Implementing technicians' occupational licences: a feasibility study for electricians

Farn-Shing Chen†, Wen-Jye Shyr‡, Shoei-Der Shyy‡ & Hsi-Hui Chen‡

Chienkuo Technology University, Changhua, Taiwan†
National Changhua University of Education, Changhua, Taiwan‡

ABSTRACT: This article examines the occupational licence needs for electricians in Kansas, the USA. The authors discuss the significant obstacles and benefits to the development and expanded use of electrician licences. A random approach was used to select a sample, which were listed in the American Business Disc. Once the data were received, the findings were entered into tables and a narrative was developed to report the findings. Each item was evaluated using percentage and frequency. The results show that major obstacles to the development and expanded use of electrical licences in Kansas are high cost, the lack of a structure for promoting standards across industry and union opposition. The major benefits for employees in introducing occupational licences were to increase electricians' wages, to help workers retain their employment, and get rid of unfit or unqualified competition. The researchers, hereby, recommend that a further study should be made to evaluate more populations in the introduction of occupational licences for electricians. The cost and needs of the facilities, equipment expansion and the consideration of additional facilities should be addressed.

INTRODUCTION

Introductory Statement

To remain internationally competitive, many experts believe the USA must have a work force whose members are both skilled upon entry and responsive to rapidly changing skill demands. In the state of Kansas, most occupations can be freely entered. Holding an occupational licence for electricians is not currently required in the state of Kansas. It was the intention of this study to determine if there is a need for an occupational licence for electricians.

Statement of the Problem

The study was conducted to determine the feasibility of the establishment of an occupational licencing requirement for electricians who practise in Kansas. Although such systems are used extensively by some of the foreign competitors - notably Germany, France and Japan, they are used little in the United States.

Research Questions

The following research questions were addressed in order to identify specific areas of the problem and also to guide the direction of the research:

1. What were the significant obstacles to the development and expanded use of electrical licences in Kansas?
2. What are benefits to the development and expanded use of electrical licence in Kansas?
3. What are the opinions of employers and workers about electrical licence introduction in Kansas?
4. If the electrical licence system is implemented in Kansas, will this increase the quality of services?
5. Should the electrical licence examination consist of a written and a psychomotor test?

Delimitations

The population this study covered included electrical companies, construction companies, building inspection offices and electrical apprenticeship offices in Kansas. Data from the above was used to satisfy needs for the research problem.

Limitations

In any study, one can expect limitations that are outside the control of the researcher.

The following limitations are recognised by the researchers as being viable:

1. Respondents may neglect the survey;
2. Respondents may not respond truthfully;
3. Respondents may not have the information needed to respond accurately on the survey instrument;
4. Survey instrument may not be prepared properly, so that response can be accurate and truthful;
5. Respondents may not be able to understand the survey instrument.

Significance of the Study

This study will be significant in that it will examine the occupational licence needs for electricians in Kansas. It will discuss the significant obstacles and benefits to the development and expanded use of electricians' licences in Kansas. Any effect on developing occupational activities should not be ignored. This study will provide references to further upgrade the occupational quality and policy.

Assumptions

- There is no significance difference between the economic structure of the United States and Kansas will not change radically;
- There is no significant difference between the rate of economic growth and long-lasting energy shortages, such as oil embargoes, other price shocks;
- There is no significance difference between social trends and the valve of education, and income.

REVIEW OF LITERATURE

As proposed in the parliamentary bill HB 2054, the various licensing agencies incorporated within the Division of Licensure would have retained the substantive functions in their particular fields of licensing and regulation. The Division of Licensure would utilise the expertise of each licensing board concerning its particular area of regulation by allowing them each to: 1) prepare, conduct and administer examinations required under any law administered by the boards; 2) determine the qualifications of persons required to be examined; 3) inspect facilities under the boards' jurisdictions; 4) authorise and direct the issuance of licences by the director of licensure; and 5) require the director of licensure to investigate complaints; and suspend or revoke licences [1][2].

The authors identified several obstacles to the development and expanded use of skill standards and licence in the United States, where there is little collaboration within industries, especially with respect to worker training. Specific obstacles identified by system sponsors were high costs, the long time required for system acceptance, difficulties in developing industry coalitions and reaching agreement on standards, the lack of a structure for promoting standards across industry, a lack of uniform skill needs across employers and the problems in bringing all stakeholders together to develop these systems [3]. Contrary to common belief, the process of identifying occupational skill standards was not seen by licence sponsors as a major obstacle to establishing licence systems [4].

In conclusion, licence systems differ from programme accreditation which recognises and approves programmes of study - in that licence applies to individuals and attests that workers or applicants meet predetermined standards related to specific occupational knowledge or performance. The assurance that individuals have acquired a certain skill is one of the underlying premises of standards and licence systems [5].

Sponsors of such systems indicate that the benefits include helping workers obtain and retain employment, receive higher wages and increase their mobility. The cited benefits to employers include identifying qualified workers, saving money on screening job applicants, assisting in the recruitment of workers and increasing consumer awareness [6].

However, despite these cited benefits, most sponsors can neither provide evidence on the level of employer acceptance and use of their systems, nor provide hard data on their use in hiring, wage determination, portability of credentials, or their impact on promotion and training opportunities [7]. Therefore, this study attempts to examine the feasibility of the establishment of occupational licence for electricians in Kansas.

PROCEDURES

This is a descriptive study where a survey instrument was used to obtain data from electrical companies, construction companies, building inspection offices and electrician apprenticeship offices in Kansas. Based on their responses, the study was able to identify the problems and results or feasibility of the establishment of occupational licence for electrician in Kansas. Through the survey, specific problems were uncovered in order to generate accessible and practical solutions.

Population

The population consisted of 682 electrical companies, 250 constructions companies, 14 building inspection offices and 12 electrician apprenticeship offices in Kansas, which were listed in the American Business Disc, 2012/2013 edition.

Sample

A random approach was used to select a sample of 50 electrical companies, 50 construction companies, 14 building inspection offices and 12 electrician apprenticeship offices in Kansas. A letter and two instruments were mailed to each potential participants.

Validation of the Instrument

The sample population was surveyed in order to obtain the data required for this study. A number of the population that were not included in the sample were used to validate the instruments. Data gathered from the validation study was not used for the study but was used to revise and fine tune the instrument. After a comprehensive and satisfactory draft had been developed, an advisor reviewed the survey instrument, thus, serving as an expert to determine that the instrument was valid [8].

Survey Timelines

The survey instruments along with a letter and pre-addressed, post-paid envelope were sent to each member of the sample. After ten days, non-respondents were sent a second mailing to urge them to complete and return the survey instrument.

Processing Data

Once the data were received, the findings were entered into tables and a narrative was developed to report the findings. Each item was evaluated using percentage and frequency.

FINDINGS

The survey questionnaire was sent out to 126 potential participants, of which, 74 questionnaires were returned giving a 58.73 percent return rate. Ten surveys without adequate addresses were eliminated, meaning that only 64 could be used. This gave a useable return of 50.79 percent.

Questionnaire Analysis

Responding to Item 1 of *how many years of experience have you had in the electricians' career field*, among the 64 respondents, two respondents (3.13%) had less than two years; four respondents (6.25%) had 2-5 years; four respondents (6.25%) had 6-10 years; and eight respondents (12.5%) had 11-19 years. Forty-six respondents (71.87%) had 20 or more years' experience. The results are given in Table 1.

Table 1: Years of experience.

Year	Number	Percent
Less than 2 years	2	3.13
2-5 years	4	6.25
6-10 years	4	6.25
11-19 years	8	12.50
20 years or more	46	71.87

n = 64

Table 2: Level of education.

Level	Number	Percent
High school or equivalent	40	62.50
Associate's degree	12	18.75
Bachelor's degree	4	6.25
Other	8	12.50

n = 64

In Table 2, information on the level of education that should be required for electrician' workers was questioned (Item 8). Responses for Item 8 are shown in Table 2. Data obtained in the surveys indicated that 40 respondents (62.5%)

thought that electrical workers should have a high school diploma or equivalent. Only four respondents (6.25%) thought that electrical workers should have a Bachelor's degree.

Information in Table 3 reveals that answers are quite different from each other. The *other* category totalled 12 respondents.

Table 3: Major obstacles in developing an electrical occupational licence.

Obstacle	Number	Percent
1. High costs	6	16.67
2. Long time periods required for acceptance of an occupational licence	4	11.11
3. Difficulties in developing industry coalitions	2	5.55
4. Difficulties in reaching agreement on standards	4	11.11
5. The lack of a structure for promoting standards across industry	6	16.67
6. A lack of uniform occupational definitions across employers	2	5.55
7. Other	12	33.33

n = 36

The data in Table 4 show that 14 respondents (38.89%) thought that licencing could increase wages; eight respondents (22.22%) said it would help retain employment; three respondents (16.67%) thought it would increase workers' mobility; and three respondents (16.67%) answered *other*. Only two respondents (5.55%) thought a licence could help workers obtain employment.

Table 4: Major benefits for employees in establishing an occupational licence for electricians.

Benefit	Number	Percent
Help workers obtain employment	2	5.55
Help workers retain employment	8	22.22
Increase wages	14	38.89
Increase workers' mobility	6	16.67
Other	6	16.67

n=36

As shown in Table 5, 16 respondents (44.44%) thought that an electricians' occupational licence could help employers identify qualified workers; two respondents (5.56%) thought it could aid employers in recruiting; four respondents (11.11%) said it could improve the perceptions about a particular firm; thus, increasing its market share. Fourteen respondents (38.89%) answered *other*, including benefits that would get rid of unfit or unqualified competitions, decrease owners' liabilities, standardise qualification requirements and establish a level playing field throughout the State.

Table 5: Major benefits for employers in establishing an electricians' occupational licence.

Benefit	Number	Percent
1. Help employers identify qualified workers	16	44.44
2. Aid employers in recruiting	2	5.56
3. Improve the perception of a particular firm, thus, increasing its market share	4	11.11
4. Other	14	38.89

n = 36

From the responses given in Table 6, 36 respondents (56.25%) thought there was a need to establish an occupational licence for electricians in Kansas, and 28 respondents (43.74%) disagreed.

Table 6: There is a need to establish an occupational licence for electricians in Kansas.

Response	Number	Percent
Yes	36	56.25
No	28	43.74

n = 64

Table 7 shows that 42 respondents (65.62%) agreed that the licensing of electricians would improve the quality of consumer services; 12 respondents (18.75%) disagreed; and ten respondents (15.63%) had no opinion. Obviously, most respondents believed the licensing of electricians would improve the quality of consumer services.

Table 7: Licensing of electricians will improve the quality of consumer service.

Response	Number	Percent
Yes	42	65.62
No	12	18.75
No opinion	10	15.63

n = 64

According to Table 8, eight respondents (22.22%) preferred a written electrical licence examination; 28 respondents (77.78%) thought electrical licence examination should comprise both written and psychomotor tests. It seems that the respondents emphasised the importance of psychomotor.

Table 8: The examination method for electrical licences.

Type	Number	Percent
Written	8	22.22
Psychomotor	0	0
Written and psychomotor	28	77.78
Other	0	0

n = 36

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

These conclusions are based on the interpreted data received from the survey responses. They are as follows:

1. Major obstacles to the development and expanded use of an electrical licence in Kansas were the high cost, the lack of a structure for promoting standards across industry, and union opposition;
2. Major benefits for employees in introducing an occupational licence for electricians include increased wages and helping workers to retain employment;
3. Major benefits for employers in introducing an electricians' occupational licence would be to help employers identify qualified workers, get rid of unfit or unqualified competitors, and improve the perceptions about particular firms; thus, increasing their market share;
4. Most respondents believed that licensing of electricians would improve the quality of consumer services;
5. Electrical licence examinations should include both written and psychomotor tests.

Recommendations

Considering the findings and conclusions of this study, the following recommendations can be made for introducing an electrical occupational licence in Kansas and further research:

1. Although not required, it is recommended that education beyond high school be obtained in order to secure an electrician's position, and a B-class occupational licence would be sufficient to meet the needs of employers;
2. Occupational licensing boards in Kansas should encourage employers and employees accept an occupational licence system to promote the quality of consumer services;
3. In further studies, the population should consist of electrical teachers, electrical students, electrical companies, construction companies, building inspection offices, and electrician apprenticeship offices;
4. The authors, hereby, recommend that a further study should be undertaken to evaluate occupational licences for electricians. The cost and needs of the facilities, equipment expansion and the consideration of additional facilities should be addressed.

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