

Supplementary materials

1. Result of the Bootstrap test

The Bootstrap test results of 1000 samplings of the above partial mediation effects are shown in **Table S1**. The 95% confidence intervals of the direct and indirect effects of *lnDigitalTrs* on *EES* and *SDR* through *RDPR* do not contain zero, so the above mediation effects are established. Thus, digital transformation exerts a complementary effect on employees with undergraduate degrees. Meanwhile, the Bootstrap estimated results show that the partial mediation effects from *lnDigitalTrs* to *EES* and *UDR* through *ProdR* are established, indicating that the substitution effect on employees with senior high school degrees and below is verified. Hence, the complementary effect and substitution effect are verified. The illustration of the mediation effects is represented in **Figure S1**.

Hence, the positive impact from digital transformation on *EES* is achieved through two mechanisms. The first mechanism is digital transformation reduces the proportion of employees in the technical departments through the substitution effect. The second mechanism is digital transformation exerts a substitution effect on employees with senior high school degrees and lower by reducing the proportion of employees in the production department of enterprises.

Table S1. Results of the Bootstrap test in the mediation effects.

Variable		Estimated Coefficient		95% Confidence Interval	
Dependent variable	Mediator variable	Indirect effect	Direct effect	Indirect effect	Direct effect
EES	RDPR	0.070 ***	0.090 ***	[0.063, 0.077]	[0.076, 0.104]
SDR	RDPR	-2.081 ***	-3.911 ***	[-2.449, -1.713]	[-4.687, -3.135]
EES	ProdR	0.114 ***	0.040 ***	[0.103, 0.125]	[0.028, 0.052]
UDR	ProdR	2.813 ***	2.218 ***	[2.545, 3.083]	[1.898, 2.537]

Note: *** represents significance at the levels of 1%.

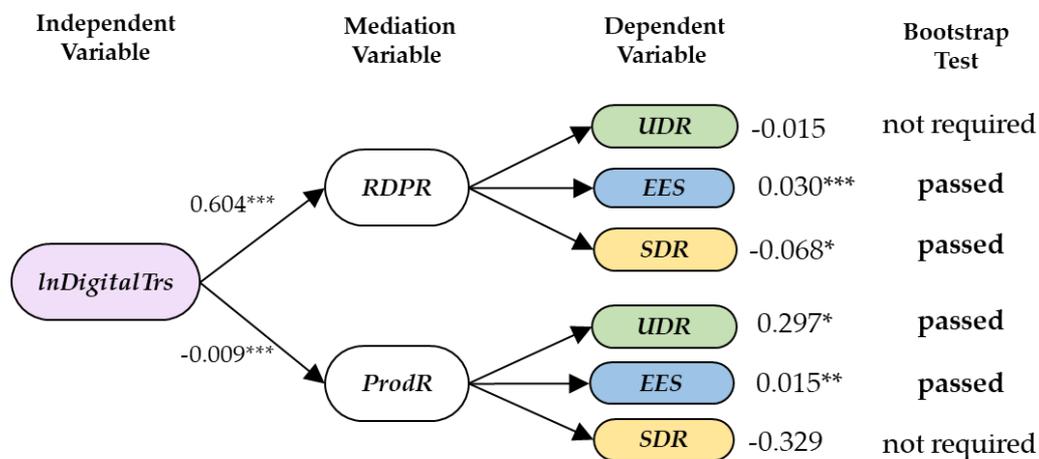


Figure S1. Illustration of the mediation effects. Note: The number on the right side of the dependent variable is the estimated coefficient of the independent variable on the dependent variable after controlling the mediation variable. ***, **, and * represent significance at the levels of 1%, 5%, and 10%, respectively.