

Fairness in Pay and Technology:

How Pay Dynamics Influence the Perception of Technology

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Problem in Practice

Increasing Technology Access & Business Transformation

- 44% of companies accelerating digital transformations.
- 30% focus on training programs for remote and hybrid employees

(Davis, 2021)

- As AI and other technologies become accessible, businesses must transform to stay competitive
- Strategic goals include closing skills and talent gaps via technology



Challenges in Adopting New Technology

- Despite initiatives, employee resistance to new software/hardware remains high.
- Resistance can lead to significant financial losses.

(Venkatesh & Davis, 1996; Zaker & Coloma, 2018).

- Need to address barriers like **ease of use**.

(Carroll & Conboy, 2020)

Problem in Practice

Antecedents of Technology Acceptance (TA)

Understanding drivers of acceptance crucial due to behavioral components.

- User experience, output quality, and dependability are key predictors. (Mlekus et al., 2020)
- Performance expectancy, effort expectancy, social influence, and enjoyment impact behavioral intentions. (Momani, 2021)

Psychological Characteristics Influence

- Big Five (Khan et al., 2014)
- + Narcissism, - Psychopathy (Aplin-Houtz et al., 2023a)
- Ethical beliefs (Humanist, Kantian) influence ease of use perceptions. (Leahy et al., 2023)

Problem in Practice

Personal Characteristics include Perceptions of Fairness Colored by Pay Dynamics

- Trust critical for accepting technology and perceiving fairness
- Pay equity and satisfaction significantly shape organizational justice and engagement
(Colquitt, 2001; Aplin-Houtz et al., 2023b; March et al., 2023)
- Perceptions of fairness, transparency, and satisfaction in pay dynamics critical
(Aplin-Houtz et al., 2023b; March et al., 2023; Tenhiälä et al., 2024).
- Open communication about salary promotes equity; secrecy fosters unfairness
(Kim & Leung, 2007; Bamberger & Belogolovsky, 2010)
- Lack of studies covering connections of pay dynamics on technology acceptance

RQ: How do perceptions of pay dynamics influence the perception of potential new technology?

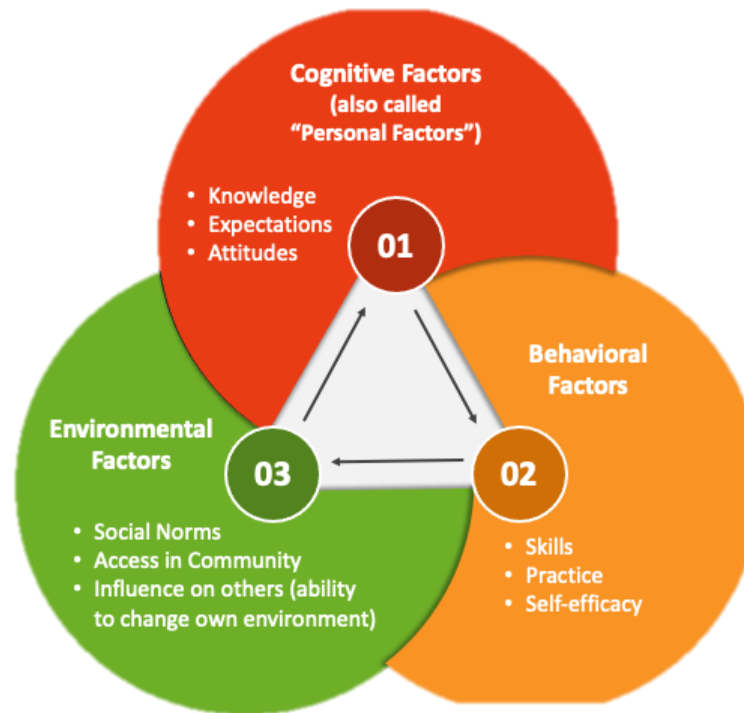


Literature Review

Social Cognitive Theory (SCT)

Overview of SCT (Bandura, 1989; 2001)

1. Explains behavior through psychological, behavioral, and environmental interactions.
2. Emphasizes learning through both direct experience and observational learning.



Social Cognitive Theory (SCT) (Cont...)

Overview of SCT (Bandura, 1989; 2001)

1. Explains behavior through psychological, behavioral, and environmental interactions.
2. Emphasizes learning through both direct experience and observational learning.

Key Components of SCT

1. **Reciprocal Determinism:** Interaction of behavior, personal factors, and the environment (Bandura, 2001).
2. **Agentic Perspective:** Individuals as proactive agents of change (Bandura, 2001).

Self-Efficacy (Bandura, 1997; Schunk & Usher, 2012)

1. Belief in one's ability to execute actions needed to manage future situations.
2. High **self-efficacy** leads to greater motivation, effort, and resilience.
3. In the workplace: Enhances willingness to adopt new technologies.

Outcome Expectations (Schunk & DiBenedetto, 2020)

1. Beliefs about the consequences of actions influence decision-making.
2. Positive expectations promote adoption of new technologies.

Influence of Media and Symbolic Communications (Bandura, 2001)

1. Behavior influenced through direct and socially mediated channels.
2. Observational learning from peers and leaders critical in adopting new technologies.

Application of SCT

1. **Education:** Enhances student learning and motivation through modeling and self-regulation.
2. **Healthcare:** Develops interventions to promote health behaviors and manage conditions.
3. **Information Science:** Helps understand information-seeking behaviors and knowledge exchange (Middleton et al., 2019).

Implications for Technology Adoption

1. Organizational environment, including support and training, influences technology acceptance.
2. Addressing barriers and enablers through SCT provides insights into effective adoption strategies.

Technology Acceptance Model

- Proposed by Fred Davis (1989) from his doctoral thesis
- Subjective norms = component that motivates individuals to utilize the technology
 - **Attitude** -general impression of the technology,
 - Influences the **behavioral intention (BI)**.
- Social Influence = important external variable in determining attitude
- Self-Efficacy important in TAM = Required Control item

Technology Acceptance Model Constructs

Perceived Ease of Use (PEOU)

- More technical based on how well individuals can adapt to technology
- The extent to which a person thinks utilizing a certain method would be effortless
- If technology = user-friendly, barriers are overcome. If the experience is difficult, nobody likes it.

Perceived Usefulness (PU)

The extent to which a person thinks using a specific system would improve their ability to accomplish their job.

Refers to a person's perception of the technology's utility for their intended use.

Based on how an individual feels the technology can benefit themselves and their career

H1: Higher levels of perceived ease of use (PEOU) will positively relate to higher levels of perceived usefulness (PU)

Pay Equity

Definition and Importance

Ensuring equal compensation for work of comparable worth vital for fostering perceptions of organizational justice.

- (+) views of pay equity ↑ employee engagement and willingness to adopt new technologies.

Empirical Support

- Studies show perceptions of equitable pay (+) impact job satisfaction and loyalty, reinforcing the adoption of new technologies.

(Zheng et al., 2014; Ijeoma, 2020)

H2. The perception of an environment of equitable pay will positively correlate with the potential PEOU of a new technology.

H3. The perception of an environment of equitable pay will positively correlate with the potential PU of a new technology.

Pay Satisfaction



- H4. The perception of satisfaction with one's pay will positively and directly relate to perceptions of Pay equity.*
- H5. The perception of an environment of equitable pay will mediate the positive relationship between perceptions of Pay satisfaction and the PEOU for a technology.*
- H6. The perception of an environment of equitable pay will mediate the positive relationship between perceptions of Pay satisfaction and the PU of technology.*

Role of Pay Satisfaction

- Reflects an employee's contentment with their compensation package, including salary, bonuses, and benefits.
- Directly influences perceptions of organizational support and equity.

Impact on Technology Acceptance

- High pay satisfaction → ↑ acceptance and use of new technology as part of perceived organizational support.
(Aplin-Houtz et al., 2023b; March et al., 2023)
- Since Pay Satisfaction is a factor of Job Satisfaction – Job Satisfaction necessary Control for isolating Pay Satisfaction

(Day, 2012; Spector, 1985, 2022)

Pay Communication

Importance of Transparent Pay Communication

- Clear and open communication about pay practices ↑ trust and a sense of fairness among employees.
- Effective pay communication associated with ↑ perceptions of pay equity and ease of use of new technologies.

Studies Supporting Pay Communication

- Transparent communication practices ↓ misunderstandings and ↑ perceived fairness of pay structures.

(Bernerth et al., 2007; Day, 2012)

Communicating Pay



H7. In environments where there are higher perceptions of communication about pay, people will also have higher perceptions of pay equity

H8. The perception of an environment of equitable pay will mediate the positive relationship between higher perceptions of communication about pay and the potential PEOU for a technology.

H9. The perception of an environment of equitable pay will mediate the positive relationship between higher perceptions of communication about pay and the potential PU of a technology.

Perception of Pay Secrecy Policies

Impact of Pay Secrecy

- Restrictions on disclosing salary details → (-) perceptions of fairness and ↓ trust.
- Such policies may deter employees from engaging with new technologies due to a lack of perceived organizational support.

Research Findings

- Transparency in pay can mitigate (-) effects of pay secrecy by ↑ trust in organizational practices.

(Greenberg & Cropanzano, 1993; Kim & Shin, 2015)

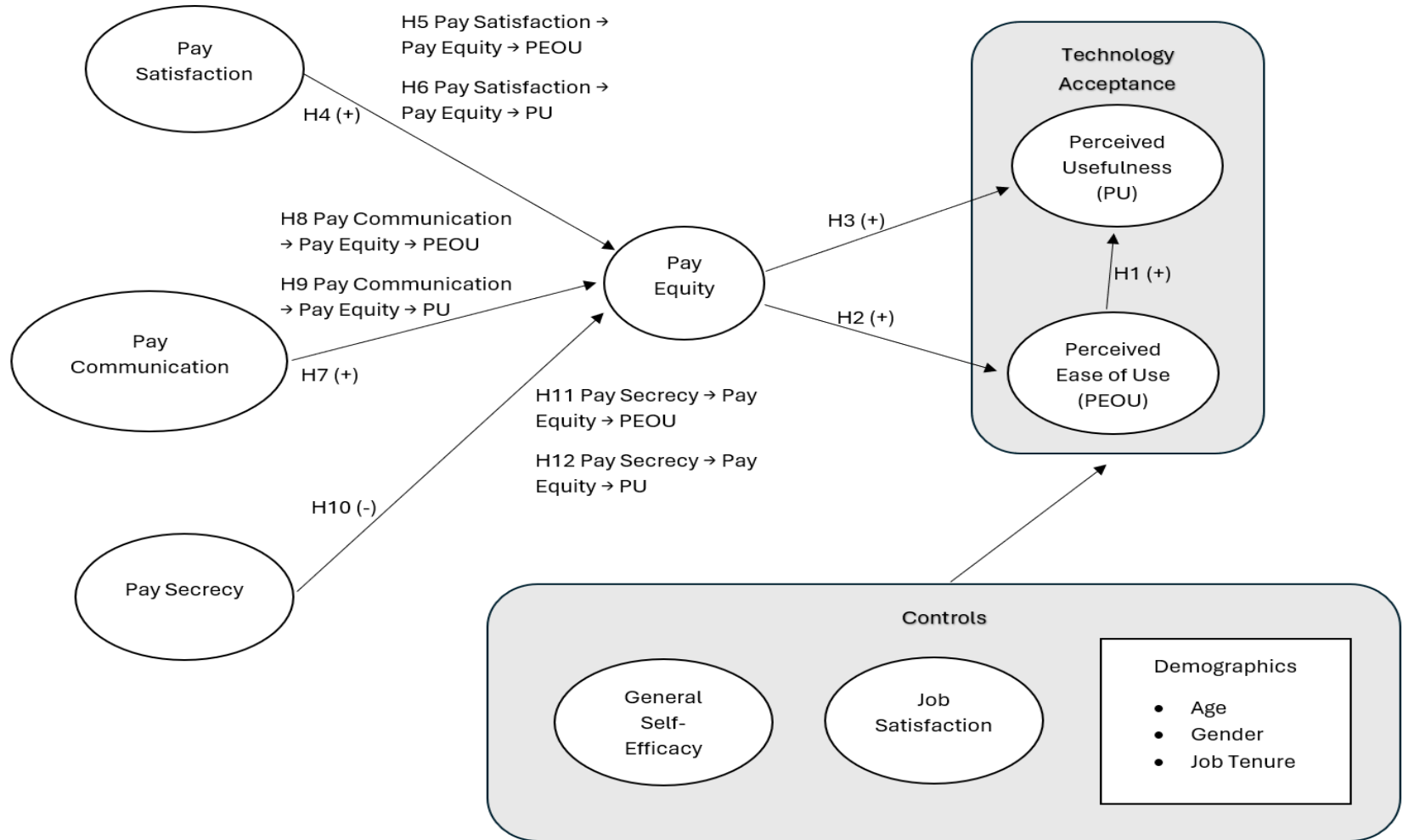


H10. In environments where there are higher perceptions of Pay secrecy policies there will be lower perceptions of Pay equity.

H11. The perception of an environment of equitable pay will mediate the relationship between the positive perceptions of an environment where pay secrecy policies and the potential PEOU for a technology.

H12. The perception of an environment of equitable pay will mediate the relationship between the positive perceptions of an environment where pay secrecy policies and the potential PU of a technology.

Research Model





Research Methodology

Pre-study Consideration



Exploratory Study

- Appropriate to use survey sampling of general constructs to determine if relationships present

Mediation required separation of IVs and DVs (Spector, 2019)

- Cross-sectional not appropriate
- Lagged-time sampling, repeated measures, or longitudinal required

Study's RQ covers general perception of Technology

- Panel Sampling appropriate (Smith et al., 2016)

Measures

Construct	# of Items	Likert-like Range	Source
Perceived Ease of Use (PEOU)	6	1-7	Davis (1989)
Perceived Usefulness (PU)	6	1-7	Davis (1989)
Pay Equity	11	5	Day (2012)
Pay Communication	4	5	Day (2012)
Pay Satisfaction	4	5	Day (2012)
Pay Secrecy	10	5	Day (2012)
General Self-Efficacy	7	5	Chen et al. (2001)
Job Satisfaction	6	5	Brayfield and Rothe (1951)
Demographics	NA	NA	Age, Gender, Job Tenure (self-report)



Chose to use known validated and reliable measures from the literature

Sampling

Qualtrics panel

- Sample of 396 participants (2021).
 - Single Measures separated by 2-6 weeks
 - 36.9% Missing data (DVs impacted) – Imputed with EM (MCAR)
 - *Demographics:*
 - Age 31-87
 - >90% White

Side note: Suggest Not Using
Qualtrics

Age		<i>n</i>	%
30-35		14	3.534
36-40		16	4.040
41-45		31	7.828
46-50		22	5.556
51-55		34	8.871
56-60		71	17.929
61-65		81	20.455
66-70		93	23.485
71-75		23	5.808
76-80		9	2.273
81		2	0.505
Education		<i>n</i>	%
High School		27	6.818
Vocational Training		9	2.273
Some College		43	10.859
Associates Degree		37	9.343
Bachelor's Degree		169	42.677
Master's Degree		82	20.707
Doctorate Degree		27	6.818
Other		2	0.505
Race		<i>n</i>	%
Asian		18	4.545
Black or African American		5	1.263
Hispanic/Latino		2	0.505
White or Caucasian		361	91.162
Multiracial or other		6	1.515
Prefer not to answer		4	1.010
Industry with SIC code		<i>n</i>	%
Agriculture, Forestry and Fishing	<i>01-09</i>	5	1.263
Mining	<i>10-14</i>	4	1.010
Construction	<i>15-17</i>	18	4.545
Manufacturing	<i>20-39</i>	55	13.889
Transportation and Public Utilities	<i>40-49</i>	72	18.182
Wholesale Trade	<i>50-51</i>	15	3.788
Retail Trade	<i>53-59</i>	41	10.354
Finance, Insurance, Real Estate	<i>60-67</i>	37	9.343
Services	<i>70-89</i>	100	25.253
Public Administration	<i>91-99</i>	49	12.374

Methodology - Analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM)

- Chosen due to non-normality of data
- An environment that requires predictive-causal analysis (Chin *et al.*, 2003)
- PLS-SEM requires fewer statistical specifications and data constraints than covariance-based SEM.

SEM Method

Measurement Model

- (Factor loadings, AVE, CR, Cronbach's α , and discriminate validity)
 - Removed 2 items: all on Perception of Pay Policies (all others above .7)
 - AVE, CR, and Cronbach's α all good or excellent
 - Discriminate validity evaluated with HTMR and Fornell-Larcker criterion

Structural Model

- (R^2 and Q^2 for predictive relevance)

Path Analysis

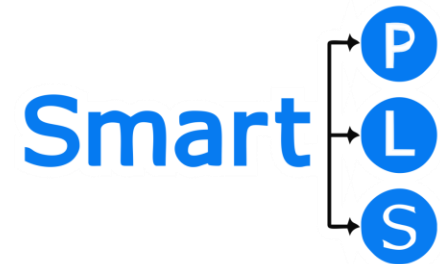


Table 3 Path Analysis Results

Direct Effects	β	SD	T	P
H1: PEOU → PU	0.624	0.048	13.121	0.000
H2: PayEq → PEOU	0.117	0.047	2.506	0.012
H3: PayEq → PU	0.067	0.037	1.821	0.069
H4: PaySat → PayEq	0.513	0.042	12.177	0.000
H7: PayCom → PayEq	0.203	0.055	3.672	0.000
P10: PaySP → PayEq	0.110	0.044	2.417	0.016
Controls				
Age → PEOU	-0.281	0.041	6.810	0.000
Age → PU	-0.145	0.040	3.600	0.000
Gender → PEOU	-0.161	0.092	1.726	0.084
Gender → PU	0.074	0.076	0.961	0.337
GSE → PEOU	0.335	0.049	6.794	0.000
GSE → PU	-0.111	0.050	2.234	0.026
Job Satisfaction → PEOU	0.102	0.061	1.717	0.086
Job Satisfaction → PU	0.038	0.055	0.682	0.495
Job Tenure → PEOU	0.027	0.045	0.605	0.545
Job Tenure → PU	0.198	0.040	4.902	0.000
Special Indirect Effects				
H5: PaySat → PayEq → PEOU	0.060	0.024	2.515	0.012
H6: PaySat → PayEq → PU	0.034	0.019	1.810	0.070
PaySat → PayEq → PEOU → PU	0.037	0.015	2.531	0.011
H8: PayCom → PayEq → PEOU	0.024	0.012	1.946	0.052
H9: PayCom → PayEq → PU	0.014	0.009	1.535	0.125
PayCom → PayEq → PEOU → PU	0.015	0.008	1.951	0.051
H11: PaySP → PayEq → PEOU	0.013	0.008	1.594	0.111
H12: PaySP → PayEq → PU	0.007	0.005	1.318	0.188
PaySP → PayEq → PEOU → PU	0.008	0.005	1.588	0.112
Total Effects				
PEOU → PU	0.624	0.048	13.121	0.000
PayEq → PEOU	0.117	0.047	2.506	0.012
PayEq → PU	0.140	0.048	2.959	0.003
PaySat → PayEq	0.513	0.042	12.177	0.000
PaySat → PEOU	0.060	0.024	2.515	0.012
PaySat → PU	0.071	0.024	2.968	0.003
PayCom → PayEq	0.203	0.055	3.672	0.000
PayCom → PEOU	0.024	0.012	1.946	0.052
PayCom → PU	0.029	0.013	2.145	0.032
PaySP → PayEq	0.110	0.044	2.417	0.016
PaySP → PEOU	0.013	0.008	1.594	0.111
PaySP → PU	0.016	0.009	1.714	0.087

Path Analysis - Results

#	Hypothesis	Support
1	Higher levels of perceived ease of use (PEOU) will positively relate to higher levels of perceived usefulness (PU).	Supported
2	The perception of an environment of equitable pay will positively correlate with the potential PEOU of a new technology.	Supported
3	The perception of an environment of equitable pay will positively correlate with the potential PU of a new technology.	Partial Supported Marginal significance
4	The perception of satisfaction with one's pay will positively and directly relate to perceptions of Pay equity.	Supported
5	The perception of an environment of equitable pay will mediate the positive relationship between perceptions of Pay satisfaction and the PEOU for a technology.	Supported (partial mediation)
6	The perception of an environment of equitable pay will mediate the positive relationship between perceptions of Pay satisfaction and the PU of technology.	Partial Supported When PU is also a mediator
7	In environments where there are higher perceptions of communication about pay, people will also have higher perceptions of pay equity.	Supported
8	The perception of an environment of equitable pay will mediate the positive relationship between higher perceptions of communication about pay and the potential PEOU for a technology.	Partial Supported Marginal significance
9	The perception of an environment of equitable pay will mediate the positive relationship between higher perceptions of communication about pay and the potential PU of a technology.	Partial Supported When PU is also a mediator (marginal significance)
10	In environments where there are higher perceptions of Pay secrecy policies, there will be lower perceptions of Pay equity.	Supported
11	The perception of an environment of equitable pay will mediate the relationship between the positive perceptions of an environment where pay secrecy policies and the potential PEOU for a technology.	Not Supported
12	The perception of an environment of equitable pay will mediate the relationship between the positive perceptions of an environment where pay secrecy policies and the potential PU of a technology.	Not Supported



Discussion

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Findings in Tandem with Theory

Confirmation of Theoretical Predictions

- **Support for Hypotheses 1, 2, 3, 7, 8, and 9** confirms the role of PEOU and PU as influenced by pay dynamics, aligning with Social Cognitive Theory's emphasis on environmental and personal factors in shaping behavior.

Enhancement of Current Understanding

- *The impact of pay equity on TA adds depth to TAM by incorporating socio-economic factors as determinants.*

- This finding enhances TAM's framework by integrating aspects of organizational justice and fairness, previously underexplored in technology adoption literature.

Challenges to Existing Assumptions

- **Non-support for Hypotheses 10, 11, and 12** challenges the assumption that pay secrecy policies directly impede TA. This suggests a more complex interaction may involve other mediating factors not captured in the current model.
- Indicates need for further investigation into how pay secrecy and organizational transparency interact with employee perceptions of technology.

Theoretical Implications

- Findings suggest modifications to TAM to more explicitly include pay-related factors and their mediating effects on technology perceptions.
- Supports extension of SCT into the domain of technology adoption

Limitations and Future Research

- **Demographic Skewness**
 - Homogeneous Sample (age and race)
 - May not accurately reflect broader workforce dynamics, affecting the external validity of findings.
- **Exploratory Nature**
 - The study's exploratory design restricts the ability to infer causality between pay dynamics and technology acceptance.
 - Experimental or longitudinal methods could provide deeper insights into causal relationships.
- **Focus on General Technology**
 - General focus on technology rather than specific types or applications may limit applicability of findings to specific technological contexts.
 - Investigate specific technologies to validate and extend these findings.
- **Measurement Challenges**
 - Potential biases in self-reported data could influence accuracy of measures on perceptions of pay dynamics and TA.
 - Employing objective measures or third-party reporting could enhance measurement reliability.
- **Overlooked Factors**
 - Study may not capture all relevant variables in relationship between pay dynamics and technology adoption (i.e.) organizational culture or individual personality traits.
 - Incorporate a broader range of variables to fully understand relationships.



Managerial Implications

Importance of Equitable Pay

- Ensuring pay equity → fostering (+) perception of new technologies' PEOU and PU.
- Managers should prioritize fair compensation strategies to ↑ employee engagement with new technologies.

Effective Pay Communication

- Transparent pay communication ↑ trust and reinforces perceptions of fairness among employees.
- Regular updates and clear explanations about how pay is determined can mitigate resistance to new technologies.

Addressing Pay Satisfaction

- ↑ pay satisfaction indirectly ↑ interaction with and adoption of new technology.
- Consider comprehensive reviews of compensation packages to ensure they meet industry standards and employee expectations.

Strategic Use of Pay Information

- Avoid strict pay secrecy policies = ↓ technology acceptance in atmosphere of distrust.
- Promote a culture of openness to ↑ trust and acceptance of organizational changes, including technology adoption.

Customized Training and Support

- Provide training programs that not only address how to use new technology but also clarify the benefits in terms of personal and professional development (**SCT application**).
- Align technology training with pay-related benefits to highlight the direct value to employees.

Leverage Managerial Leadership

- Encourage leaders to model positive technology use and openly discuss the advantages and challenges associated with new systems.
- Leadership advocacy can significantly influence employee attitudes and facilitate smoother technology integration.



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