

## HUMAN CAPITAL INITIATIVES AND VALUE CREATION IN PUBLIC UNIVERSITIES IN KENYA

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### Abstract

*The importance attached to the role played by Universities in realization of the vision 2030 Kenya is anchored in the social economic pillar of the vision's strategic plan. Universities are charged with creation and dissemination of knowledge for development. At the heart of knowledge creation is the human capital as a valued resources that manipulates other organizational resources to achieve the goals and objectives of the institution. The study focused on Human Capital initiatives among public universities in Kenya on value creation. The study was guided by the following objective: To examine the relationship between human capital initiatives and value creation in public universities. The study adopted a mixed research design and was therefore both quantitative and qualitative in nature. A survey was conducted among public universities chartered before the year 2010. The study employed a questionnaire administered to academic staff who hold managerial positions. The sampling procedure was purposive in nature. A questionnaire was administered to respondents by means of drop and pick. Descriptive analysis generated percentage distribution, means and standard deviations. Diagnostics tests were performed to determine the suitability and adequacy of the sample represented for further tests. This included linearity, multicollinearity, heteroscedacity and normality tests. Linear regression analysis, analysis of variance, coefficients and multiple regression were employed to examine the nature of the relationship between variables. The study established a strong positive significant relationship between Human Capital and Value Creation in public universities. From the findings drawn, there is a need for knowledge intensive institutions to strategically develop human capital initiatives that result in leveraging value creation. Universities are encouraged to invest further in their human capital initiatives given its strong positive significant influence on value creation. Value generated provides confidence among stakeholders and to lure investors by providing sufficient evidence on information necessary to make informed choices and decisions on partnerships, collaborations and funding.*

**Keywords:** *Intellectual Capital, Initiatives, Value Creation, Human Capital, Public University*

### Background of the Study

The business environment is in a constant state of flux. Organizations grow and diminish, products succeed and fail, and industries develop and retract. Organizations must therefore match the dynamics of their environment in order to maintain or develop their position (Grant, 2015). It is then envisaged that environmental responsiveness would provide the organization with the necessary competences to permit

maintenance and appropriate development of their products in the market place. In order to address the challenges and opportunities presented by today’s complex, and often unpredictable markets, an organization must be able to combine resources in novel ways. The firm should therefore be able to dispose of, or reconfigure resources that are no longer relevant. (Bontis, Keow & Richardson, 2008).

An organization’s ability to manipulate resources continuously and rapidly becomes a competitive capability that is not easily imitated by competitors. (Grant, 2015). Competitive advantage is increasingly becoming critical for human capital intensive organizations with a need for high levels of employee skills base, experience and competency. This is also leveraged by business systems and intellectual property rights gaining significant importance (Karanja, 2012). The knowledge and understanding on how to perform differently is held within the human capital of an organization. Such organizational knowledge embodied in the human capital can be turned into commercially intangible assets and is underpinned by innovation (Glynn & Kazanjian, 2010). As the environment becomes more competitive in the African countries and more so in Kenya (Mbirithi, 2013). Firms must re-think in ways that would enable them to remain relevant and socially responsible in the actions taken towards the value creating activities. The customers and stakeholders become key informants in the decisions and actions taken by the institutions (Fischer & Sojer, 2017)

The considerable reduction of funding from the Kenyan government towards institutions of learning (Boit & Kipkoech, 2012) as well as other sectors implies that for these institutions to remain relevant and meet stakeholder expectation, it would be necessary for them to institute reforms with changes anticipated on how the human capital is utilized to manipulate organizational resources to deliver superior performance. Most importantly is with how such value creation initiatives would be sustained by embedding them within the intangible and tangible resources to generate increasing productivity (Ngari, Gichira & Waititu, 2013).

**Problem statement**

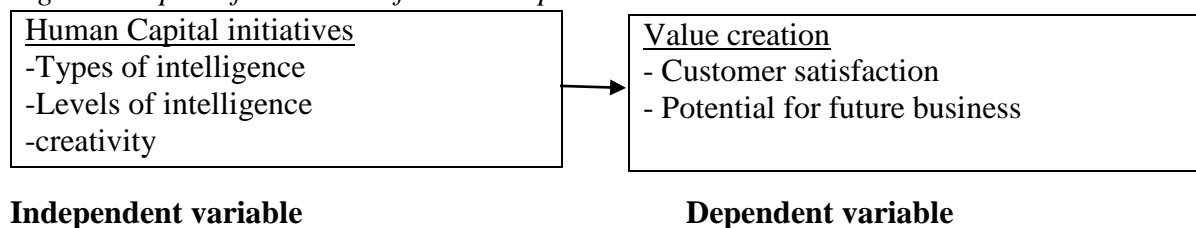
Based on the premise that universities are knowledge intensive institutions, the study sought to understand how knowledge grounded in the expertise of individuals could be leveraged by firm specific human capital initiatives to create and deliver value. Universities are knowledge intensive institutions and that based on literature reviewed, they should be at the forefront of developing the skill knowledge and competence requisite to helping the country steer economic and social development as pillars to Kenya’s realization of vision 2030 through human capital development. The study sort to examine the extent to which intellectual capital initiatives have been utilized in realizing value creation among public universities in Kenya and whether the situational environment moderated the influence of these intellectual capital initiatives on value creation.

**Objective of the study**

1. To evaluate the influence of Human capital initiatives on Value creation in Public Universities in Kenya.

**Conceptual framework**

*Fig.1 conceptual framework of human capital initiatives and value creation*



The conceptual framework of this study is based upon human capital as the independent variable and is examined on the basis of the following; Types of intelligence, Levels of intelligence and creativity. The dependent variable, value creation is a composite of customer satisfaction and potential for future business while situational environment as a moderator is a composite of resource accessibility and enabling conditions.

### **Human capital**

Individual intelligence: Bontis & Fizenz,( 2012) note that Intelligence *or* knowledge denotes an individual's capacity to act in various situations. When describing knowledge in the business context is the concept of competence, which embraces factual knowledge. This knowledge encompasses skill (expertise), experience, value judgments and social experience.

Levels of intelligence within a firm are open to assessment in general given that individuals and groups can be judged by their "track record" of performance. An assessment of human capital initiatives in this study included the following factors as most of which were borrowed from Grant, (2015); Existing staffing resources, skills and competency inventories, experience, availability of training and development initiatives, fair rewards and recognized achievement. In addition, the study evaluated the skills and competences among the sampled group in relation to the their emotional stability, self-discipline, experience, intuition, persuasive skills, and creative thinking skills, qualification in addition the problem solving abilities and resourcefulness gained by the individuals through the instituted human capital initiatives practices.

From the foregoing, the efficient and effective utilization of a firm's resources depends largely on the quality of individuals as well as the , abilities, skills, perception and character of the human capital held by the organization. (Bontis & Cabrita, 2008). This resourcefulness is envisaged to solve customer problems Salman, Mansor & Babatunde, 2012). Human capital is more than competence and requires motivation as well direction in order to be focused to the course. (Venugopal & Subha, 2015). These learned experiences when institutionalized into systems and processes then create a culture and enabling conditions that generate value. (Fischer & Sojer, 2017).

### **Value creation**

Value can be created through continuous improvements in performance. Improving performance requires developing, implementing and managing processes as well as nurturing competencies based on knowledge assets to bring about effectiveness and efficiency (Mutindi, Namusonge & Obwogi, 2013). Organizations invest their scarce resources only if that improves their value creation capacity. Grant 1996 notes that Value can be created by combining multiple individuals' specialized knowledge and putting it into use, because no one is an expert as cited in Chan, (2009). (Ngari, Gichira & Waititu, 2013) note that whereas the ability and capability to develop and use these stocks is An indication that has the potential to create competitive advantage, Knowledge management can create value through opening up opportunities and by helping the organization.

### **Research Methodology**

This research study adopted a mixed research design. Both qualitative and quantitative approaches were used. (Sekaran, & Bougie, 2010) Data was collected by means of a questionnaire. For the purpose of this study the sample frame was six public universities which were established before the year 2010. The seven public universities included Nairobi University, Egerton University, Moi university, Maseno university, Jomo Kenyatta university of agriculture and technology and Masinde Muliro university of science and technology. Purposive sampling technique was used to obtain information because it draws data from specific types of

people who can provide the desired information (Sekaran, 2003). The deans of schools in the public universities together with the chairpersons of departments were sampled. The researcher adopted a sample size of 30% (Kasomo, 2006). This translated to a total of 144 respondents who were drawn randomly from the pool of 480. A questionnaire having the Likert type of questions on a scale of one to five was used.

**Data Analysis and Discussion**

Principle Component Analysis for Human Capital

KMO and Barlett’s Test for human capital was carried out to determine the suitability of the sample size in order to proceed with principal component analysis.

**Table 1 Bartlett’s test Human capital**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Bartlett's Test of Sphericity		
	Approx. Square	Chi-Df	Sig.
.696	800.954	89	.000

The findings generated in table 1 in this study clearly indicate that for the variables (human capital and value creation), the sample size (90) is adequate enough to carry out PCA. On human capital, the value generated was 0.696 which was rounded to one decimal point as 0.7 which was adequate to proceed with PCA analysis. Bartlett’s test was used to test whether the original correlation matrix was an identity matrix. For the results to be significant the value had to be less than 0.05 (Field, 2005). Bartlett’s test was highly significant and therefore principal component analysis was appropriate. (P ≤.001).

**Table 2 Eigen Values for Human Capital**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	%	ofCumulative	Total	%	ofCumulative	Total	%	ofCumulative
	Variance	%	%	Variance	%	%	Variance	%	%
1	4.432	23.326	23.326	4.432	23.326	23.326	3.740	19.683	19.683
2	3.029	15.941	39.267	3.029	15.941	39.267	2.973	15.645	35.329
3	2.093	11.014	50.281	2.093	11.014	50.281	2.841	14.952	50.281
4	1.197	6.298	56.579						
5	1.106	5.822	62.401						
6	.953	5.018	67.419						
7	.817	4.300	71.719						
8	.780	4.107	75.826						
9	.704	3.704	79.530						
10	.645	3.395	82.925						
11	.587	3.091	86.016						

12	.537	2.826	88.842
13	.515	2.713	91.555
14	.466	2.455	94.010
15	.411	2.165	96.175
16	.364	1.914	98.090
17	.258	1.357	99.447
18	.082	.434	99.881
19	.023	.119	100.000

Extraction Method: Principal Component Analysis.

The Eigen value table 2 provide proof that out of the twenty one items that were tested nineteen of them were viable for consideration for subsequent analysis.

**Eigen values for the rotated component matrix for Human Capital**

**Table 3 Rotated Matrix Human Capital**

Human capital factors	Component		
	1	2	3
Offensive strategy of taking the lead toward the future motivates staff to achieve better results	.941		
My institution avails Sufficient resources to aid work	.936		
My institution recognizes achievements attained by staff	.878		
The institution Prides in members abilities to achieve	.756		
My institution provides rewards that are perceived fair and equitable	.699		
professional development play critical role in my service delivery	.727		
Problem-solving plays a significant role in my service delivery to the institution	.710		
My interpersonal relationships have greatly influenced my ability to deliver service	.628		
Training and skills development plays a critical role in my proficiency and service delivery	.590		
Intuition is important if I am to be successful in service delivery as a scholar	.586		
My persuasive skills play an important role in my service delivery to the institution	.568		
Creative thinking skills are important for me to effectively deliver service to the institution	.567		
Expertise in the specific field influences my service delivery		.705	
High levels of perseverance are needed in the delivery of service		.701	
My Belief in values of the institution affects its level of service delivery		.698	
My commitment to the institution has largely affected its value creation		.694	
My Self-discipline is critical to the value delivery process for the institution		.687	
My emotional stability is an asset that contributes towards effective service delivery in the institution		.583	
Minimal Tolerance for ambiguity affects the level of service delivery in the institution		.569	

Note: Factor loadings <.5 are suppressed

**Eigen Values and Extracted Components for Human Capital variable**

The three components extracted for Human Capital include Creativity, Type of Intelligence and Type of Intelligence. According to Field (2005), if the use of Eigen value with a value above 0.5 with a value over 1

leads to retaining the same number of factors, the researcher continues with the analysis. The table 3 indicates that the number of components that were considered for human capital were nineteen. This constituted 5 questions from human competencies, seven questions from experience and expertise and five questions from creativity.

**Table 4 Normality test Human capital**

Variable	Kolmogorov-Smirnov		Shapiro-Wilk			
	Statistic	Df	Sig.	Statistic	Df	Sig.
Human Capital	.090	90	.006	.965	90	.015

The normality test on Human Capital in Table 4 indicated that on both Kolmogorov-Smirnov and Shapiro-Wilk the significance value was less than 0.05.

**Table 5 Lilliefor’s Significance Correction Human Capital**

Variable	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Human Capital	.056	89	.057	.990	89	.081

a. Lilliefors Significance Correction

The table 5 indicates that the significance levels for both Kolmogorov-Smirnov and Shapiro-Wilk improved significantly after lilliefor’s correction matrix was performed. The two tests of normality which include Kolmogorov-Smirnov and Shapiro-Wilk, indicate that human capital data is normality distributed. This is because the P-value for both tests were above 0.05. The study therefore concluded that human capital variable was normal in distribution and therefore subsequent analysis could be done.

**Descriptive Statistics on Human Capital initiatives**

Human capital was operationalized as a measure of types of intelligence, levels of Intelligence and creativity. The measurement scale consisted of 21 items and after principal component analysis extraction, 19 items were retained. The respondents were asked to indicate the extent to which they agreed with the statements on the items regarding human capital which were measured on a five-point Likert-type scale (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree). Tables 6, 7 and 8 Presents the results for types of intelligence, levels of Intelligence and creativity respectively.

**Table 6 Descriptive statistics findings on Human Capital**

Type of Intelligence Items	SD	D	N	A	SA	M	SD
	%	%	%	%	%		
Expertise in the specific field influences my service delivery	0	4.4	14.4	71.1	10.1	3.88	.650
Professional development plays a critical role in my service delivery	0	4.4	12.2	56.7	26.7	4.06	.755
Training and skills development plays a critical role in my proficiency and service delivery	0	5.6	22.2	60.0	12.2	3.79	.727
Intuition is important if I am to be successful in service delivery as a scholar	0	0	23.3	60.0	16.7	3.93	.632

Problem-solving plays a significant role in my service delivery to the institution	0	2.2	15.6	61.1	21.1	4.01	.679
Creative thinking skills are important for me to effectively deliver service to the institution	0	1.1	26.7	56.7	15.6	3.87	.674
My interpersonal relationships have greatly influenced my ability to deliver service	0	1.1	25.6	58.9	14.4	3.87	.657
My persuasive skills play an important role in my service delivery to the institution	0	0	20.0	54.4	25.6	3.87	.584

Table 6 presents the descriptive findings on the types of intelligence. There is a general consensus among respondents that types of intelligence are an important intellectual capital component. On the question of expertise in the specific field influencing service delivery 71.1% agreed, 10.1% totally agreed. A total of 81.1% agreed to expertise contributing service delivery while 4.4% disagreed and 14.4% were neutral with a mean of 3.88 and a standard deviation of .650. On professional development playing a critical role on service delivery, 4.4% disagreed, 12.2% were neutral. On the other hand, 56.7% agreed while 26.7% totally agreed making a total of 83.5% agreement that professional development contributes to service delivery. A mean of 4.06 and standard deviation .755 indicated that data distribution from the mean was acceptable. On whether training and skills development plays a critical role on proficiency and service delivery, 5.6% disagreed, 22.2% were neutral while 60.0% agreed and 12.2% totally agreed with a mean of 3.79 and a standard deviation of .727. 72.2% of the respondents underscored the importance of training and skills development in proficiency and service delivery. When respondents were asked whether intuition was important for service delivery as a scholar, 23.3% were neutral, 60% agreed and 12.2% totally agreed. There was a general agreement that intuition plays a critical role in service delivery by 82.2% of the respondents who agreed to the statement with a mean of 3.93 and standard deviation of .632. On problem solving playing a significant role in service delivery, 2.2% disagreed, 15.6% were neutral, 61.1% agreed while 21.1% totally agreed. This implies a general consensus among respondents with 82.2% in agreement that problem solving plays a critical role in service delivery. When respondents were asked whether creative thinking skills play a significant role on service delivery, 1.1% disagreed 26.7% were neutral, 56.7% agreed.

In addition, 15.6% of respondents totally agreed and a mean score of 3.87 was recorded with a standard deviation .674. Most of the respondents (72.3%) alluded to a positive contribution by creative thinking on service delivery in public universities. On the influence of interpersonal skills greatly influencing ability to deliver service, 1.1% disagreed, 25.6% were neutral, 58.9% agreed, and 14.4% totally agreed with a mean of 3.89 and a standard deviation of .657. Most of the respondents, 73.3% agreed that interpersonal skills greatly influence ability to deliver service. Lastly, on persuasive skills playing an important role on service delivery, 20.0% were neutral, 54.4% agreed and 25.6% totally agreed with a mean of 3.87 and a standard deviation of .584. Again, most of the respondents agreed that persuasive skills play an important role in service delivery. Similar sentiments were echoed in a study by Wanza et al., (2017) who alluded to interpersonal skills contributing to better service delivery.

**Table 7 Descriptive statistics findings on Levels of Intelligence**

Level of Intelligence Items	SD %	D %	N %	A %	SA %	M	SD
My Self-discipline is critical to the value delivery process for the institution	0	20.0	54.4	25.6	4.06	.676	
My Belief in values of the institution affects its level of service delivery	1.1	12.2	56.7	30.0	4.16	.669	
Minimal Tolerance for ambiguity affects the level of service delivery in the institution	1.0	15.7	60.0	23.3	4.06	.660	
High levels of perseverance are needed in the delivery of service	1.1	15.6	66.7	16.7	3.99	.609	
My emotional stability is an asset that contributes towards effective service delivery in the institution	0	16.7	72.2	11.1	3.94	.527	
My commitment to the institution has largely affected its value creation		12.2	64.4	23.3	4.11	.589	

Table 7 presents descriptive findings on levels of intelligence. On the question of whether self-discipline is critical to value delivery process in institutions, 20.0% were neutral, 54.4% agreed and 25.6% totally agreed with a mean of 4.06 and standard deviation .676. A large number, 75.0% agreed that self-discipline played a critical role to the service delivery process. On whether belief in values affected levels of service delivery, 1.2% disagreed, 12.3% were neutral, 56.7 agreed and 30% totally agreed with a mean of of 4.16 and standard deviation of .669. Majority of the members, 86.7% agreed that a belief in values affected level of service delivery. This means that there is a need to further inculcate values of an institution into its organizational members. On the question of minimal tolerance for ambiguity affecting the level of service delivery in the institution, 1.0% disagreed, 15.7% were neutral, 60.0% agreed while 23.3% totally agreed with a mean of 4.06 and standard deviation of .609. The importance of clear and concise policy frameworks was therefore seen to aid in clarifying expectations and to contributing to value creation in public universities in Kenya. On whether high levels of perseverance was necessary for service delivery, 1.1% disagreed, 15.6% were neutral. 66.7% agreed while 16.7% totally agreed with a mean of 3.99 and standard deviation of .609. Members generally (83.4%) agreed perseverance was necessary to service delivery. These findings are is in line with studies done by Muruchiu (2014) who alluded to strained university resources forcing university lecturers in Kenya to work under unfriendly academic environments that affected their individual productivity. Lastly, on the question of whether emotional stability was an asset that contributed to effective service delivery, 16.7% were neutral, 72.2% agreed while 11.1% totally agreed with a mean of 3.94 and standard deviation of .527. Most of the members, 83.3% agreed that the emotional wellbeing of a member contributed to the effectiveness of service delivery. On whether commitment to the institution affects value creation.12.2% remained neutral, 64.4% agreed while 23.3% total agreed. Commitment was therefore found to be an important factor as it affected value creation, sentiments similar to Armstrong (2010) as well as Dessler, (2010).



**Table 8 Descriptive statistics findings on creativity.**

Creativity Items	SD %	D %	N %	A %	SA %	M	SD
The institution Prides in members abilities to achieve	0	0	21.1	57.8	21.1	4.01	.653
Offensive strategy of taking the lead toward the future motivates staff to achieve better results	0	17.8	10.0	50.0	22.2	3.77	.995
My institution avails Sufficient resources to aid work	0	0	27.8	72.2	0	3.72	.450
My institution recognizes achievements attained by staff	0	0	0	33.3	66.7	4.67	.474
My institution provides rewards that are perceived fair and equitable	0	0	26.7	70.0	3.3	3.77	.498

The table 8 presents descriptive findings on the opinions of respondents on creativity. When respondents were asked whether their institution prides in members abilities to achieve, 21.1% were neutral, 57.8% agreed and 21.1% totally agreed with a mean of 4.01 and standard deviation of .653. Most of the members (78.9%) agreed that their institutions take pride in their abilities to achieve. This is in line with the findings of (Mutindi, Namusonge, & Obwogi, 2013) on incentives provided by institutions as a retention strategy for employees.

When asked whether the offensive strategy of taking the lead toward the future motivates staff to achieve better results, 17.8% disagreed, 10.0% were neutral, 50.0% agreed while 22.2% totally agreed with a mean of 3.77 and a standard deviation of .995. Most of the members agreed that there was a positive contribution in the offensive strategy of taking the lead toward the future as motivator to staff to achieve better results. On whether the institution avails sufficient resources to aid work, 27.8% were neutral while 72.2 % agreed. Most of the members agreed to the provision of the resources by institutions with a mean of 3.72 and standard deviation of .450. The findings contradict those of Muruchiu (2014) who reported limited learning resources in universities in Kenya, sentiments also echoed by Mbirithi, (2013) who also reported scarcity of resources as a challenge to effective management of public universities. On the question of whether institutions recognize achievements attained by staff, 33.3% agreed while 66.7% totally agreed with a mean of 3.72 and standard deviation .474. Members were in agreement that their institutions recognized their achievements as a way of nurturing their creative potential. These findings are similar to those of Sharma, (2018) who found a positive correlation between human capital development and firm value. Lastly on whether the institution provides rewards that are perceived fair and equitable, 26.7% remained neutral, 70.0% agreed while 3.3% totally agreed with a mean of 3.77 and standard deviation .498. Members felt that reward s provided by their institutions were fair and equitable. These findings contradict with findings made by Nge'the et al., (2013) who reported inadequacy of rewards as one of the key factors contributing to employee exits in search for better remuneration in public Universities in Kenya. Most of the literature reviewed alludes to a positive contribution of human capital in terms of creativity towards firm performance and firm value. (Kamukama, 2017, Salman, 2012 & Ngari et al, 2013).

**Table 9 KMO and Bartlett's Test of Sphericity for Value Creation**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	of Bartlett's Test of Sphericity		
	Approx. Square	Chi-Df	Sig.
.755	391.508	105	.000

**Table 10 Eigen values and extracted Components of Value Creation**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% Variance	% ofCumulative	Total	% Variance	% ofCumulative	Total	% Variance	% ofCumulative
1	4.621	30.804	30.804	4.621	30.804	30.804	2.410	16.070	16.070
2	1.491	9.942	40.746	1.491	9.942	40.746	2.368	15.788	31.858
3	1.445	9.636	50.382	1.445	9.636	50.382	2.019	13.459	45.317
4	1.205	8.036	58.418	1.205	8.036	58.418	1.965	13.101	58.418
5	.948	6.320	64.738						
6	.865	5.765	70.503						
7	.818	5.451	75.954						
8	.720	4.802	80.756						
9	.565	3.763	84.519						
10	.516	3.441	87.960						
11	.463	3.087	91.047						
12	.426	2.837	93.885						
13	.372	2.478	96.362						
14	.311	2.074	98.436						
15	.235	1.564	100.000						

**Table 11 Rotated Component Matrix for Value Creation**

	Component			
	1	2	3	4
The services offered by the institution achieve high levels of customer satisfaction	.748			
The institutions brand is comparably competitive in the market	.730			
The quality of compliance with regulatory standards such as CUE is way above that of competitors	.695			
There is profit generation from intellectual property rights	.523			
The organisation’s enhanced reputation can be illustrated with articles in trade journals, patents etc.				
The organization has pooled variety of perspectives and ideas for innovative products/services		.745		
The services offered by the institution facilitate learning for future efforts		.717		
There is strategic positioning through innovation		.572		
The effectiveness of deployed intellectual capital has resulted in value creation for the organization				
There is strategic positioning through technological leadership			.791	
There has been cost reduction based on the available organisational intelligence resulting in institutional value creation			.725	

The activities, processes and operations of the institution produce higher output that results in value creation	.649
The institution’s intellectual resourcefulness has contributed to enhancing its reputation	.747
Customer loyalty has resulted from the organization’s enhanced intellectual capital	.678
The institution’s services to a large extent meet their revenue goals	.536

Note: Factor loadings <.5 are suppressed.

**Table 12 Normality Test for Value Creation**

Statistics	Value Creation	
	Kolmogorov-Smirnov <sup>a</sup>	Shapiro-Wilk
Statistic	.149	.945
Df	90	90
Sig.	.000	.001

**Table 13 Test of Normality of Value Creation with Lilliefors’s significance correction**

Test item	Value Creation	
	Kolmogorov-Smirnov <sup>a</sup>	Shapiro-Wilk
Statistic	.097	.979
Df	90	90
Sig.	.035	.153

a. Lilliefors Significance Correction

There was an improvement with the data transformation given that the significance value improved in both tests.

**Descriptive Statistics on Value Creation**

Value creation was presented as a composite of customer satisfaction and potential for future business. The means, standard deviations and percentage distribution are indicated in the tables’ ensuing together with a description.

**Table 14 Descriptive findings on value creation.**

Statement	SD %	D %	N %	A %	SA %	M	SD
There is profit generation from intellectual property rights	0	0	0	58.9	41.1	4.41	.495
There is strategic positioning through innovation.	0	0	1.1	81.1	17.8	4.17	.404
There is strategic positioning through technological leadership	0	0	0	82.2	17.8	4.18	.384
The institutions brand is comparably competitive in the market	0	0	0	76.7	23.3	4.23	.425

The activities, processes and operations of the institution produce higher output that results in value creation	0	0	0	71.1	28.9	4.29	.456
The quality of compliance with regulatory standards such as CUE is way above that of competitors	0	0	5.6	66.7	27.8	4.22	.536
There has been cost reduction based on the available organizational intelligence resulting in institutional value creation	0	0	0	47.8	52.2	4.52	.536
The effectiveness of deployed intellectual capital has resulted in value creation for the organization	0	0	0	48.9	51.1	4.51	.503
The institution's services to a large extent meet their revenue goals	0	0	1.1	55.6	43.3	4.42	.519
The services offered by the institution achieve high levels of customer satisfaction	0	0	6.7	75.6	17.8	4.11	.484
The organization's enhanced reputation can be illustrated with articles in trade journals, patents etc.	0	0	0	61.1	38.9	4.39	.490
The services offered by the institution facilitate learning for future efforts	0	0	0	68.9	31.1	4.31	.466
The organization has pooled variety of perspectives and ideas for innovative products/services	0	0	0	74.4	25.6	4.26	.439
The institution's intellectual resourcefulness has contributed to enhancing its reputation	0	0	7.8	92.2	0	3.92	.269
Customer loyalty has resulted from the organization's enhanced intellectual capital	0	2.2	24.4	73.3	0	3.71	.503

The table 14 provides descriptive findings on value creation in public universities in Kenya. On whether there was profit generation from intellectual property right, 58.9 % agreed while 41.1 totally agreed with a mean of 4.41 and a standard deviation of .495. From the table, all organizational members agreed that profit is generated through intellectual property rights, findings echoed by Ngari et al, (2013). When respondents were asked whether there was strategic positioning through innovation, only 1.1% remained neutral while the rest agreed that there was strategic positioning through innovation. (81.1% agreed while 17.8% totally agreed) with a mean of 4.17 and a standard deviation of .404. On whether there was strategic positioning through technological leadership, 82.2% agreed while 16.7% totally agreed with a mean score of 4.18 and a standard deviation of .384. This were high scores indicating an affirmation that institution had deliberately positioned themselves strategically through technological leadership. Technology is therefore considered an important tool to enable this institutions to create and deliver value to their customers, a statement that is congruent with the research done by Karanja et al., (2012).

In response to the institutions brand being comparably competitive in the market, 76.7% agreed while 23.3% totally agreed. From the sampled institutions, it was clear that the deans and chairpersons of departments strongly felt that their institution's brand was comparably competitive in the market. With a mean of 4.23 and a standard deviation of .425. When asked whether the activities, processes and operations of the institution produced higher output that resulted in value creation, 71.1% agreed and 28.9% totally agreed with a mean of 4.29 and a standard deviation of .456. These were high scores indicating that the organizational outputs resulted in value creation. The institutions are therefore encouraged to continually institutionalize their activities, processes and operations as they result in higher output to the organization. On whether the quality of compliance with regulatory standards such as Commission of University Education is way above that of competitors, 66.7% agreed, 27.8% totally agreed while only 5.6% remained neutral on the matter with a mean of 4.22 and standard deviation .536. The findings indicate a strong commitment by universities in compliance with regulatory institutions. This implies that the organizations provide accountability and openness to recommendations from the regulatory framework and a readiness to address flows in order to meet stakeholder expectations.

On whether there had been cost reduction based on the available organizational intelligence resulting in institutional value creation, 47.8% agreed and 52.2% totally agreed with a mean score of 4.52 and a standard deviation of .502. Members agreed that their institutions had realized cost reduction through utilization of the available organizational intelligence that resulted in value creation. The need to build on the use of organizational intelligence is therefore encouraged in order to enable informed decision making that result in value creation for the institutions. On the effectiveness of deployed intellectual capital resulting in value creation for the organization, 48.9% agreed and 51.1% totally agreed with a mean score of 4.51 and a standard deviation of .503. The importance of intellectual capital in creating value is underscored from the findings such that as these resources are deployed, they are able to realize gains through value creation. In response to the institution's services to a large extent meeting their revenue goals, 55.6% agreed, 43.4% totally agreed and 1.1% was neutral on the matter with a mean of 4.42 and a standard deviation of .519. the relevance of institutional services were underscored with a high level percentage agreement that they are self-sustaining in meeting their revenue goals.

This implies that most of the service offered in public universities generated value. On the question of the services offered by the institution achieving high levels of customer satisfaction, 75.6% of respondents agreed, 17.8% totally agreed and 6.7% remained neutral with a mean of 4.11 and a standard deviation of .484. Value generated to the customers as echoed by the respondents implied that the institutions created value which answers the question that intellectual capital initiatives create value for public Universities. When respondents were asked if the organization's enhanced reputation can be illustrated with articles in trade journals, patents etc. 61.1% agreed and 38.9% totally agreed with a mean of 4.39 and a standard deviation of .490.

These findings are in agreement with the research findings of Karanja et al., (2012) and Ngari et al., (2013) that intellectual property rights were positively correlated with performance of firms. In response to the services offered by the institution facilitating learning for future efforts, 66.6% agreed and 33.3% totally agreed with a mean of 4.31 and a standard deviation of .466. Members in overall agreed that their institution's services facilitated learning for future, an indication of the readiness among organizations to innovate in order to remain relevant. On the universities having pooled variety of perspectives and ideas for innovative products/services, 74.4% agreed and 25.6% totally agreed with a mean of 4.26 and a standard deviation of .439. This statement affirms that universities consult widely and draw perspectives from a wider network as to innovate their products and services, an indication of the commitment to future growth and relevance of the products and

services offered. On whether the institution’s intellectual resourcefulness has contributed to enhancing its reputation, 7.8% were neutral while 92.2% agreed with a mean of 3.92 and a standard deviation of .269.

The resourcefulness endowed in institutions of higher learning was therefore found to be invaluable to enhancing the reputation of the organizations. This is evidenced through retention strategies employed by these institutions in with some institutions offering better incentive strategies as they benchmarked with competitors in order to retain their human capital (Wanza et al, 2017). On whether customer loyalty had resulted from the organization’s enhanced intellectual capital, 2.2% disagreed, 24.4% were neutral while 73.3% totally agreed. The findings reinforce the relevance attached to intellectual capital theory by agreeing that customer loyalty can be derived by deliberate efforts instituted through intellectual capital initiatives to create value for the institutions.

**Table 15 Model Summary for Human Capital and Value Creation**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.913 <sup>a</sup>	.833	.831	.10415

a. Predictors: (Constant), Human Capital

The findings of the analysis are presented in table 9 (model summary). This findings indicated that human capital explained 83.1 % (adjusted R- square = 0.831) of the variance in value creation as explained by the model  $Y = \beta_1 X_1 + \epsilon$ . It can then be concluded that human capital influences value creation in public universities in Kenya. In this model the independent variable (Human Capital) attributes to 83.3% of the variation in the Value creation. This implies that Human Capital is a strong predictor of value creation and therefore human capital influences value creation in public universities in Kenya. This is in agreement with the findings of Ngari (2013) who noted a 92.5% contribution of human capital to performance of pharmaceutical companies.

**Table 16 Pearson Correlation between Human Capital and Value Creation**

		Value Creation
<b>Human Capital</b>	Pearson Correlation	.825
	Sig. (1-tailed)	.000
	N	89

The table 16 shows a strong positive linear relationship between Human Capital and Value creation. This is indicated by the Pearson’s correlation coefficient ( $R = 0.825$ ). The p-value of this Pearson’s coefficient is less than 0.05 which is an indication that the observed linear relationship between human capital and value creation is statistically significant. This implied that increased human capital will lead to improved value creation in the public universities in Kenya. Conversely decreased human capital will lead to poor value creation. This conforms to the studies undertaken by Bontis, (1998), Bontis & Cabrita, (2008). Ngari, (2013) and Munjuri (2013).

**Table 17 ANOVA table on Human Capital and Value Creation.**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.771	1	4.771	439.883	.000 <sup>b</sup>
	Residual	.955	88	.011		
	Total	5.726	89			

a. Dependent Variable: Value Creation

b. Predictors: (Constant), Human Capital

The Anova table 17 indicated a significant influence of human capital on value creation ( $F=439.883$ ,  $P < 0.05$ ). This lead to rejection of null hypothesis that there is no significant influence between human capital initiatives and value creation in public universities in Kenya, The study failed to reject the alternative hypothesis which stated that human capital initiatives has a significant influence on value creation in public universities in Kenya at 95% confidence level. The implications are that enhancing human capital initiatives in public universities in Kenya leads to an increase in value creation indicating a positive correlation.

**Table 18 Coefficients of determination between human capital and value creation**

Model	Unstandardized Coefficients		Standardized T Coefficient	Sig.	Collinearity Statistics	
	B	Std. Error			Beta	tolerance
(Constant)	1.195	.146		8.199	.000	
Human Capital	.767	.037	.813	20.973	.000	.694 1.485

Based on the coefficients output provide in table 18 the collinearity statistics obtained a VIF value of 1.485 meaning that the VIF value obtained is between 1 and 10 and therefore it was concluded that there was no multicollinearity symptom. The co-efficient of the independent variable (human capital) is 0.813 which implies that the dependent variable will change by 0.813 when the independent variable changes by a unit. Statistically this change is significant since the p-value of the t-test is less than  $\alpha$ -value of 0.05. The results presented in the table 16 indicated that the influence of human capital on value creation was significant ( $F = 439.883$ ,  $p < 0.05$ ).

In this model the independent variable (Human Capital) attributes to 83.3% of the variation in the Value creation ( $R \text{ square} = .833$ ,  $p < 0.05$ ).  $\beta$  was also statistically significant ( $\beta = .813$ ,  $t = 20.973$ ,  $p < 0.05$ ). The overall regression results presented indicate that human capital has a strong positive influence on value creation in public universities. The hypothesis that human capital initiatives influence value creation was therefore confirmed. As human capital increases, value creation also increases. This is in agreement with the findings of Ngari, (2013) whose human capital variable attributed a 92.25% variation in business performance). These results are consistent with existing literature which points out a positive effect of human capital on firm performance. Recent research suggests that human capital attributes (including competence; training, experience and skills) to high performance leverage to the firm (Munjuri, 2013, Ngari et al., 2013). In particular the executives' human capital have a clear impact on organizational results (Munjuri et al., 2013, Nzuve et al., 2014, Kariuki et al., (2014). A firm's human capital is an important source of sustained competitive advantage (Nteere et al., 2013, Ngari et al., 2013, Bontis et al., 2008).

Therefore, it can be implied in this study that investments in the human capital of the firm may increase employee productivity and financial results (Uadiale, 2011, Ngari et al., 2013). The rise of the knowledge-based economy is attributed to the increasing importance of intellectual capital as an intangible and important resource for companies' sustainable competitive advantages (Bontis et al., 2008, (Chahal, 2014) & Edvinsson, 2013). The results of a study (Fena'ndez, 2009) indicate that firms with a higher level of human capital, measured by education, experience, expertise and cognitive skills, perform better in terms of productivity and these in turn can be posited to leverage value creation to stakeholders. These firms therefore experience a competitive advantage compared to other firms. Thus, these study and others seem to lay emphasis on the importance of having human capital that is invaluable, rare, inimitable and non-substitutable in the words of Barney as reported in Bontis (2008). This study is also consistent with Olefumi (2009) in noting that Human

capital practices have been found to correlate positively with organizational effectiveness yielding higher returns in a firms output and aiding in growth of resources.

### **Summary**

The study sought to establish the relationship between human capital initiatives and value creation in public universities in Kenya. The purpose of the study was to test the relationship between human capital initiatives in public universities and their influence on value creation. The relationship between human capital initiatives and value creation in public universities was arrived at by critically examining hypothesis under study. Descriptive statistics, correlation analysis and regression analysis were used to address the objective. A sample survey of 144 was conducted in order to address the research objective which comprised determining whether human capital influences value creation in public universities in Kenya. Data collection instrument was a structured questionnaire with variable measures anchored on a five point Likert scale. Explanatory data analysis, correlation analysis, regression analysis, principal component analysis were done with the help of statistical package for social scientists (SPSS Version 20.0). Human capital, was found to be significant within 95% confidence interval and that human capital positively and significantly influenced business performance. This is similar to the influencers of other countries where human capital research has been done such as Pakistan, Malaysia, Taiwan, Portugal, Jordan, and Nigeria.

### **Human capital initiatives on value creation in public universities in Kenya**

Determine whether human capital influences value creation in public universities in Kenya. The research results showed that human capital is an important component influencing value creation in public universities in Kenya. The results indicated that human capital explains 83.3 % of the variance of value creation in public universities in Kenya. Human capital is a primary and very critical component of intellectual capital because it is a very important source of innovation creation. Employee's level of intelligence and creativity are the most important sources of innovation. The study findings maintain that human capital influences value creation through their types of intelligence, levels of intelligence and creative capabilities Kenya through learning and education, experience and expertise, innovation and creation, most of all the competencies and capabilities of human capital cannot be imitated. Correlation analysis results between human capital and business performance indicated that there was a strong positive linear correlation between human capital and value creation. The regression analysis was significant since the alternative hypothesis was true that  $\beta_1 \neq 0$  Implying that human capital has a significant effect on value creation in public universities. This conforms to the studies done by (Saari, 2011; Bontis & Cabrita, 2008; Khalique et al., 2011, Ngari, 2013).

### **Recommendations**

The following recommendations were derived from the results and findings. The Public Universities need to practice intellectual capital management because that is the only way they can lure the investors by providing sufficient information to them and therefore make informed decisions on partnerships and collaborations. Asymmetric information provided to stakeholders affects the perceptions held on value creation deliverables. The results and findings indicated that university management can improve their market value propositions through the intellectual capital components of much interest is in its human capital. Deliberate human capital initiatives should be institute to leverage value addition given the strong position correlation drawn in this study. The initiatives may be geared to capture constructs in relation to levels of intelligence, types of intelligence, expertise, innovation and creativity.



### Areas for further studies

Based on the literature reviewed and findings of this study, more qualitative methods are needed to study the phenomenon human capital initiatives utilizing multiple sources of information and respondents. Thus, future studies should take into account more respondents to avoid potential biases that may arise from key informant approaches. The study population was small and targeted a limited category of academic staff. It would be appropriate that future studies should include more respondents or study different settings such as Private sector organizations as well as other industries apart from the higher education sector.

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