

Review of Motorcycle Commuting Safety Support Program - Phase 1: A Qualitative Study

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ABSTRACT

Malaysia ranks among the top 20 countries in terms of road accident fatalities, with motorcycle accidents accounting for more than 60% of these fatalities. This is a very serious issue to encounter. Although there are a lot of studies related to motorcyclists, the number of studies in assessing the needs for motorcycle commuting training programme is still scarce in this country. This study is important as its findings could extend previous knowledge on how the industry perceived motorcycle safety riding program. The program consists of four modules which delivered in Phase 1. The modules were Family Safety Reminder, Route Hazard Mapping, Motorcycle Inspection and Commuting Safety Management. The main goal of this study was to review the motorcycle Commuting Safety Support Programme (CSSP) and to determine the needs for the programme among companies' top management and focal person of CSSP training programme. This study was conducted using a qualitative approach, where face-to-face interview between the researcher and the informant were conducted. Data were thematically analysed, and transcribe and transform into codes. Findings from this study revealed five themes which are i) feedback of the four modules that were delivered in phase 1; ii) appropriateness of time-allocation for each module in Phase 1; iii) experience as PIC of programme; iv) ways to convince management to approve the programme and v) the module that gives the most impact to the participants. This finding may be useful in revising the CSSP. In conclusion, the study highlights the vital input which can be used for further research and improvement of the program modules. Further improvement of the modules should be conducted, and systematic evaluation of the program should be carried out to investigate further on the effectiveness of the program.

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1. Introduction

Motorcyclists are over-represented in fatal crashes in Low and Middle-Income Countries (LMICs). Motorcyclists account for roughly 60% of all road fatalities in Malaysia (Rusli et al., 2020). Road traffic accidents are the major source of concern around the world, claiming over 1.35 million lives and injuring up to 50 million people each year (Ariffin et al., 2020). Southern East Asia's (SEA) road safety is also alarming, with the region having the second highest rate of road death per 100,000 populations (according to WHO region definition) after Africa (WHO, 2018). With a high proportion of motorcycles on the road, motorcycle users accounted for more than 43% of all road deaths in the SEA region.

Based on the literature review, it was found that crash rates are very high for young riders. Learner riders do not have the same low crash rates as learner drivers. The rise in riding and crashes by older riders appears to be a global phenomenon, with which the existing

training and licencing systems are struggling. In many jurisdictions, the licensing system allows motorcycle licences to remain current at no additional cost to people who hold car licences. This makes it relatively simple for retired riders to resume riding (Haworth & Mulvihill, 2005).

Current trends indicate that unless immediate action is taken, road traffic deaths will become the fifth leading cause of death by 2030 (WHO, 2008). Motorcyclists are a particularly vulnerable road user group due to a lack of protection, and they face a high risk of death. When compared to drive a car, ride a motorcycle is associated with a higher risk of fatalities (Faudzi & Zulkipli, 2020; Tsai et al., 2020; Robbins & Fotios, 2020). Motorcycle fatalities in Malaysia are three times greater than passenger car fatalities, six times greater than pedestrian fatalities, and nearly 50 times greater than bus passenger fatalities (Abdul Manan & Várhelyi, 2012).

Furthermore, a significant proportion of motorcycle collisions occur while commuting. According to the Social Security

Organisation of Malaysia (SOCSO), of the 67,000 workplace injury incidents reported in 2016, two-thirds are the result of commuting collisions (that is, collisions while travelling to and from work, and for work purposes), with motorcyclist collisions accounting for the majority (SOCSO, 2016). Based on over 6,000 detailed crash data involving Malaysian motorcyclists, five motorcycle safety programme were introduced and implemented in Malaysia (Radin Umar, 2006).

Following that, an analysis of the effects of the safety programme was conducted, with the conclusion that the safety programmes were effective in offsetting the fatality trend (Law & Radin Umar, 2005). Another collaboration study, conducted in 2012 by Monash University Accident Research Centre Melbourne (MUARC), SOCSO, and Monash University Kuala Lumpur, revealed some insights into understanding the range of factors that contribute to motorcycle commuting crashes, and provided preliminary evidence to guide the development of any initiative addressing commuter motorcycle collisions, including educational and enforcement initiatives.

Most of riding training course evaluations sought to ascertain whether the courses had any impact on licencing rates, crash involvement, infringements, and/or the extent and nature of riding. In most studies, methodological flaws prevented these objectives from being met (Haworth et al., 2000). A study by Patarawan et al. (2013) on the effectiveness of safety riding program, the study showed that safety riding training is effective in reducing injuries. Another study also proved that safety riding training is successful to improve safety equipment usage by the rider (Zare et al., 2015).

The Motorcycle Commuting Safety Support Programme (CSSP) is a training intervention programme for commuting safety developed through a smart partnership project between SOCSO and Malaysian Institute of Road Safety Research (MIROS). It was first introduced in 2017 with 20 companies in Klang Valley participating. It was expanded to 95 companies nationwide in 2018 due to its importance in lowering the rate of motorcycle commuting accidents among participating companies. SIRIM STANDARD 4:2014 Good Practices in Implementing Commuting Safety Management serves as the foundation for the training modules. The primary goal of this intervention is to reduce the number of commuting accidents through a training/educational programme.

CSSP training programme is conducted through three phases namely 1) Phase 1: Training for trainers; 2) Phase 2: Training for selected workers (who commute via motorcycle); and 3) Phase 3: Post-evaluation workshop after 3 months from Phase 2. Participants of CSSP-Phase 1 are the participating companies' Person-in-Charge of the program, normally officers from Safety Division or Human Resource Department. Most participants were the Safety and Health Officers of the companies, though not all applied. In order to improve the implementation of CSSP Program in future, feedbacks and opinions from Phase 1 participants is significant as they are the program's organizing committee (Program's PIC) and also the participants.

Four modules namely Family Safety Reminder, Route Hazard Mapping, Motorcycle Inspection and Commuting Safety Management are taught in the program. Feedbacks on the modules delivered are important in order to improve the program. Improvement of the modules and program is needed as the program and modules has been implemented since 2017. Thus, this study was conducted to answer these research questions:

- i) What are the PIC's opinions on the CSSP modules based on their experience participating in the program?
- ii) What are the PIC's views on the program implementation and structure from their experience organizing it?

Hence, this study is conducted generally to review the existing Commuting Safety Support Program by assessing feedbacks and obtain recommendation from the participating companies on the modules and program as a whole.

2. Method

2.1. Study Design

This study was conducted using a qualitative approach to collect and analyse data to answer the research questions. In qualitative research, the designing processes essentially accommodate the features of constructivist knowledge and understandings of the quality of qualitative research (Mirhosseini, 2020). In this study, the qualitative study design using interview technique has been chosen by the researcher due to deeper knowledge and information from the informants could be gathered which will help the researcher to understand more on the research questions. By choosing this design, researcher also uses the chance to ask deeper during exploring the view and opinion from the informants on the motorcycle Commuting Safety Support Programme (CSSP). The informants' responses were recorded using voice recorder, which helped in ensuring rich data are recorded. Then, the data was transcribed, verbatim and analysed for grouping to identify the theme by the researcher.

2.2. Informants

Six informants from a list of participating companies were selected for the interview and this is considered based on the saturation on data. The informants were selected using purposive sampling, where specific criteria were identified. The inclusion criteria in selection of informants were that the informants must be from participating companies in Commuting Safety Support Programme (CSSP) in the year 2017 and 2018. The informants also must be from companies which located in Klang Valley area. The informants also must involve directly in CSSP as the person in-charge assigned by their company. The exclusion criteria were the informants who from companies which had not completed the three phases of Commuting Safety Support Programme (CSSP). Upon getting their consent to become an informant, the researcher set up the time, date and venue for the data collection.

2.3. Data Collection

2.3.1 Interview Guide and Question

An interview guide and protocol has been developed as a guide to researcher for conducting the data collection especially the interview session. Semi-structured interview guide and protocol comprise of the interview questions and responses as guidance to the researcher. Semi-structured interviews technique was used in this study because it is an effective method for data collection when the researcher wants to gather qualitative, open-ended data and to explore the informants' thoughts, feelings and beliefs about a particular topic which may be the reason why it is the most widely used types of interview informative research studies. The research questions were effectively answered through this data collection technique.

The questions selected in the interview sheet were derived from the research questions and a pilot test of the interview coding sheet is performed to one of the informants of the study. Three elements of questions were asked namely informants' views on the modules, opinions about the program and experience organizing the program.

2.3.2 Procedure

Face-to-face interview was conducted between the researcher and informants. Prior to the interview, a short briefing was delivered by the researcher on the purpose of the study, the procedure involved in data collecting and the need for informants to sign a consent form as an agreement to take part in the study. The questions focused on their experiences in running the programme, their view on the contents and its effectiveness in engaging workers towards safe commuting

and their thoughts about the processes applied in delivery of the module. The session took about 40 to 50 minutes per informant.

2.4 Data Analysis

Data analysis for qualitative data in this study were analysed by using qualitative data analysis and research software ATLAS.ti version 7.5.18. Data were thematically analysed by the researcher. Data were transcribed and transformed into codes. Interpretation for each codes were done by the researcher before the data being grouped into sub-themes and finally the came out with the list of themes as the final results of the study.

2.5 Quality Assurance

In order to ensure the reliability of the data, audit trail has been performed by the researcher by conducting member checking technique. Informants has been given a form with list of codes to verify the data. List of codes have been modified according to informants' feedbacks and responses.

3. Results

3.1. Informants and Company's Profiling

This study involved six informants from six companies which participated in Commuting Safety Support Programme (CSSP) in the year of 2017 and 2018. All selected informants were assigned by the companies as the PIC for the CSSP and all companies were located in Klang Valley. Companies involved in this study were from various sector as per Table 1.

Table 1: Company sector

Pseudonym	Company Sector
Company D	Automotive Components Manufacturer/Supplier
Company G	Courier Services
Company U	Education Services
Company P	Automobile Services
Company T	Hotel Management
Company M	Airport Services

Based on the interview session, for the first phase which included four modules, the researcher has discovered five themes to answer the research questions, namely, i) feedback of the four modules that were delivered in Phase 1; ii) appropriateness of time-allocation for each module in Phase 1; iii) experience as PIC programme; iv) ways to convince management to approve the programme and v) the modules that give most impact to the participants.

3.2 Feedback of the Four Modules that were Delivered in Phase 1

The informants from five companies shared that they agreed the modules were good and overall were very important. According to **Company D**,

"Emm in my opinion, the module... is a new thing for me and also for the other participants, which is erm an approach, the module is very good,"

Same goes to **Company P**, *"Actually the module was very good because the module directly related to the daily lives."*

According to **Company G**, *"Okay, specifically for... modules... for, for four modules, okay in shorts, what I remembered is indeed the important things."*

Based on the response by **Company U**, the informant agreed that the trainer was good. *"Okay, aa for train the trainer on the first day, overall was very good because he taught how to train our staffs"*. One of the company said that there must be a combination between safety policy and commuting policy. According to **Company M**,

"Okay, for TTT, its overall complete because the module included data, activities, companies but about policy... is it correct? About policy right? In my understanding at that time, the policy must be specific for the safety for the travel purpose. Which is for me, it is not necessary to have the different policy. In that time, if like we have policy, safety policy here. So why not, we combine it together rather than we make one specific policy for commuting. Then, for other modules for examples, about inspection, that module got good responses from the participants, because from zero knowledge, now they can learn a lot about motorcycle."

3.3 Appropriateness of Time-allocation for each Module

The time allocated for each module in every phase is very important to make sure the participants received all the inputs and knowledge that were delivered to them. Most of the companies said that the time for each module was sufficient except for **Company D**, *"er... in my opinion, the time provided for each session a bit short."*

According to **Company G**,

"In my opinion, actually, the time given was enough, but because of the first day was on Friday, so, there was Friday prayer, so the time is limited, maybe a bit rushing, want to go for lunch, prayer and so on. But if other days, for me, the time provided was perfect, nice,"

This opinion same to **Company P**, *"For me, the time given was enough."*

According to **Company U**, *"Okay, actually, if possible, aaaa one whole day. So, if possible better one whole day. But actually, half day also enough."*. **Company M** also said that whole day duration much better.

Company T said that, *"The time given was enough, the way of presentation by the trainer did not bored because the inputs are important, the most important are the staff anticipate."*

3.4 Experience as Person-in-Charge (PIC) of Programme

There are a few subthemes that can be compiled in this section which are i) the challenge to get participants and the commitment from staffs, ii) the relationship with staffs getting closer, iii) forged relationships with outside parties such as MIROS and iv) participants were able to get something from the programme and were able to influence other colleagues.

For the first subtheme, the challenges to get participants and the commitment from staffs, according to **Company D**, *"My experience... in my opinion, for me... I feel satisfied. I don't know if in other companies but in this company, it's a challenge to get participants to join our programme."*

Same opinion to **Company G**, *"aaa I remember, before I manage to do CSSP, the organizer already informed a few months before but because of the programme conducted in peak season, I*

mean, the programme was during the sale time like what happen now, so, it was challenging to get commitment from the staffs, it was not easy, difficult."

For the second subtheme, the relationship with staffs getting closer. According to **Company U**,

"the relationship between staffs and us, when this programme happened, the connection getting closer. When the relationship become closer, if we share info, they easily can accept. For the challenge, I can't see the challenge except if the programme organised on Saturday and Sunday."

In terms of forged relationships with outside parties such as MIROS for the third subtheme, **Company M** stated, *"Okay, experience that we get from this programme er... get connection with MIROS."*

This subtheme also related to the opinion given by **Company U**, *"Okay, for the relationship basis, I mean, we have connection with outsider."*

Company P shared on the subtheme number four which is participants were able to gain benefits from the programme and were able to influence other colleagues,

"What is good about his is err the participant... they can relate the programme with their daily lives because every day they ride bicycle, motorcycle, then they can give influence to their colleagues at work."

3.5 Ways to convince management to approve the programme

Management approval is a must in any program before the program been organised. One of program organizing challenge is to convince the management to approve the plan. Overall, all the management of the companies were supportive and cooperative.

According to **Company D**, *"for our management, the management had no problems about this programme."* Same goes to **Company G**, *"like I said before, to organize safety programme, we had no problem at all. Just only about the time management, need to justify."*

Company U said that they have a good relation with the company management. **Company P** shared, *"if we follow the process, everything will go smoothly. The management always give support."*

Company M said, *"because of the programme was free-of-charge, so, much easier to get support from management."*

3.6 Module that give most impact to the participants.

There are four modules in this phase. The responses from the companies about the module which gives most impact to the participants are Family Safety Reminder, Route-Hazard Mapping and Motorcycle Inspection.

According to **Company D**, *"for me, first of all and the most module that give impact is family safety reminder,"*. **Company G** agreed with this, *"Especially the third part, the most part that we appreciate is the part with family,"*

Company U said, from the four modules, the family goes first but the informant also said that the module of route-hazard mapping and motorcycle inspection also important.

"Okay, now, in all the four modules, the most touching module and close to our heart is the third element which is family. Then, for

practicality is route-hazard mapping, this means if they have problems, they know this place they can ask for help."

According to **Company M**, Motorcycle Inspection is the module that give impact the most to the participants, *"motorcycle inspection, because it is practical right?"*. **Company P** and **Company T** both agreed with this statement.

4. Discussion

4.1. Feedback of the Four Modules that were Delivered in Phase 1

Apparently, the informants had provided positive feedback for the first research question in the study when they were asked for their view about the modules delivered in the program. Generally, they view that all the four modules namely Family Safety Reminder, Route Hazard Mapping, Motorcycle Inspection and Commuting Safety Management were good and important. The participants of CSSP training are those who commute by motorcycle and have valid motorcycle licence. The modules are designed to enhance the road safety positive attitude and skill of workers through Family Safety Reminder, Route Hazard Mapping and Motorcycle Inspection, while Commuting Safety Management Module provides concept and procedure towards efficient management of road safety in the company. Motorcycle operational skill or vehicle control is not taught in the program. It is learnt that Malaysian Driver Education Curriculum does not consist any module on attitudinal and road safety management contents.

According to Haworth, Smith, & Kowadlo (2000), vehicle control skills receive approximately two to three times as much course time as attitudinal skills in both the learner permit and licence courses, according to a review of course delivery. Nonetheless, all of the providers felt that the students, particularly at the learner level, lacked the necessary skill and attitudinal training to ensure their safety while learning on the road. The time available to teach both attitude and vehicle control skills was severely constrained by commercial considerations.

4.2 Appropriateness of Time-allocation for each Module

From six informants interviewed, only one of them said that the time allocated for each module is a bit short or insufficient. Half day training duration is allocated for CSSP-Phase 1. One of the challenges faced by the PIC was to prepare the participants list name as some divisions within the company have an issue of manpower shortage if they release one or more of the division members to attend the training and productivity target is crucial. According to Haworth, Smith, & Kowadlo (2000), some potential solutions appeared to be improving the efficiency of course delivery through better time management (reducing waiting times and delays between components) and improving the effectiveness and consistency of presentation of the attitudinal components (including using overhead transparencies). Even if these improvements are made, trainees are still likely to have insufficient skill and inadequate attitudinal training to ensure their safety while learning on the road.

4.3 Experience as Person-in-Charge (PIC) of Programme

Informants said that there were challenges as well as benefits gained by being the program's PIC. Among others, the task to register participants from different divisions was not easy. Perhaps, PIC's understanding and knowledge on the CSSP training would help them convince the Divisions' leaders. However, the program gave better interaction opportunities between PIC and participants, resulted in a better relationship. According to Sleeter (2008),

education programmes must be supported by three pillars: a) preparation for everyday realities and complexities in this context for motorcyclists, b) the organizer's content knowledge and professional theoretical knowledge, and c) dialogue with participants during the programme. Coffey (2010) agreed, stating that the program's sharing of experience gave them a better understanding, which is very important to them when they are on the road.

4.4 Ways to Convince Management to Approve the Programme

All the informants did not face much difficulty in gaining the management's approval. They said that, by following the in-house program's proposal process and procedures, and the fact that the program has no financial implication helped them in securing approval from the management. According to a study done by Lederer & Mendelow (1988), interviews with 20 top executives revealed reasons for the difficulty in securing management's approval and techniques that they used in attempting to overcome it. The results suggest the importance of the executives' skills and activities necessary for the selling of the importance of the programme itself.

4.5 Module that Give Most Impact to the Participants.

Informants agreed that three modules are most impactful i.e. Family Safety Reminder, Route Hazard Mapping and Motorcycle Inspection. All these modules are important in training programme related to motorcycle as they touched the attitudinal and practical skill. Practical knowledge and skill dealing with the machine (motorcycle) are main contents in Motorcycle Inspection Module, while the other two modules consist of attitudinal and psychology domains. The informants felt that by knowing the machine's parts and specifications, the right way to inspect and do routine maintenance did help them to gain confidence in their daily ride.

Lim et al. (2017) stated that on their studies about motorcycle inspection, 187 real-world motorcycles are visually and mechanically inspected in accordance with the inspection standards developed. The non-compliance rate for vehicle identification is 20.3%, with the main causes being an insecure, damaged, or poorly visible number plate. The brake system has a non-compliance rate of 15.5%, with the main cause being a failure to meet the brake performance requirements.

The motorcycle inspection standards have been improved as a result of 187 real-world motorcycle inspection results. According to Bang & Lee (2013) study, the expected effect of motorcycle safety inspection is that it can prevent 1,376 motorcycle accidents. However, the number of motorcycle accidents prevented is small in comparison to the total number of motorcycle accidents because there are constraints in investigating the causes of defective motorcycle accidents. When a systematic investigation of the causes of the accidents is carried out, a more precise analysis of the expected effect of motorcycle inspection is possible. In addition to hazards related to automobiles, motorcycle riders must remain vigilant for hazards that pose significant danger uniquely to motorcycles (Jenkins & Young, 2016).

5. Conclusion and Recommendations

In conclusion, this study managed to highlight five themes which could answer the research questions of the review for motorcycle Commuting Safety Support Programme (CSSP). The themes are i) feedback of the four modules that were delivered in Phase 1; ii) appropriateness of time-allocation for each module in Phase 1; iii) experience as PIC of programme; iv) ways to convince management to approve the programme and v) the modules that give most impact to the participants. The review of the delivery of the modules found that all the inputs that were given to the participants was good and very important but the time allocated was not sufficient. The

participants also got the chance to manage the programmes and dealing with their superior to make sure the programmes were organised effectively. There are four modules in this phase. The responses from the companies about which module gives most impact to the participants are Family Safety Reminder, Route-Hazard Mapping and Motorcycle Inspection.

Practical implication of the study would be to revise the modules that could help improve the programme. The opinions and recommendations from participants should be considered in the modules revision to make sure the future programmes will succeed. Theoretically, findings of the study show that three modules namely Family Safety Reminder, Route Hazard Mapping and Motorcycle Inspection are impactful to the programme from respondents' point of view. A research can be conducted to further study the conceptual and context to enhance the three modules.

In order to improve the programme, the revision of the modules is highly recommended in the future. Findings from this study may help a lot in revising the module where opinions and recommendations from participants should be considered to make sure the future programme will improve and succeed.

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