**HITA: Portfolio Management Applications**

**Term Paper**

Kenneth Larot Yamat

College of Business, The University of Nevada, Las Vegas

MIS 764: Technology and Innovation Management

Sutirtha Chatterjee, Ph.D.

May 5th, 2024

**Introduction**

Introduce HITA, Harmonious Information Technology Affordances

Current Measurement Techniques

Find paper where HITA is first Introduced   
  
Find paper where HITA or Organizational HITA is measured.

Probably the U-shaped non-liner paper in the title

Explain measurement techniques used in paper.

Develop an alternative way to measure HITA using a company’s publicly available financial statements.

**Motivation, Importance, and Literature Review**

Actualization Potency is discussed in *Affordance potency: Explaining the actualization of   
technology affordances. Information and Organization* (Anderson & Robey, 2017) which describes how effective an IT affordance is to productivity toward actualizing an organizational objective. Anderson & Robey discuss information technology affordances within a healthcare context using an urban hospital going through the process of digitalization and various other technology upgrades and how these new technologies can effective or ineffective, or potent, depending on how users interact with the technology that is available to them; Anderson & Robey provide a series of anecdotes of user interactions with new note taking technologies to illustrate how user interactions with these new technologies effect the hospitals objective of keeping better patient records in order to improve patient care; mobile computers, a kind of laptop on wheels was used for record keeping, but some users had issues typing, and some patients perceived that they weren’t being paid attention to while their nurse was taking notes on the computer, a shorter note system was implemented, which saved time, but there were issues with the accuracy and level of details that users, an audio recording system was also used, but there were issues with locating specific information held in the audio recordings, and the audio recordings were time consuming (Anderson & Robey, 2017). In the paper *Strategic relevance of organizational virtues enabled by information technology in organizational innovation* (Chatterjee et. al. 2015) IT affordances are conceptualized as being comprised of two components: IT capabilities, and appropriations; Anderson’s concept of Actualization Potency ties into Chatterjee’s HITA framework either as subordinate to affordances generally or subordinate via appropriation affordances, or complimentary to appropriation affordances.

**Theory, Development, and Conceptualization**

The development of a HITA based index starts with the concept of HITA and attempts to use various parts of a company’s publicly available financial statements to create a measurement of HITA. Chatterjee established a method for ascertaining HITA in *Information Technology and organizational innovation: Harmonious information technology affordance and courage-based actualization* (Chatterjee et. al. 2020), however, HITA is an important enough conceptual framework that additional methods for assigning a HITA metric to an organization. HITA has value outside of a management and research-based context, and this is an attempt to apply HITA to portfolio management.

Intangible assets, a balance sheet item, is being used as a proxy for the IT Infrastructure that an organization has at its disposal. Although it might be more appropriate to use an actual balance sheet item that indicates the actual value of an organization’s information technology infrastructure, there are a number of problems with this approach, first is that IT infrastructure would fall within the plant, property, and equipment line item on a balance sheet, but plant, property, and equipment isn’t always broken down into a more granular way that would allow an investor to see specifically what an organization owns in terms of Information Technology, the second issue is that an organization may either lease IT services and equipment from IT services provider, or they may pay subscription fees to a cloud computing services provider, in which case the organization’s IT capabilities aren’t captured as an asset on the balance sheet, but rather as an expense on the income statement, and here too the expenses aren’t always broken down in granular detail that would allow an investor to see exactly what an organization is spending on information technology services.

Revenue, or gross sales, an income statement item, is being used as a proxy for Actualized Affordances. Although it might be possible to use a different metric such as earnings, or some variation of the earnings metric to determine Actualized Affordances, revenue might be perfectly suitable for the purposes of this paper. Profitability is important, and it’s what most people are interested in, but the amount of profit extracted from a given amount of revenue has more to do with cost control than with the variables that are being considered in this paper.

The Harmony aspect of HITA will be inferred by taking the distance between an organization’s revenue to intangible assets ratio, a proxy for how an organization is actualizing its information technology affordances, then comparing that ratio to the revenue to intangible assets ratio of the sample mean. A value of zero for any company within the sample would suggest that the company would have a HITA value of zero, and thus produce zero innovation relative to the sample. A high positive value would suggest a high positive HITA value as a result of high level of Harmony, and a high negative value would suggest a high negative HITA value as a result of a high level of dissonance.

**Conclusion**

**Selection**

Randomly Selected

395 Packaging Corp of America PKG

Revenue: 7,802,000,000

Intangible: 1,154,000,000

9 Eli Lilly & Co. LLY

Revenue: 34,124,000,000

Intangible: 11,846,000,000

443 The J.M. Smucker Company SJM

Revenue: 8,529,000,000

Intangibles: 9,646,000,000

156 Air Products & Chemicals, Inc. APD

Revenue: 12,600,000,000

Intangibles: 01,196,000,000

49 Pfizer Inc. PFE

Revenue: 061,996,000,000

Intangibles: 132,683,000,000

40 Abbott Laboratories ABT

Revenue: 40,109,000,000

Intangibles: 32,494,000,000

463 C.H. Robinson Worldwide, Inc. CHRW

Revenue: 17,596,000,000

Intangibles: 01,620,000,000

18 Johnson & Johnson JNJ

Revenue: 85,159,000,000

Intangibles: 70,733,000,000

368 Hologic Inc HOLX

Revenue: 4,030,000,000

Intangibles: 4,170,000,000

190 Metlife, Inc. MET

Revenue: 66,905,000,000

Intangibles: 11,793,000,000

300 Dollar Tree Inc. DLTR

Revenue: 30,604,000,000

Intangibles: 03,064,000,000

Criterion Selected

Energy: CVX CHEVRON CORP

Revenue: 196,913,000,000

Intangibles: 004,722,000,000

Materials: LIN LINDE PLC

Revenue: 32,854,000,000

Intangibles: 39,150,000,000

Industrials: CAT CATERPILLAR INC

Revenue: 67,060,000,000

Intangibles: 005,872,000,000

Con. Disc.: AMZN AMAZON.COM INC

Revenue: 574,785,000,000

Intangibles: 030,476,000,000

Con. Stap.: WMT WALMART INC

Revenue: 645,737,000,000

Intangibles: 032,213,000,000

Health Care: NVO NOVO NORDISK A/S

Revenue: 34,445,000,000

Intangibles: 08,958,000,000

Financials: JPM JPMORGAN CHASE & CO

Revenue: 236,311,000,000

Intangibles: 064,381,000,000

Info. Tech.: MSFT MICROSOFT CORP

Revenue: 211,915,000,000

Intangibles: 077,252,000,000

Comm. Serv.: META META PLATFORMS INC

Revenue: 134,902,000,000

Intangibles: 021,442,000,000

Utilities: NEE NEXTERA ENERGY INC

Revenue: 28,114,000,000

Intangibles: 06,783,000,000

Real Estate: PLD PROLOGIS INC

Revenue: 8,428,000,000

Intangibles: 1,950,000,000

Criterion Selected

Energy: SUN SUNOCO LP

Revenue: 23,068,000,000

Intangibles: 02,143,000,000

Materials: ATR APTARGROUP INC.

Revenue: 3,487,000,000

Intangibles: 1,247,000,000

Industrials: HII HUNTINGTON INGALLS INDUSTRIES INC

Revenue: 11,454,000,000

Intangibles: 03,509,000,000

Con. Disc.: SN SHARKNINJA INC

Revenue: 4,254,000,000

Intangibles: 1,312,000,000

Con. Stap.: ELF E L F BEAUTY INC

Revenue: 579,000,000

Intangibles: 250,000,000

Health Care: TFX TELEFLEX INC

Revenue: 2,978,000,000

Intangibles: 5,416,000,000

Financials: JEF JEFFERIES FINANCIAL GROUP INC

Revenue: 7,498,000,000

Intangibles: 2,036,000,000

Info. Tech.: U UNITY SOFTWARE INC

Revenue: 2,187,000,000

Intangibles: 4,573,000,000

DLB DOLBY LABORATORIES INC

Revenue: 1,300,000,000

Intangibles: 0576,000,000

Comm. Serv.: NWSA NEWS CORP

Revenue: 1,300,000,000

Intangibles: 00576,000,000

Utilities: BEP BROOKFIELD RENEWABLE PARTNERS LP

Revenue: 5,038,000,000

Intangibles: 1,959,000,000

Real Estate: REXR REXFORD INDUSTRIAL REALTY INC

Revenue: 798,000,000

Intangibles: 159,000,000

CUBE CUBESMART

Revenue: 1,056,000,000

Intangibles: 00002,000,000

JLL JONES LANG LASALLE INC

Revenue: 20,761,000,000

Intangibles: 05,372,000,000

Random Selection Removals

13 Exxon Mobil Corporation XOM

Revenue:

Intangibles:

Also removed for a new randomly selected company

335 Coterra Energy Inc. CTRA had to be replaced with a new, randomly selected company, they didn’t have any listed

Criteria Based Selection Removals

Energy: CVX was selected over XOM due to issues with XOM during the random selection process

Industrials: LTMAY was not selected because it is not traded on either the NASDAQ or NYSE

GE was not selected due to recent restructuring

Health Care: LLY was not selected because it already appears in the randomly selected group

NVO was selected over UNH in an effort to include international companies in the selection process

**References**

Chatterjee, S., Moody, G. D., Lowry, P. B., Chakraborty, S., & Hardin, A. (2021). The nonlinear   
influence of harmonious information technology affordance on organisational innovation. Information Systems Journal, 31(3), 294–322. <https://doi.org/10.1111/isj.12311>

Chatterjee, S., Moody, G., Lowry, P. B., Chakraborty, S., & Hardin, A. (2015). Strategic relevance of organizational virtues enabled by information technology in organizational innovation. Journal of Management Information Systems, 32(3), 158–196. <https://doi.org/10.1080/07421222.2015.1099180>

Chatterjee, S., Sarker, S., & Siponen, M. (2017). How Do Mobile ICTs Enable Organizational Fluidity: Toward a Theoretical Framework. Information & Management, 54(1), 1–13. <https://doi.org/10.1016/j.im.2016.03.007>

Chatterjee, S., Moody, G., Lowry, P. B., Chakraborty, S., & Hardin, A. (2020). Information technology and organizational innovation: Harmonious information technology affordance and courage-based actualization. Journal of Strategic Information Systems, 29, 101596. <https://doi.org/10.1016/j.jsis.2020.101596>

Anderson, C., & Robey, D. (2017). Affordance potency: Explaining the actualization of   
technology affordances. Information and Organization, 27(2), 100-115.   
<https://doi.org/10.1016/j.infoandorg.2017.03.002>