

# EFFECTIVENESS OF TRAINING EVALUATION IN AUTOANCILLARY INDUSTRY

Swati Agrawal\*, Khagendra Nath Gangai\*\*

## Abstract:

*In today's dynamic and competitive world, organisations also need to be dynamic in nature. One of the most important needs of a dynamic organisation is right talent. In the labour market of India, though we have a large number of human resources, but skilled workers are very less in numbers. So all organisation basically focus on hiring potential candidates and then in training them according to the job profile, skill sets required, and culture of the organisation. These training processes involve a large amount of investment, it becomes imperative to analyse benefit of it. The aim of this study is to analyse the effectiveness of training for workers and different factors affecting for which study has been done in auto-ancillary Industry. A total of 120 samples were collected for the study from various organisations in the auto-ancillary industry. The Kirkpatrick model of training evaluation was used, which includes reaction, learning, behaviour, result as four main dimensions to check the effectiveness of any training programme. The result reveals that the training need identifications have significant impacts on training effectiveness. There is a positive significant relationship among the variables such as training need identification (TNI), reaction, learning, behaviour, results, and training effectiveness. Similarly, age and experience have significant influence on training effectiveness, but qualification has no significant influence on training effectiveness. The demographic variables such as age, experience, and qualifications are observed that there has significant influence on the common factor which is leaning during the training programme.*

**Keywords:** Training Evaluation, Training Effectiveness, Training Need Identification, Reaction, Learning, Behaviour, Results

## INTRODUCTION

The success of any organisation depends on various factors; skilled & knowledgeable work forces are one of them. This competitive world carries challenging format of business and demand competent workforce. Training programme assists in enhancing the efficiency and effectiveness of a person at work by improving and updating his/her knowledge & skills related to his/her work, nurturing appropriate behaviour and attitude towards work and people. For organisational productivity training assumes great significance. Though it is a type of education, training is job oriented. It is skill based learning. Education is wider in scope and general in purpose, whereas training is organisation specific and practice based. Only providing training is not enough for any organisation because it involves lots of money and time so effectiveness in training is required. Suddenly a question arises in mind that what does effective mean? In relation to training, as opposed to education, one way of looking at the issue of effectiveness is in terms of whether there are 'identifiable economic outcomes'. A broader definition still focuses on the extent to which training 'meets its objectives' (West, 2014). Effectiveness of training requires proper

training, need identification, proper designing of the training programme, and the right environment for training, right trainer with proper training style, right method of training, and right evaluation method.

An effective training is a continuous process because training needs of worker changes according to organisational strategies, technology and the external environment. Not only this, process of evaluation is a continuous process because the most important factor of training output is developing competency evident in employee behaviour and measuring change in the behaviour of employees may take a long time as they need proper and favourable condition to change. It has been seen that the effectiveness of any training is measured by the total increase in revenue, volume of product, reduction in total wastage etc. But what about those companies who are going through slowdown? ROI may not be preferable tool to measure effectiveness of training in this case. In this case an effective training programme cannot result in an increase in profit. But it does not mean that training is not effective in that particular company. The main goal of any training ultimately results in acquiring knowledge, skills and modification in attitude and behaviour. Hence, it may be more important to evaluate

\* Jaipuria Institute of Management, Noida, Uttar Pradesh, India. Email: swati.02@gmail.com

\*\* Bharatiya Vidya Bhavan's Usha & Lakshmi Mittal Institute of Management (BULMIM), New Delhi, India.  
Email: khagendrapasy@gmail.com

the percentage of change in skills and behaviour through training and development programme rather than analyzing the level of increase or decrease in profit and wastage for evaluating effectiveness of training.

## REVIEW OF LITERATURE

Core competencies and expertise in an organisation give an edge over organisation's competitors and training plays a vital role in developing and strengthening these competencies. Training which specifically provides knowledge and develop skills on a particular topic according to many, is still neglected part of many industries. Many people who are in different organisations feel that it is just a formality.

Kirkpatrick (1979) introduced the concept of evaluation of training with the help of four level model of evaluation. This model helps to evaluate the effectiveness of any training programme. This four level evaluation model talks about four different levels; reaction, learning, behaviour, and results. Reaction evaluation says that how the trainees felt about the training or learning experience. It may best be defined as how well the trainees liked a particular training programme. He emphasized on an important fact that evaluation of reaction does not include a measurement of any learning that takes place. Reactions are very quick and easy to obtain, it is not expensive to gather or to analyze. Second level talks about learning. It is important to understand that favourable reaction to a training programme does not assure learning. Learning evaluation is the measurement of the increase in knowledge before and after the training. According to Kirkpatrick learning means what principles, facts and techniques were understood and absorbed by the trainees. Learning evaluation is not concerned with the on-the-job use of these principles, facts, and techniques. Third level talks about behaviour. Behaviour evaluation is the extent of applied learning back on the job - implementation. Measurement of behaviour change typically requires cooperation and skill of line-managers. Observation and interview over time are required to assess change, relevance of change, and sustainability of change. Fourth and last level deals with results. Result evaluation is the effect on the business after training. Desired result could be reduced of cost, reduction of turnover and absenteeism, reduction of grievances, increase in quality and quality of production etc. (Kirkpatrick, 1979).

Different training methods, skill or task characteristics in the training and selection of training evaluation criteria are related to each other to observe the effectiveness of any training programme (Arthur, Bennett, Edens, & Bell, 2003). A study was conducted to check the relationship between training characteristics and formative training evaluation with the reference to two factors of Kirkpatrick Model that is a reaction and learning. The findings of

this study exhibited that a set of 7 training characteristics explained 59% and 61% variance in reaction and learning respectively.. The conclusion of this study focuses on future research on linking formative evaluation with summative one that is the behaviour and results (Muhammad Zahid Iqbal *et al.*, 2011). Another study explains a relationship between job behaviour and training. They found that training may help employees to reduce their anxiety, develop their skills and come up with new work demands (Chen, Chang and Yeh, 2004).

In order to increase or maximize the effectiveness of any training programme, an organisation needs to use ongoing assessments to establish a relationship between learning outcomes and performance. To set the best of every training programme, there should be a running assessment of every training programme (Rama & Vaishnavi, 2012). Emphasizing the attributes of employees Punia & other researchers (Punia & Kant, 2013) stated that to increase the effectiveness of any training, managers should first motivate their employees learn new abilities and skills and then they should support their employees to practice these skills at work place. More qualified employees can easily gain knowledge through training. Satisfaction from any training programme also depends on the age of the trainees. Through training some hidden capabilities and talent could be discovered. Effective interaction between trainer and trainee is required to enhance the training programme in the future (Subbulakshmi & Tamilarasan, 2013)

Kunche, Puli, Guniganti and Puli (2011) stated that effective training is considered as an important factor in determining the efficiency of an organisation which depends upon the capability of its employees. For training evaluation to be truly effective, the training and development itself must be appropriate for the person and the situation. Even though evaluation is listed in the last phase, evaluation actually happens during all the phases. It is used during the training process to evaluate the training process itself. Evaluation is not just for the trainer or organisation it is absolutely important for the learner too. Therefore, they provided information to evaluate and improve the effectiveness of training.

Previous studies have suggested that demographic variables such as age, degree held, and experience of trainees are related to training impact. A multiplicity of trainees' personal characteristics has been studied in relation to transfer of learning during the training programme. The personal characteristics of trainees' provide self-confidence and belief in is or her ability to successfully obtain and transfer the objective skill (Gist, Stevens & Bavetta, 1991). For an individual trainee, effect of age (Hill, 2002) is also a significant factor. Likewise, trainees with a high degree of education level tend to be more motivated learners (Chiaburu & Marinova, 2005). The educational qualification has been

established between efforts to build the self-confidence of learners and the likelihood of their using skills on the job (Salas & Cannon-Bowers, 2001). This is one of the reasons for investing in good training programme and preparing trainees for training. On the other side, understanding the objectives of the training, its relevance to individual and organisational needs and expectations for application can greatly improve learner motivation (Montesino, 2002). Similarly, Sutherland (2009) states that variation on training impact level based on the length of work experience.

Sanjeevkumar & Yanan's (2011) study in Malaysia which combines theoretical and empirical research examines the factors affecting training (types of training, training environment, work environment, and employees' personal characteristics) and training effectiveness in Kedah State Development Corporation (KSDC) which is the parent company under BDB Company. It's been found that there is no difference among the respondents' age and educational level regarding the training effectiveness. On the other hands, it has been found that there exist significant differences among the respondents' regarding the training effectiveness levels based on their work experience.

RamaDevi and Shaik(2012)developedtheoretical framework of a comprehensive model for training effectiveness for training needs assessment to trainee performance. The new model is called four stage cyclic models measure Training Effectiveness'. This model considers evaluation of four stages of a training programme to measure training effectiveness. Stage-1: Training needs, Stage-2: Training design, Stage-3: Trainer performance, Stage-4: Trainee performance. Training needs are unbendable based on gaps in trainees' knowledge, skill, ability, etc. Effectiveness of training depends on the significance of the training put together to trainee's genuine needs identification. If the training programme addresses needs of trainees, he/she attains a high level of satisfaction and grades the training delivered as very effective (Lina Vyas, 2004).

## OBJECTIVE AND HYPOTHESIS

Researchers in this study have studied the relationship of three demographic variables with training effectiveness. These variables have been studied earlier in the context of

training effectiveness, but no specific study in India has been focused on automotive or auto ancillary industry. Since this is one of the fastest growing Industries in India, researchers felt the need to explore scenarios of training effectiveness and its relationship with demographic variables.

This research is of the descriptive nature and has been done with the objective of measuring training effectiveness of employees in the dimension of Kirkpatrick model and to find out the influences of training need identification, age, qualification, and experience on training effectiveness of the trainees.

Based on the literature review and the objective of the research study to evaluate effectiveness of training, the following hypotheses are being investigated in this research with the help of statistical research tools:

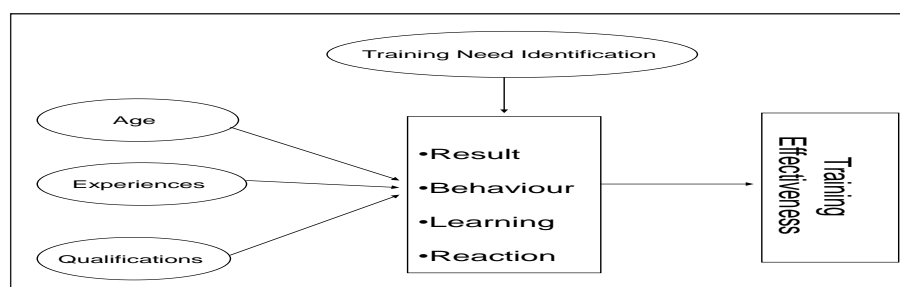
- H1:** There is a significant positive relationship among the variables such as training need identification, reaction, learning, behaviour, and result with training effectiveness.
- H2:** There is a significant effects of training need identification on training effectiveness.
- H3:** There is a significant difference between the experience of trainees and effectiveness of training.
- H4:** There is a significant difference between the age of trainees and effectiveness of training.
- H5:** There is a significant influence between qualifications of trainees and effectiveness of training.

The conceptual framework has been developed on the based on literature review and above following hypothesis to be tested the demographic variables, training need identification impacts on the training effectiveness of the employees (Fig. 1). The research model has been tested through hypothesis testing of the research.

## METHODS

### Sampling & Design

A total of 120 samples were collected for the study from midsized organisation in the auto ancillary industry. The sample was collected through using of purposive sampling



**Fig. 1: Conceptual Framework of the Proposed Research**

techniques. The present study results from an initial phase of exploratory research in nature to identify the appropriate questions according to the variables based on Kirkpatrick's evaluation model. The method of data collection is fully monitored by the researchers. The effects of variables study under Ex post facto and research design include both exploratory and descriptive study with the help of statistical tools techniques mainly used of inter-correlation matrix, multivariate test, ANOVAs. The study was done in cross-sectional level. The research setting mainly focused on field setting. The participants' perception of the research activity is needed to be in the actual routine mode.

### Instrument

The questionnaire was developed by researchers based upon the Kirkpatrick's evaluation model. Researchers used four dimensions to measure training effectiveness, such as reaction, learning, behaviour, and results as stated in Kirkpatrick model. Questions have been added to the training need identification. A total of 16 questions are included to measure training need identification & effectiveness. The questionnaires are designed on an interval scale of five point Likert's scales (1 to 5). The reliability of the questionnaire is to measure for internal consistency of the items through Chronbach's alpha ( $\alpha = .85$ ).

### Procedure

The primary data were collected through questionnaires developed on five points Likert's scale for 120 respondents. After detailing about the purpose of the study to the participants and taking their informed consent, the researchers provided the questionnaire to the participants to fill up. All the employees were confirmed that their data will be kept confidential. The researchers provided instruction how to fill the data. As all the employees were literate, there was no such problem to understand the questionnaire. In some cases the researchers provided appropriate explanations of certain questions where the participants felt difficult. A single case method of data collection was followed for the entire and finally the information about training effectiveness of every participant was informed individually of the study. The participants are directly involved in the manufacturing process and questionnaire was administered between May 2014 and October 2014 in Delhi NCR region. The data of participants were analysed using of inter-correlation matrix, MANCOVA and ANOVA though using of SPSS 16.0. Analysis has been done to investigate the relationship between each demographic variables (age, experience & qualification) and training effectiveness (reaction, learning, behaviour & results) of the employees. Similarly, training need identification analyzed to be effects on training effectiveness of the employees. The hypothesis has taken

according to the objectives of the research and to find out the statistically appropriateness of the study.

## RESULTS AND DISCUSSION

This research has been done though the primary data collected though the questionnaire developed by the researchers. The organisations generally nominate their employees for any training other than formal training programme. Organisations also follow feedback system. At the end of every training they provide a feedback form to trainees which contains item related to trainer, objective of training, content, methodology and time along with their suggestions. On the back side of this form evaluation parameters are given on the basis of which after 3 months of the training date head of department rates the performance of the trainees and unstructured interview of the respondents. On the one hand employees have freedom to choose own training program according to their need and on the other hand, those employees who have less work on the day of training are forced to sit for training. Demographic Profiles of the trainees are described in Table 1 in which total respondents of the questionnaire was 120 (N). Further, it is classified into three demographic groups that are age, qualification and experience. Similarly, each demographic variable has further classification as follows in Table 1.

**Table 1: Demographic Profiles of the trainees**

Age	N	Qualifications	N	Experiences	N
21-30	53	10th	14	1-5 Years	29
31-40	34	12th	41	6-10 Years	28
41-50	26	Graduation	48	11-15 Years	10
Above 50	7	PG	16	16-20 Years	35
		PhD.	1	Above 20 Years	18
N	120				

Source: Author

The overview of inter-correlation matrix (Table 2) presents means, standard deviations, and bivariate correlation among the variables such as age, qualifications, experiences, training need identification (TNI), reaction, learning, behaviour, and results with the training effectiveness of the employees. The training need identification is a very important aspect of training effectiveness. Without identifying the objectives of training and trainees training need, the training programme and its outcomes will land nowhere. Therefore, the researchers tried to find out that the relationship between training need identification with training effectiveness. The results (Table 2) show that there is highly a positive significant relationship at the 0.01 level between training need identification and training effectiveness of the employees ( $r = 0.548$ ). Similarly, TNI and reaction ( $r = 0.552$ ); TNI and Learning ( $r = 0.313$ );

**Table 2: Inter Correlations Among Variables**

Parameters	1	2	3	4	5	6	7	8	9
1.Age	1.00								
2.Qualifications	.043	1.00							
3.Experiences	.837**	.035	1.00						
4. TNI	-.420**	-.007	-.441**	1.00					
5.Reaction	-.216*	-.108	-.238**	.551**	1.00				
6. Learning	-.239**	-.232*	-.244**	.313**	.552**	1.00			
7.Behaviour	-.187*	-.119	-.211*	.427**	.626**	.557**	1.00		
8.Results	-.136	-.265**	-.180*	.452**	.581**	.483**	.578**	1.00	
9.Effectiveness	-.241**	-.206*	-.268**	.548**	.896**	.773**	.811**	.778**	1.00
Mean	1.89	2.56	2.89	74.50	10.94	78.08	82.33	78.25	79.53
SD	.942	.887	1.413	10.94	12.42	14.74	12.41	13.32	10.82

\*\* Correlation is significant at the 0.01 level (2-tailed). \*Correlation is significant at the 0.05 level (2-tailed).

TNI and Behaviour ( $r=0.427$ ); TNI and Results ( $r=0.452$ ) were found highly positive significant relationship at the 0.01 level. Therefore, it can be said that training need identification is an essential elements to start of any training programme and its effects total effectiveness of the training programme. Further, it is important in evaluation of training to find out the effectiveness of the training and therefore, we have found out the relationship among the variables (reaction, learning, behaviour and results) with the effectiveness of the training. The result indicates that reaction and learning ( $r=0.552$ ); reaction & behaviour ( $r=0.626$ ); reaction & results ( $r=0.581$ ); reaction and training effectiveness ( $r=0.896$ ) were found highly positive significant relationship at the 0.01 level. Similarly, it has found a highly positive significant relationship at the 0.01 level with learning & behaviour ( $r=0.557$ ); learning & result ( $r=.483$ ); learning & training effectiveness ( $r=0.773$ ); behaviour & results ( $r=0.578$ ); behaviour & training effectiveness ( $r=0.811$ ); and result & training effectiveness ( $r=0.778$ ). The demographic variables such as age, qualifications and experiences were found significant relationship with Training need identification (TNI), reaction, learning, behaviour, results and training effectiveness. But the age and results ( $r=-.136$ ); Qualification & TNI ( $r=-.007$ ); qualifications and reaction ( $r=-.108$ ); qualifications and behaviour ( $r=-.119$ ) were not found significant relationship. Therefore, it can be

concluded that reaction, learning, behaviour, and results are important aspect to measure the training effectiveness, which is in accordance with the Kirkpatrick Model of the training evaluation. From Table 2, it is revealed that for Hypothesis H1 that there is a significant positive relationship among the variables such as training need identification, reaction, learning, behaviour, and result with training effectiveness, null hypothesis is rejected and we accepted the research hypothesis or alternative hypothesis.

The multivariate test of independent variable (training need identification) impacts on the dependent variables (training effectiveness) which is highlighted in the Table 3. The result indicates that TNI highly significant impacts on training effectiveness of the trainees ( $df=15$ ,  $F=5.211$ ,  $P<0.01$ ). Therefore, we can say that training need identification is a very crucial aspect before conducting any kind of training programme. Training need identification is to find out to whom training need to provide, what type of training, what are objective of the training, the contents of the training, methodology, who will conduct training etc. The appropriate training and need identification training always improve the knowledge, skills and attitudes (KSAs) of the trainees. Similarly, the researchers tried to find out that the independent variable may impact other sub segments of training effectiveness. The result reveals

**Table 3: Multivariate Test of Training Need Identification & Training Effectiveness**

Independent Variable	Dependent Variable	df	F	Sig.
TNI	Reaction	15	4.733	.000**
	Learning		2.412	.005**
	Behaviour		3.407	.000**
	Result		3.700	.000**
	Training Effectiveness		5.211	.000**

that TNI and Reaction (df=15, F=4.733, P<0.01); TNI and Learning (df=15, F=2.412, P<0.01); TNI and Behaviour (df=15, F=3.407, P<0.01); TNI and Results (df=15, F=3.700, P<0.01) were highly significant difference which means TNI has high impact on the each components of training effectiveness. Our research hypothesis H2 that there will be significant effects of training need identification on (reaction, learning, behaviour and result) training effectiveness is therefore accepted and the null hypothesis is rejected.

To investigate the relationship of *experience of trainees* with training effectiveness Anova test has been used as depicted in the ANOVA Table 4. The result shows that experience is highly significant influence in the learning of the trainees (F=3.684, P< 0.05) and also significantly influence on the behaviour of the trainees (F=2.359, P<0.10). It can be said that the experienced employees are more serious about their personal growth and development. Therefore, the mindset and behaviour always changes towards learning. For example, it is observed that the post graduate MBA/PGDM students having work experiences are more serious towards learning & disciplined behaviour in the class rooms as compared to the students having no work experiences. They try to learn more from different sources and develop their skills. Similarly, in a training programme or training situations, experience trainees are more serious towards learning to develop their skills. But, the experience of trainees were not finding the significant influence over reaction (F=1.740, P>0.10) and also not a significant influence on the results (F=1.321, P>0.10). The reaction is to be measured at the base upon using the training methodologies, training environments, materials, trainers, facilities etc. and these aspects are constant for everyone. Therefore, experience may not influence over reaction. Also, the results are measured after training programme that is on the job performance, hence experiences of trainees are not significantly influencing results which also depend on other factors like economic conditions, demand, and organisation strategy. The table also revealed that the experiences of trainees are highly significant with training effectiveness of employees (F=2.359, P<0.05). The Hypothesis that there is a significant difference between the experience of trainees and effectiveness of training is accepted and we rejected the null hypothesis.

The age of trainees and training effectiveness are represented in the ANOVA Table 4, in which the result indicates that the age of the trainees and behaviour (F=1.683, P>0.10), age of the trainees and results (F=1.112, P>0.10) do not show significant difference. Therefore, we can say that age of trainees has no significant influence on behaviour and results. But, age is having significant influence on reaction (F=2.135, P<0.10) and learning (F=2.769, P<0.05). Further, it can be said that learning is depending on the maturity of the learners that can influence in the training programme.

Similarly, age of trainees is a significant influence on the total training effectiveness (F= 2.63, P<0.10). Thus, Hypothesis H4: "There is a significant difference between the age of trainees and effectiveness of training" is accepted and the null hypothesis is rejected.

The ANOVA Table 4 is narrating about the relationship of *qualification of the employees* and the training effectiveness. The result was found out after calculation of the ANOVA table that qualifications and learning (F=2.369, P<0.10) and qualifications and results (F=2.409, P<0.10) are significant difference between the variables. That means learning and results depend on the educational qualifications. But, on the other sides, qualifications do not have significant difference with reaction (F=.736, P>0.10) and behaviour (F=1.721, P>0.10). Similarly, qualifications of the employees are not influencing the training effectiveness (F= 1.617, P>0.10). Therefore, educational qualification cannot influence the training effectiveness of the trainees. Thus, researchers fail to reject the null hypothesis H5: "There is a significant influence between qualifications of trainees and effectiveness of training".

**Table 4: ANOVA of Demographic Variable of Experiences, Age and Qualifications**

Parameters	Experiences		Age		Qualifications	
	F	Sig.	F	Sig.	F	Sig.
Reaction	1.740	.146	2.135	.100*	.736	.569
Learning	3.684	.007**	2.769	.045**	2.369	.057*
Behaviour	2.359	.058*	1.683	.174	1.721	.150
Result	1.321	.266	1.112	.347	2.409	.053*
Training						
Effectiveness	2.935	.024**	2.639	.053*	1.617	.175

\*\*p< 0.05 , \*P<0.10 df of 119

## CONCLUSION

In this research Kirkpatrick's Model is used for investigating the effectiveness of training and its relationship with other variables. It has been revealed in this study that there is no evidence which can prove that educational qualification affects the effectiveness of training of employees in the auto ancillary industry. It is the topic of training and the thrust area of trainees which creates positive interest for a particular training session. Also for the study has been done employees of an auto ancillary industry where standardisation is important, qualification may not be very significant in output specifically for workers and staff. A significant difference is found between age of trainees and the effectiveness of training. It is very difficult to involve more aged trainee in any training session. It has been generally seen that for a trainer it is a very difficult job to attract the aged trainees.

Young generation is more open towards change and always wants to apply those changes in their life. Trainees with fewer hands on experience show interest towards any particular training session. But trainees with high experience generally believed they are aware of everything and there is no need for further modification in their skills. The reaction is a tool which can help a trainer to understand that whether trainees are having interest in the session and ultimately will learning happen or not? If trainees like the environment and the topic, then it helps them to understand. Reaction, learning, behaviour, and result have a positive and significant effect on the effectiveness of training. Positive reaction of trainees indicates that they understand the topic and are listening to trainer carefully. It helps them in learning about the topic and increasing their knowledge for the same with the help of concepts. Learning encourages the trainees to apply their knowledge at their work place which leads to changes in behaviour. And this changed behaviour helps in achieving results like more quality product, decrease production cost, least number of accidents at work place etc. Training need identification is found significant impacts on training effectiveness. Before conducting any kind of training, the training needs identification is essential factors to improve the effectiveness of the training for trainees. It will fulfill the gap in training as well as knowledge, skills and attitudes of the trainees. The results of this study state that the model used to check the effectiveness (i.e. Kirkpatrick model) is a very useful means of measuring the effectiveness of any training. This research will be of help to practitioners in designing training programmes and considering demographic variables like age, qualification, experience of participants before nominating and designing training programme for workers and staff. Since research has been done with a select group of respondents, one of the limitations of this study is that the results cannot be generalised for other sectors. In the future, similar research can be done in other sectors.

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