

Artificial Intelligence-Based Hiring: An Exploratory Study of Hiring Market Reactions

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Hire Hard, Manage Easy

- Jeff Bezos, the CEO of Amazon
- Richard Fairbank, the CEO of Capital One
- Reasons for effective hiring
 - Performance
 - Economic justification
 - Competition
 - Etc.

Hiring Headache

Cappelli, 2019

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Hiring Practices in Korea

- Organization-wide hiring practice with annual hiring sessions
 - Once a year
 - Huge cohort
 - Job assignment
- The impact
 - Failure
 - Applications increased
 - Unemployment rate & underused labor



Problems in Selection Process

- For job applicants
 - Uncivil interview-Job seekers' perceptions
 - Hiring fraud
 - Validity
- For firms
 - Workload
 - Resource
 - Validity

Human Inference (Haugeland, 1985) (Bellman, 1978)	Rational Inference (Charniak and McDermott, 1985) (Winston, 1992)
Human Behavior (Kurzweil, 1990) (Rich and Knight, 1991)	Rational Behavior (Pool et al. 1998) (Nilsson, 1998)

Understanding AI Hiring

- Purpose?
 - Commercial use vs. In-house use
- More than 400
- Big-data (100,000,000 cases so far)



Responses of HR Persons

- **Intense competition for a job**

“There are more than tens of thousands incoming applications at the end of each year. Dealing with these applicants is like ‘hell’ for HR people. Usually, they cannot even think about leaving work before 10 p.m. Some of us cannot even go back home for a few days in a row.”

- **Innovative organization’s image**

- “I think AI hiring is innovative”, 3.39 (out of 5.00)
- “I think AI hiring is future-oriented”, 3.60



- **Concern for validity**

- Predictive validity
- Predictive vs. concurrent validity test

“In both tests, AI hiring could not pick high performers. Our high performers tuned out low performer in AI hiring tests, whereas our new employees (hired for high scores in AI hiring tests) turned out extremely low performers afterwards.”



Responses of AC Experts

- **Assessment Center**
 - A process where applicants are examined in terms of their skills, knowledge, ability, and personality through multiple tests such as in-basket, case-analysis, and group-discussion
- **Validity and precision of AI hiring**
 - In-depth question (following questions)
 - Situation
 - Dynamic information
- **Customization**

Survey Results

- Applicants' Reactions toward Traditional Hiring Practices
 - Not satisfied
- Applicants' Attitudes toward AI Hiring
 - Somewhat neutral (innovative, but cannot replace traditional hiring systems)
 - Trustworthiness of AI hiring is low
 - Still, have intentions to apply

Survey Results

Table 1. Applicants' Reactions toward Traditional Hiring Practices

Dimension	Mean	SD	Question Item	Mean	SD
Effectiveness of the hiring system	3.17	0.70	Effectiveness of application assessments	3.15	0.92
			Effectiveness of personality/aptitude tests	2.86	1.02
			Effectiveness of interviews	3.50	0.83
Fairness of interviews	2.96	0.77	Fairness of interviews	3.13	0.92
			Fairness of Q&A opportunities	2.97	0.97
			Fairness of interview evaluation criteria	2.79	1.00
Ineffectiveness of interviews	3.63	0.72	Interviewer seemed tired	3.63	0.89
			Interviewer rated applicant's appearance	3.70	1.00
			Interviewer did not concentrate on interview	3.56	0.92

Table 2. Applicants' Attitudes toward AI Hiring

Dimension	Mean	SD	Question Item	Mean	SD
Replacement of traditional hiring Systems	2.94	0.93	Can replace traditional application assessments	2.97	1.10
			Can replace personality/aptitude tests	3.14	1.15
			Can replace interviews	2.69	1.11
Trustworthiness of AI hiring	2.49	1.03	Clearly related to job requirements	2.58	1.08
			Measure factors that lead to high performance	2.49	1.199
			High score on AI hiring test means high performance	2.60	1.27
			Help understand job and work context	2.29	1.12
Opposition to the use of AI hiring	3.04	0.80	Cannot effectively measure my competency	3.11	1.04
			Cannot accept that AI evaluates me	2.97	1.15
			Think AI will discriminate	3.05	1.01
Positive attitude toward organizations with AI hiring	2.88	1.01	Feel positive about this organization after experiencing AI hiring with this organization	2.80	0.99
			Feel I want to work here after experiencing AI hiring with this organization	2.96	1.15
Intention to apply			Will not apply to organizations that use AI hiring (reverse coded)	3.73	1.13

Discussion

- Not satisfied with both
 - Still apply to orgs with AI
- Innovative firm image
 - Does it help?
- Prefer which one?

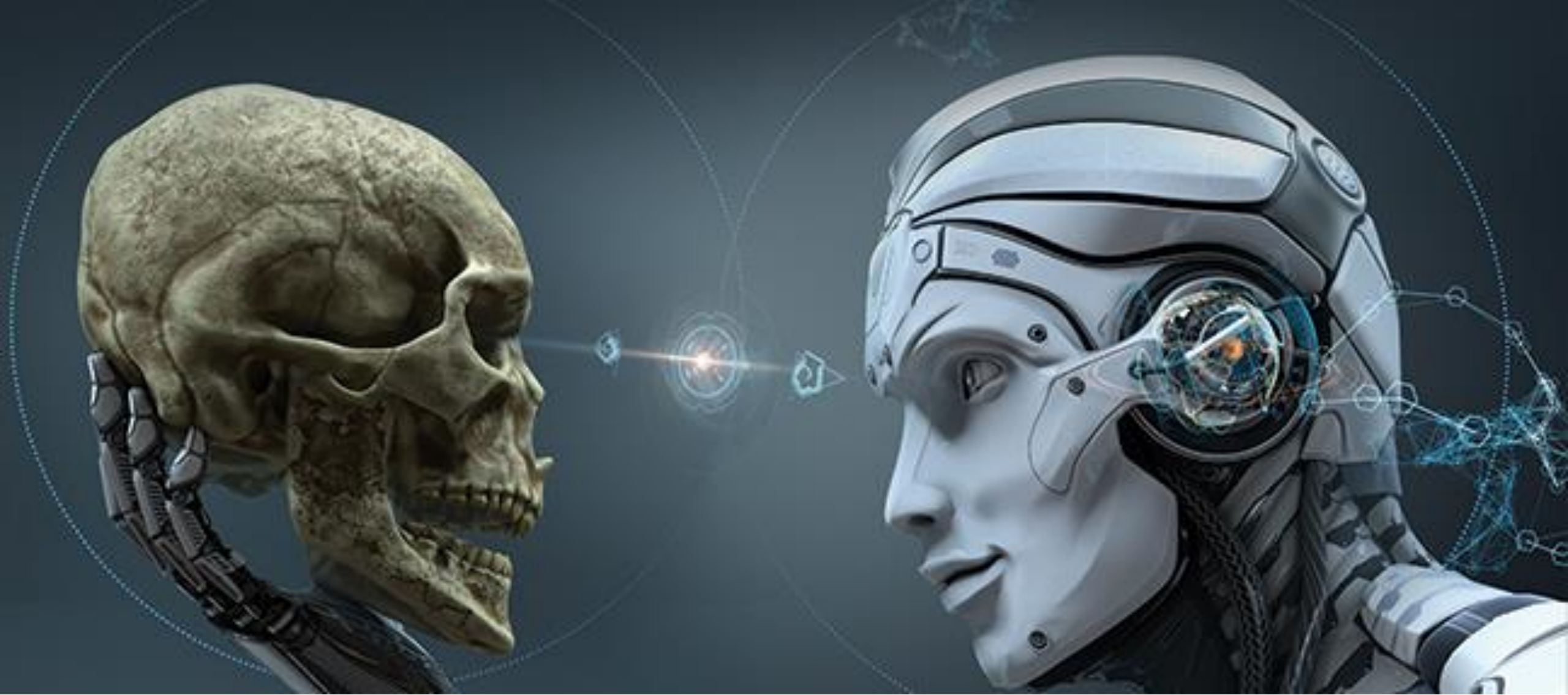
Low Validity and Fairness Issues

- Low predictive validity of $r=.4$
 - Biodata (resumes) assessment also showed similar predictive validity (Pilbeam & Corbridge, 2006), mean?
- Discrimination based on gender, race, education
 - Psychopath Norman



Suggestions

- For employers: effectively use, rather than avoidance
 - Improve predictive validity (studies, multiple methods)
 - Overcome negative perceptions: communication
- For policy makers: redesign policies
 - Employment, education, training: Can learn?
 - Laying a legal basis with AI



Questions?