfaction with knowledge: continuous learning, Professional competences; Need for satisfaction with aesthetics: creativity at work, creativity outside work.	R	QWLHO

Legend: R=Reflexive.

Source: Own elaboration.

ANNEX 3

Distribution of respondent students and teachers/researchers by HEI, area of study, gender and age-group

	HEIs														*Absolute frequency*		*Weight (%)*	
	ISCTE		***UAC***		***UAL***		***UM***		***UE***		***UMA***		***UM***					
Area of study/Work (Code*)	***S***	***T/R***	***S***	***T/R***	***S***	***T/R***	***S***	***T/R***	***S***	***T/R***	***S***	***T/R***	***S***	***T/R***	***S***	***T/R***	***S***	***T/R***
Agriculture (6) and Services (8)	0	0	0	10	0	0	0	0	0	2	0	0	0	0	0	12	0	2.0
Arts and Humanities (2)	0	0	1	0	3	0	5	12	0	0	7	8	14	0	30	20	4,1	3.4
Social Sciences, Trade and Law (3)	1	71	0	12	0	28	0	28	0	36	0	13	0	75	364	263	49.3	44.8
Science, Mathematics and Computers (4)	83	0	9	11	66	19	93	22	81	22	7	9	24	16	48	99	6,5	16,9
Sciences, Mathematics and Informatics (4), Engineering, Manufacturing and construction (5)	1	0	12	0	6	0	4	0	0	17	5	8	20	0	0	25	0	4.3
Education (1)	0	0	1	0	0	5	0	0	6	0	5	0	16	14	28	19	3.8	3.2
Engineering, Manufacturing and construction (5)	22	0	1	0	10	3	8	20	1	0	9	0	144	51	195	73	26.4	12.6
Health and Social Protection (7)	0	0	24	3	13	7	21	20	0	5	2	3	1	20	61	57	8.3	9.9
They did not answer	11	6	0	3	0	2	1	3	0	0	0	0	0	3	12	17	1.6	2,9
Study Cycle																		
Graduation	79	-	35	-	86	-	29	-	88	-	21	-	143	-	481	-	65.2	-
Master	39	-	10	-	8	-	55	-	0	-	8	-	44	-	164	-	22.2	-
PhD	0	-	3	-	0	-	30	-	0	-	5	-	4	-	42	-	5.7	-
Integrated Master	0	-	0	-	4	-	18	-	0	-	1	-	28	-	51	-	6.9	-
Gender																		
Female	76	43	32	18	60	36	77	48	56	34	20	22	131	110	452	311	61.2	53.0
Male	42	34	16	21	38	28	55	57	32	48	15	19	88	69	286	276	38.8	47.0
Age Group																		
18-25	114	0	35	0	82	0	74	0	88	0	21	1	214	0	628	1	85.1	0.2
26-35	4	2	9	0	10	4	20	5	0	1	6	2	3	27	52	41	7.0	7.0
36-45	0	36	3	2	5	13	16	36	0	13	1	12	0	45	25	157	3.4	26.7
46-55	0	26	1	18	0	25	17	43	0	36	4	15	0	83	22	246	3.0	41.9
> 55	0	13	0	19	1	22	5	21	0	32	3	11	2	24	11	142	1.5	24.2
Absolute frequency	118	77	48	39	98	64	132	105	88	82	35	41	219	179	738	587		
HEIs weight (%)	16.0	13.1	6.5	6,6	13.3	10.9	17.9	17.9	11,9	14.0	4.7	7.0	29.7	30.5			100.0	100.0

Legend: S=Students; T/R=Teachers/researchers.

* Code according to CNAEF - National Classification of Areas of Education and Training.

Source: Own elaboration.