

THE ROLE OF HUMAN RESOURCE DEVELOPMENT IN THE RELATIONSHIP BETWEEN INTRAPRENEURIAL COMPETENCIES AND INNOVATIVE WORK BEHAVIOR: A CASE STUDY

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Abstract. In this day and age, there is growing responsiveness towards innovation as a mean to compete in the worldwide pressures from surroundings. Employees as source of ideas play a crucial role in the innovation process. Therefore, innovative work behaviour is of interest when comes to organizations' innovation, as is the case for public sector. Consequently, researcher wanted to get more intuition in the innovation process because of the fact that decrease in organization innovation capacity. Moreover, it was anyway of interest to get a better understanding of innovation as strategic pillar and the role of employees and human resource development in this context. As a result, this study is to investigate intrapreneurial competencies that foster innovative work behaviour of employees and the role of human resource development in moderating the relationship between the variables. The research was completed by using quantitative method and there were 60 questionnaires from public officers in UTeM. The analysis method used was regression analysis for hypothesis testing in this research and the results showed that there have significant relationships between intrapreneurial competencies, human resource development and innovative work behavior. It is believed that this research paper will beneficial to the industry practitioners and academicians for future reference.

Key words: intrapreneurial competencies, human resource development, innovative work behaviour, UTeM.

Introduction. Innovation is being emphasised for Malaysians to counter the worldwide rivalry and stresses form the environment [1]. Malaysians have been insisted to be innovative and creative in conjunction with Challenge Six of Vision 2020 which refers to the formation of innovation as a means to move forward [2]. Individual innovative behaviour contributes to high performance organization [3]. As a result, innovation has been identified as the crucial factor driving Malaysia into becoming an advanced and high income nation. An organization provides advanced clear focus on innovation [4]. Innovation is seen as a critical business processes, driving energy that is competitive and as an important cultural. At hand are many studies that show the prominence of innovation in organizations [5]. However, studies that focus on individual level innovation is still given less attention. The lack of studies on innovation at the individual level will be the initial focus in this study. Thus, the innovative work behaviour was introduced in this study.

The government aims to achieve up to 50% of workers being skilled workers in 2020 [6]. This is the main agenda of the country and has always being given attention in every Malaysia Plan. However, scholars' research in the process of individual innovation within the public sector found that innovative work behaviour is controlled by more obstacles in the public sector paralleled to the private sector [7-8]. In general, one of those barriers is the public sectors lack competitive pressures with reference to private sectors. This is because high general anxiety of public sector disappointment, strict chief agency controls induced to lessen corruption consequently public processes run smoothly [9]. In a nutshell, in overcoming the challenges that take place in the contemporary rapidly evolving environment, innovation is a fundamental solution. Employees highly influence the innovation performance of organizations due to their intimate relation in the innovation process. With regard to that, human resource department is responsible in the creation of a personnel with innovative competencies. Human resource development become of interest for the purpose of encouraging employees to actually show innovative work behaviour. Thus, for public sector, it is valuable to get more insight in the intrapreneurial competencies that encourage innovative work behaviour and the role of moderating of human resource development take place in this relationship.

Literature review. These days, innovation has become a widely held subject on the business bookshelf. Organizations are confronted by all kinds of environmental pressures in order to react to the desires of customers at present and in the future. Novel practical, marketable ideas are being hunted and promoted lately as never before. Employees behaviour play a significant role on this process and consecutively on the organization innovation performance [10].

Innovative work behaviour (IWB). The different innovation stages and related activities require various behaviours of people. At first, the initiation and introduction stages [11]. They include three stages, namely idea generation, partnership building and application [12]. It was then followed with some sort of changes in name to certain stages which are idea generation, advancement and realization [13]. At the same time, researchers added by differentiating five stages namely idea exploration, generativity, formative investigation, defending and presentation [14]. In this research, the four stages of innovative work behaviour distinguished by [15]. There are four different stages namely the realizing of opportunities or problems, the generation of novel and useful ideas, seeking support for those ideas and the putting into practice of them. Innovative work behaviour can thus be categorized as discontinuous and interconnected behaviours in which individuals probably are involved in any grouping of these activities at any on one occasion [16]. Therefore, employees' behaviours might have a major impact on organisational innovativeness.

Intrapreneurial competencies (IC). Intrapreneurial competencies well-defined as individual characteristics such as knowledge, skills and abilities required to carrying out a specific job [17]. In contrast, intrapreneurial competencies also described as the combination of entrepreneurs' attributes such as attitudes, beliefs, knowledge, skills,

abilities, personality, expertise and behavioural tendencies essential for up-and-coming entrepreneurship [18]. It is therefore intrapreneurial competencies have been identified as a specific group of competencies relevant to the implementation of successful entrepreneurship. Intrapreneurial competencies are conceded by individuals who begin or make over organizations and who add on value through their resources and opportunities organization also acknowledged as entrepreneurs [19].

Here, Man's model of entrepreneurial competencies has been nominated as the starting point as to develop and validate a cross-cultural model linking competencies to innovative work behavior [20]. This model provides a foundation for the classification of behaviours that can be appropriately placed in different areas of competency. Besides, organising competency is labelled "Organising and Leading" to better reflect the definition of this domain. In view of that, the eight categories of entrepreneurial competencies proposed for use in the present study include Strategic, Commitment, Conceptual, Opportunity, Organising and Leading, Relationship, Learning and Personal.

As a result, the three intrapreneurial competencies that been chosen are strategy competency, organizing and leading competency, and personal competency. These three intrapreneurial competencies exhibit top three high results in literature review consequently selected to be tested in this research. Therefore, this leads to the first hypotheses:

H1a: There is a relationship between strategic competency and innovative work behaviour

H1b: There is a relationship between organizing and leading competency and innovative work behaviour

H1c: There is a relationship between personal competency and innovative work behavior

Human resource development (HRD). Human resource development was defined as a set of systematic and planned activities designed by an organization [21]. Human resource development in organizational perspective is narrowed down by its function on learning, education, training and development to the human resource selected and recruited to identify, assure and help to develop the key competencies [22]. Thus, organizational development and training and development as two major realms of practice take place within human resource development. Organizational development focuses at the organization level and connects with individuals whereas training and development focuses on individuals and connects with the organization. For this study, researcher implements the human resource development practices by [23] deployed by organizations are staffing, human resource development, compensation, safety and health, and employee and labour relations. Subsequently, scholars suggested that human resource development practices formed the basis of dynamic capability, knowledge management and intellectual capital, leading to the achievement of core competencies [24]. For instance, providing training and development to employees, such as on-the-job training, job rotation, coaching, mentoring, in-basket training, case study etc. can help to improve the knowledge, skills, experience, abilities and motivation of employees. Therefore, it is hypothesized:

H2a: Human resource development will moderate the relationship between strategic competency and innovative work behaviour

H2b: Human resource development will moderate the relationship between organizing and leading competency and innovative work behaviour

H2c: Human resource development will moderate the relationship between personal competency and innovative work behaviour

Frameworks

In [25] suggested MARS model as a conceptual framework for understanding the factors that drive individual behaviour and how people behave and make decisions. This model proved to be relevant when the findings of experts in psychology, sociology and the behaviour of organizations have found that the employee's performance is influenced by internal and external factors such as motivation, ability, role and perception of the situation in addition to the lower the performance of the employee.

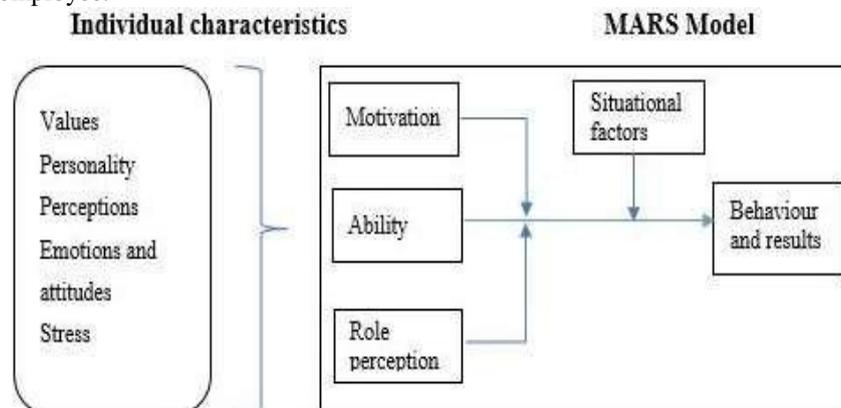


Fig. 1. MARS model of individual behavior

Based on the four factors in the model MARS above, a theoretical framework proposed in this research which has been modified from MARS Model to suit the purpose of the study. Accordingly, it is clear that intrapreneurial competencies (ability) will affect the behaviour of innovative work (behaviour and result). At the same time situational factors, the development of human resources will act as an intermediary between intrapreneurial competencies to

innovative work behavior. This frame shows the availability of an interactive relationship between the level of intrapreneurial competencies, human resource development and innovative work behavior.

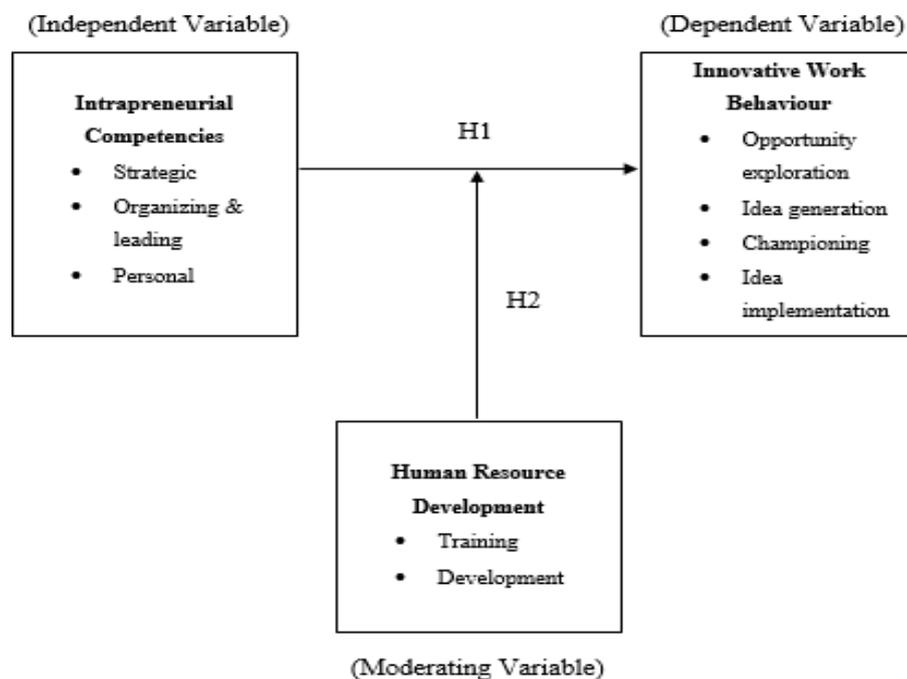


Fig. 2. Proposed conceptual framework

Methodology. The main center industry for this study is public sector. The location focused will be higher educational institution in Malacca. Therefore, Technical University of Malaysia Malacca (UTeM) will be selected to conduct questionnaire survey for this study. The total population size of the senior public officers (Grade 41, 42, 44 and 54) within UTeM are 230 people. Then, researcher will distribute 144 questionnaires to the selected public university in Malacca. In addition, researcher will use the simple random sampling method to choose respondents who are involved in this study.

The quantitative research methodology will be used in this study is questionnaire. Questionnaire will be used to collect primary data from the respondents. A set of questionnaires will be distributed in this study which consists of three parts, Part A of Intrapreneurial Competencies while Part B is Human Resource Development, followed by Part C as Innovative Work Behavior, and lastly Part D is concerning the general information. A seven-point Likert scale will be used for this questionnaire.

After the data collection, researcher use Statistical Package for Social Science (SPSS) as the statistical tool to analyze data. There are a few different techniques will be used for data analysis in this study. Descriptive analysis is used to study the level of innovative work behaviour in the public sector. In this study, researcher decides to use regression analysis to examine the relationship between intrapreneurial competencies and innovative work behaviour. Pearson Correlation analysis is chosen by researcher to investigate the moderating role of human resource development on the effect of intrapreneurial competencies toward innovative work behavior.

Results and discussion. The analysis and interpretation of data are carried out in one phase, which is based on the results of questionnaires, deal with quantitative analysis of data as following.

Dataset reliability

A Cronbach's alpha test were conducted to see whether the initial model is reliable enough and could be retained or not. The Cronbach's alpha's of all scales are measured to see whether the items together actually can form a scale. Result as shown in Table 1.

Table. 1. Reliability analysis

Variables	N of Items	Cronbach's Alpha
Strategic competency	14	.855
Organizing and leading competency	13	.906
Personal competency	9	.876
Human resource development	24	.976
Innovative work behaviour	17	.957

Based on the reliability analysis, it is decided to make no adjustments to the initial model. Deleting items would furthermore yield no significantly better internal reliability. It should however be noted that this study will follow

the past literature when investigating the possible influence of human resource development on the relationship between intrapreneurial competencies and innovative work behaviour, the construct is seen as one-dimensional due to the timespan of this research. In sum, the reliability is relatively high, therefore they are sufficient for retaining the construct.

Respondent profile. The questionnaires were sent to 230 target employees representing all departments and functions within the organization. Participation occurred on voluntary basis and most employees were willing to contribute, which was reflected in a relatively low response rate of 26.08%, which are 60 respondents. When looking at the distribution of employees on the basis of age, employment type, department, education level and tenure, the following can be concluded. The demographic data shown in Table 2.

Table. 2. Demographic data

Demographic Components	Percentage (%)
1. Office	
• Office of Vice Chancellor	18.3
• Registrar Office	40.0
• Bursary	10.0
• Knowledge and Communication Services Centre	20.0
• Others	11.7
2. Position Grade	
• 41	46.7
• 42	8.3
• 44	23.3
• 48	10.0
• 52	8.3
• 54	3.3
3. Gender	
• Male	45.0
• Female	55.0
4. Age	
• 21-30	15.0
• 31-40	55.0
• 41-50	26.7
• 51 and above	3.3
5. Education	
• Degree	83.3
• Master's	15.0
• PhD	1.7
6. Previous Working Experience	
• Yes	83.3
• No	16.7
7. Pre-Training	
• Management	41.7
• Technical	8.3
• Both	11.7
• No	38.3
8. Post-Training	
• Management	46.7
• Technical	3.3
• Both	33.3
• No	16.7
9. Period of Service	
• 1-5	20.0
• 6-10	40.0
• 11-15	31.7
• 16 and above	8.3

From the participating employees, the Registrar Office represent 40% of the results, which means most of respondents engaged under this department. Form the participating employees, the majority (46.7%) equivalent to 27 respondents held the position Grade 41. Researcher made a conclusion that the majority of respondents were female

which taken 33 respondents (55%) in the questionnaire survey. Most of the respondents were in range of 31 – 40 years old who contributed to the survey that occupied 33 respondents out of 60 respondents and in terms of percentage, it was taken 55%. Besides, Degree level of education was the mode in education level which had 50 respondents (83.3%) among all respondents. There were 50 respondents (83.3%) had previous working experience before current responsibility. Besides, there had 41.7% had receive management training before starting responsibility in organization meanwhile there was 11.7% of respondents did not receive training before begin their responsibility. Same goes for the post-training, where there was 46.7% of respondents had receive training in term of management after starting the responsibility in organization followed by 33.3% of respondents did received both, management and technical training in current responsibility. Last but not least, 24 respondents had been contributed their services in current company for 6 – 10 years.

Level of innovative work behavior. The first research objective is to investigate the level of innovative work behaviour in organization. Table 3 shows the descriptive statistics for innovative work behaviour in organizations consequently Table 4 shows scale of the level of innovative work behaviour. Both tables were used to explained the level of innovative work behaviour in organizations.

Table. 3. Mean of the level innovative work behaviour

	N	Minimum	Maximum	Mean	Std. Deviation
Mean for IWB	60	2.47	5.71	3.8284	.88863
Valid N (listwise)	60				

Table. 4. Measurement of the level of innovative work behaviour

Scale	Level
1.00-2.33	Low
2.34-4.66	Medium
4.67-7.00	High

The overall mean value of total departments and centers for innovative work behaviour was 3.8284. Thus, overall mean fell in the scale 2.34 to 4.66 and it indicated the level of innovative work behaviour was average. Therefore, the organization studied has medium level of innovative work behaviour practices by employees in organization.

The relationship between intrapreneurial competencies and innovative work behavior

The second research objective is to examine the relationship between intrapreneurial competencies and innovative work behaviour. Table 6 represents the results of the multiple regression analysis for the dependent variable. The hypotheses that are assessed here will be discussed below. This will be done by looking at the effect of the intrapreneurial competencies together on the dependent variables.

Table. 5. Model summary of IC and IWB

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.764 ^a	.583	.561	.58877

a. Predictors: (Constant), Personal Competency, Strategic Competency, Organizing and Leading Competency

Table. 6. ANOVA of IC and IWB

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	27.178	3	9.059	26.134	.000 ^b
	Residual	19.412	56	.347		
	Total	46.590	59			

a. Dependent Variable: IWB

b. Predictors: (Constant), Personal Competency, Strategic Competency, Organizing and Leading Competency

Table 5 furthermore shows the R2 and the adjusted R2. Also, the F-ratio is reported and significant for all hypotheses which indicates the overall goodness of fit. When looking at the R2 value (.583), it becomes clear that the model is able to explain a considerable amount of innovative work behavior. The F-ratio is significant at the .000 level, so there is a less than 0.1% chance that this value would happen if there was no relationship between the intrapreneurial competencies and innovation work behavior.

Table. 7. Coefficients of IC and IWB

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.793	.748		1.060	.294

	Strategic Competency	-.852	.347	-.414	-2.456	.017
	Organizing and Leading Competency	.638	.252	.463	2.535	.014
	Personal Competency	.869	.245	.665	3.541	.001

a. Dependent Variable: Mean for IWB

The hypotheses predicted that there is a significant relationship between strategic competency (H1a), organizing and leading competency (H1b) and personal competency (H1c) and innovative work behaviour. The table above represents the effect of these intrapreneurial competencies together and indicates that strategic competency ($\beta = -.414$, $p < .05$), organizing and leading competency ($\beta = .463$, $p < .05$) and personal competency ($\beta = .665$, $p < .05$) positively and significantly influence the innovative work behaviour. The hypothesis 1a that was formulated concerning strategic competency is confirmed. This means that strategic competency positively contributes to innovative work behaviour. However, it should be noted here that the relationship between strategic competency is weaker due to the significance level of .017. This means that the value is likely to occur by chance 1% of the time, in contrast to 0.1% of the time for the other two relationships. For organizing and leading competency the same holds, hypothesis 1b is confirmed with a significance level of .014 which means that it is positively related to innovative work behaviour. Personal competency has the same influence on innovative work behaviour, hypothesis 1c are confirmed at .001. It is here however remarkable that personal competency has the most significant effect on innovative work behaviour.

The relationship between intrapreneurial competencies, human resource development and innovative work behaviour

The third research objective is to investigate the role of human resource development in moderating the relationship between intrapreneurial competencies and innovative work behaviour. Table 9 shows the results of the moderator analysis that was conducted to assess the effect of the human resource development on the relationship between the three intrapreneurial competencies (strategic competency, organizing and leading competency and personal competency) and innovative work behavior altogether.

Table 8. Model summary of IC, HRD and IWB

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.587 ^a	.345	.310	.73818

a. Predictors: (Constant), Strategic Competency moderated by Human Resource Development (SC_MV), Organizing and Leading Competency moderated by Human Resource Development (OLC_MV), Personal Competency moderated by Human Resource Development (PC_MV)

Table 9. ANNOVA of IC, HRD and IWB

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.076	3	5.359	9.834	.000 ^b
	Residual	30.515	56	.545		
	Total	46.590	59			

a. Dependent Variable: Innovative Work Behaviour

b. Predictors: (Constant), PI_MV, SI_MV, OLI_MV

It should be noted that for all moderator variables as represented in Table 8 and 9, there were no strikingly R2 values, .345. The models explain a fairly amount of the variance in innovative work behavior. The F-ratio was, contrary to the β values, everywhere significant (.000). This can be explained by the fact that the analysis also included the effect of the independent variables on innovative work behavior and these relationships were merely confirmed as described earlier in this chapter.

Table 10. Coefficient of IC, HRD and IWB

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.464	.383		9.051	.000
	SC_HRD	-.402	.081	-1.833	-4.988	.000
	OLC_HRD	.166	.079	.821	2.092	.041
	PC_HRD	.234	.084	1.185	2.798	.007

a. Dependent Variable: Innovative Work Behaviour

For the human resource development, the hypothesis predicted that human resource development would moderate the effect of all three intrapreneurial competencies; strategic competency (H2a), organizing and leading competency (H2b) and personal competency (H2c) on innovative work behavior, such that the positive effects of these intrapreneurial competencies on innovative work behavior would be increased when human resource development was perceived as high. In Table 9, it can be noticed that all significant moderating effect of human resource development could be found, as was expected. Human resource development moderates the relationship between strategic

competency and innovative work behavior ($\beta = -1.833, p < .05$), which means that when human resource development is perceived as high by the employees, this increases the consistency between strategic competency and innovative work behavior. In other words, when the human resource development is high, the relationship between strategic competency and innovative work behaviour will be stronger. The results furthermore show that the moderating effects of human resource development on the relationship between organizing and leading competency ($\beta = .821, p < .05$) and personal competency ($\beta = 1.185, p < .05$) and IWB are significant. Hypothesis 2a, 2b and 2c can thus be accepted.

In addition, it is remarkable that next to the intrapreneurial competencies, human resource development is also significantly related to innovative work behavior, in addition to moderating effects that have been found. The values for the intrapreneurial competencies and human resource development are all positive. These positive p values are significant, they indicate that the higher the perceived human resource development, the stronger the relationship between the intrapreneurial competencies and innovative work behavior.

Conclusion. As emphasized in the beginning of this chapter, innovation is nowadays inevitable for organization and the innovation capacity of an organization resides in the intelligence, imagination and creativity of its employees and their implication and support is needed for the development and implementation of innovation [26]. In light of these arguments, investigating the process of innovation and the associated behaviours of employees is valuable. Having pointed out the relevance of more knowledge about the topic of innovative work behaviour in general, it is time to narrow the perspective down and stress the usefulness of answering the main question. By giving an answer on the question what relationship between intrapreneurial competencies and innovative work behavior, organizations get an understanding of the individual characteristics that employees need to possess in order to be able to show innovative behavior. Besides, the question how human resource development are related to intrapreneurial competencies and innovative work behaviour indicates how human resource practices can be used in fostering intrapreneurial competencies with the goal of stimulating innovative work behaviour.

This study contains the three major limitations. First, the data are self-ratings of innovative behaviors, and the results are based on perceptions that may not be a true measure of the actual behavior. Next, all participants have an Asian culture perspective of the phenomenon included in this study, thus limited to public sectors within the Malaysia. The focus on public sector in Malaysia may not be generalizable to other sector or countries. In addition, innovation is heterogeneous, thus limiting the components in this study provides only a snapshot of the phenomenon.

In summary, knowledge about intrapreneurial competencies for innovative work behaviour and the relationship with human resource development provides organizations with clues for improvement regarding innovation and these findings will in the end contribute to the quality, performance and sustained competitive advantage of organizations. This means that the results can influence the public sector significantly, especially UTeM. When organizations perform better, this can lead to an increase in employment in those areas. Furthermore, answers on the research questions can be useful for educators in the field of innovation. Education in which innovation is central could be adapted to the prevailing intrapreneurial competencies that stimulate innovative work behaviour and the human resource development that play a role in this process.

In addition to the practical relevance of this study, a contribution to the scientific world will be made. First of all, the need for understanding and managing innovation appears to be widespread and the current research will contribute to this necessity. Besides, there is limited evidence for the relationship between human resource development and innovation in the literature. Scholars have merely focused on the influence of human resource development on organizational performance, however, innovation is an important predictor of performance. Therefore, it is valuable to connect human resource development and innovation with the goal of increasing organizational performance. It is furthermore not extensively studied yet what intrapreneurial competencies are needed to achieve innovative work behaviour and in turn innovation and what role human resource development plays here. By obtaining new insights on these topics, a contribution to the existing literature will be made.

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