

Teachers' Behaviour and Attitude Towards Readiness for Educational Work Change Due to IR4.0

Abaidullah Mustaffa, Mariati Abdul Rahman, Tulus Suryanto, Anwar Radiamoda

Abstract – Industrial Revolution 4.0 (IR4.0) brought technological advances in education innovations had influenced the education industry. IR4.0 influences work and organizational management influencing teachers as well as students and education stakeholders. It brings about changes concerning high-impact teaching and learning practices. The effects of IR4.0 on teaching and learning in the education industry are inevitable. The education industry is even more challenging with increasing demand from students and parents leading to the imminent process of education industry work change. Educational work changes due to IR4.0 will alter teachers' behaviour and attitudes. Subsequently affects educational industry psychology in terms of trust towards IR4.0 among teachers and even resistance by teachers and education managers. Teachers are critical to the success or failure of the education industry when undertaking change programs.

Keywords – Teachers, attitude, behaviour, trust, readiness for work change

I. INTRODUCTION

IR 4.0 in education uses digital tools and changes future education models by focusing on smarter, mobile, comprehensive, and virtual education and skills development. Hence, teachers need to be ready to accept the changes and innovations in the education system due to IR4.0. When educational work change is being implemented it is prerogative to manage change through teachers' engagement to develop positive attitudinal behaviour towards the education industry so that teachers have trust in educational work change (Yao et. al., 2018). This article proposed a conceptual paper on teachers' readiness for educational work change using the Attitude Model as the underpinning theory as depicted in Figure 1 below.

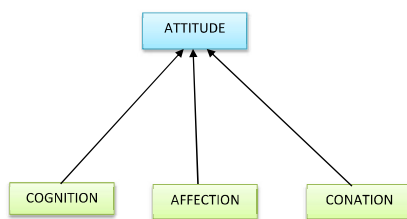


Figure 1. Attitude Model
Adapted from Breckler, 1984, p. 1192

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According to Hanaysha (2016), teachers are capable of maintaining and sustaining successful educational work change because teachers can envision the situation within their organization by comparing the organization's history and envisaged future perspective. So, it is important to comprehend teachers' attitudes and behaviour in tackling educational work change due to IR4.0 technological innovation. According to Larivière et. al., (2017), the conceptualization of teachers towards their organization is based on attitude and behaviour. Attitude and behaviour of teachers are abstract but measurable based on different influencing factors both external and internal to the education industry. Hence, trust towards IR4.0 is an indicator or variable that links to the attitude and behaviour of teachers in their organization. Nonetheless, trust alone will not provide a true picture of teachers' readiness for work change and must be combined with variables of the underpinning theory (Mitić, 2017).

This paper applies the model of attitude, behaviour, and trust (perception) toward educational work change and readiness to accept work change due to IR4.0 (Cunningham et. al., 2002; Heckmann et. al., 2015). The significance of this study is to fill the gap in empirical examinations of teachers' attitudes and behaviour toward educational work change due to IR4.0.

Attitude and behaviour can be cultivated by the choice of teachers and not by force of evolution and adaptation. Attitude is generally influenced by perceptions like trust, image, and quality to name but a few. Nonetheless, if teachers prevail in an educational environment conducive to IR4.0 then the understanding of teachers' overall psychological abstractions is necessary in influencing educational work change. This framework can be used in developing future educational policies and procedures for educational work change management adopting teachers' behaviour and attitude complemented with perceptions.

II. PROBLEM STATEMENT

Change will happen whether you like it or don't and the same situation will be experienced by educational organizations. Hence, educational work change is imminent due to several factors like technological innovations and market demand that will push educational organizations for changes. The pushing factors are variations in educational organizational structure, changing education policies, adopting new education strategies, and even forming a distinct education culture (Rusu et. al., 2016). According to Shah et. al., (2017), educational organizations will encounter problems if teachers are not ready for organizational work change or are not supportive and even resistant to change. Educational organizations will encounter the problem of managing change if teachers do not alter their working practices in the appropriate ways (Shanker et. al., 2014). The

problem of underestimating the roles of teachers will fail educational work programs (Yao, 2014).

Research Question

1. Does cognition have a relationship with teachers' readiness for educational work change due to IR4.0?
2. Does affection have a relationship with teachers' readiness for educational work change due to IR4.0?
3. Does conation have a relationship with teachers' readiness for educational work change due to IR4.0?
4. Does trust have a relationship with teachers' readiness for educational work change due to IR4.0?
5. Does trust towards IR4.0 mediate between cognition and teachers' readiness for work change due to IR4.0?
6. Does trust towards IR4.0 mediate between affection and teachers' readiness for work change due to IR4.0?
7. Does trust towards IR4.0 mediate between conation and teachers' readiness for work change due to IR4.0?

Research Objective

1. Cognition has a relationship toward readiness for educational work change due to IR4.0
2. Affection has a relationship toward readiness for educational work change due to IR4.0
3. Conation has a relationship toward readiness for educational work change due to IR4.0
4. Trust has a relationship toward readiness for educational work change due to IR4.0
5. Trust mediates between cognition and readiness for educational work change due to IR4.0
6. Trust mediates between affection and readiness for educational work change due to IR4.0
7. Trust mediates between conation and readiness for educational work change due to IR4.0

III. LITERATURE REVIEW

Teachers' Behaviour

Teachers' behaviour at work being manifested by teacher turnover, lawsuits, and absenteeism has posed critical issues and challenges for educational management. Behaviour relates to how teachers think and feel about their jobs and educational organizations. Hence, during education organizational work change teachers with supportive behaviour about their job and educational organization are ready for education organizational work changes. Therefore, it is imperative to include teachers' readiness for change as a dependent variable in this research.

Teachers' Attitude

According to Taştan & Güçel (2014), attitude comprises three psychological abstractions namely cognitive, affective, and conative used to study behaviour which is readiness for educational work change among teachers. Attitude is a psychological abstraction related to employees or teachers either being supportive or resistant

which in turn reflects the teachers' behaviour towards education organizational change. Trust is warranted to be included as a mediating variable between independent variables (cognition, affection and conation) and dependent variable behaviour as a single dimension represented by readiness for education organizational work change. Hence, the inclusion of this variable is inevitable.

IV. RESEARCH METHODOLOGY

Sampling

The research sampling is from the Malaysian education industry. Malaysian education industry is undergoing a major restructuring process involving salary scale, promotional exercises, research, and job tenure. The organizational changes are meant to improve teachers' performance and productivity given new world economic trends. A list of teachers' names with postal and email addresses can be requested from the Ministry of Education Malaysia. The sampling size of 384 teachers can be sampled using Krejcie & Morgan's (1974) suggestion on sample size. There will be 36 measuring items and we choose a ratio of 1:10 (one measuring item to ten respondents then this study shall need 360 respondents). However, 384 respondents can be sampled. The idea is to give way to non-engaged responses and incomplete respondents. The respondents who are teachers will be randomly sampled from the list and will be those involved in the change process. However, if the list is not available, this research will adopt quota sampling with the respondents. Before distributing the questionnaires, this research will contact the selected respondents for willingness to participate in the survey. Each respondent will be provided with a document file containing an English-language survey questionnaire, a consent form, and permission to visit the educational organizations.

Questionnaire Development

This conceptual paper can empirically operationalize the conceptual framework formulated in Figure 2. It is important to understand the teachers' readiness for education organizational work change. Therefore, the questionnaire design is to understand the teachers' attitudes and behaviour in facing education organizational work change. The survey instrument developed will be multi-scale items comprised of cognition, affection, and conation towards the educational work change. Trust was used as a mediating variable between the independent variables and readiness for change programs. This study adopted a 5-point Likert scale as proposed by several scholars (Çiçek & Biçer, 2015; Jafari & Soltani, 2016).

Dependent Variable

Readiness for education organizational work change is a dependent variable and can be assessed using 14 items as validated by Madsen et. al., (2005) and McNabb and Sepci (1995). According to Mitić et. al., (2017), readiness as a single dimension of the dependent variable is behaviour studied using attitude because the behaviour will be

manifested by attitude as a psychological abstraction. Respondents are required to tick one of five numbers on a Likert scale (1 = very unlikely, 5 = very likely). The readiness items will have the following wordings: My willingness to work harder because change is inevitable and so on.

Measuring Items

There are four (4) items under cognition, four (4) items under affection, four (4) items under conation, and five (5) items under trust. There are fourteen (14) items under readiness for work change. There are thirty-one (31) items altogether.

Conceptual Framework

The conceptual framework is depicted in Figure 2 below.

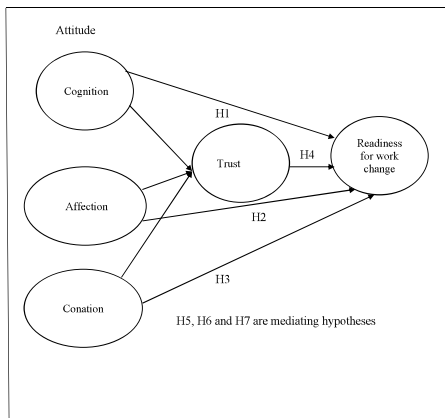


Figure 2. Conceptual Framework

Hypotheses

From the conceptual framework above, hypotheses for this study could be formulated as follows:

- H1. : Cognition has a relationship with readiness for educational work change due to IR4.0
- H2. : Affection has a relationship with readiness for educational work change due to IR4.0
- H3. : Conation has a relationship with readiness for educational work change due to IR4.0
- H4. : Trust has a relationship with readiness for educational work change due to IR4.0
- H5. : Trust mediates between cognition and educational readiness work change due to IR4.0
- H6. : Trust mediates between affection and educational readiness work change due to IR4.0
- H7. : Trust mediates between conation and educational readiness work change due to IR4.0

V. FINDINGS

TABLE 1. DEMOGRAPHY OF RESPONDENTS

Gender	Male	195	51.00
	Female	189	49.00
Age	25 – 34	80	20.50
	35 – 44	82	21.09
	45 – 54	143	37.50
	55 and above	79	20.83
Education Level	First Degree	251	65.36
	Master Degree	133	34.64
Experience	1 – 5 years	66	17.45
	6 – 11 years	70	19.01
	12 – 17 years	75	18.75
	18 – 23 years	60	16.40
	24 – 29 years	60	14.84
	30 and above	53	13.54
Race	Malays	277	72.14
	Chinese	100	26.04
	Indian	4	1.04
	Others	3	0.80

The demographic table above depicts the demography of respondents for this study.

TABLE 2. R-SQUARE

R	R Square	F Change	Sig. F Change
0.768	0.590	128.611	0.000

R-square is significant at 0.590 which is above cut-off point 0.500.

TABLE 3. B-COEFFICIENT

Variables	β - Coefficients
Educational Work Change (constant)	0.975
Cognition	0.846
Affection	0.538
Conation	0.392
Trust	0.879

All β -Coefficients are significantly above the cut-off point of 0.500 except Conation which is 0.392.

Mediating Effect

Mediating effects of trust between independent variables and teachers’ readiness for work change due to IR4.0 are presented below.

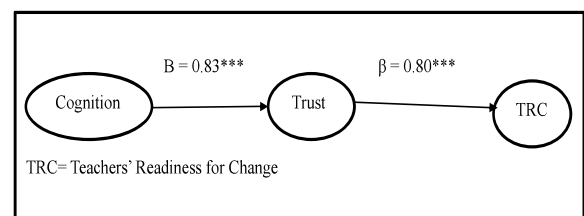


Figure 3. Trust as mediator between Cognition and Teachers’ Readiness for Work Change

The path between Cognition-Trust and Trust-TRC is significantly above the cut-off point of 0.50. The finding indicates that teachers believe the existence and impact of IR4.0 in Malaysia involves the education industry.

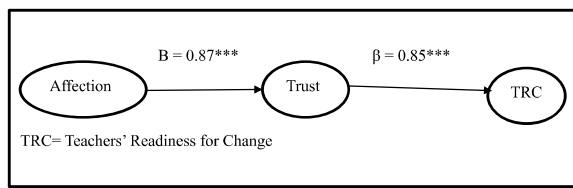


Figure 4. Trust as mediator between Affection and Teachers' Readiness for Work Change

The path between Affection-Trust and Trust-TRC is significantly above the cut-off point 0.500. The finding indicates that teachers like the presence of IR4.0 in the education industry in Malaysia.

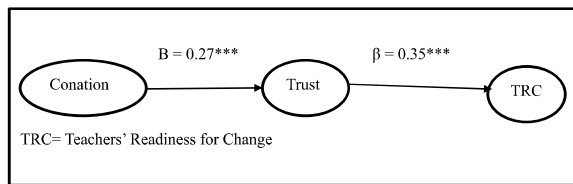


Figure 5. Trust as Mediator between Conation and Teachers' Readiness for Work Change

The path between Conation-Trust and Trust-TRC is not significant below the cut-off point of 0.500. The finding indicates that teachers are not prepared for work change due to IR4.0 in the education industry.

VI. DISCUSSION

Teachers are well aware of the existence and impact of IR4.0 in the education industry. They realized the impact of IR4.0 in many economic sectors especially in the manufacturing industry where risk, cost, profit, and loss are major concerns. However, teachers in the opinion that public schools are under government expenditures where the concerns are not related. The work changes due to IR4.0 in the public education industry has to undergo various government procedures before the actual implementation across Malaysia. Teachers are not allowed to make drastic work changes in individual capacity. The findings proved that teachers believe (cognition) that IR4.0 is going to impact the education industry but care must be given to the scope of IR4.0 involvement. The issue of trust towards IR4.0 must be taken into consideration because IR4.0 can cause unemployment among teaching graduates. After all, teaching and learning activities can be taken over by IR4.0.

VII. CONCLUSION (OR LIMITATION OR SUGGESTION FOR FURTHER STUDIES)

In conclusion, teachers' readiness for work changes due to IR4.0 is undeniably in existence. They are well aware of the IR4.0 existence and the potential impacts IR4.0 has on the education industry. The psychological aspect of cognition or believing that IR4.0 is impacting the education industry and liking (affection) the features of IR4.0 are well established in this paper but the consequences of IR4.0 towards the future human resource in the education industry is concerning their thoughts. In the manufacturing industry,

IR4.0 has replaced the human labor force with intelligent robots. The same phenomena can happen in the education industry either in public or private institutions.

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