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ICT *Adoption Policy of Australian and Croatian* SMES

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Many SMES are currently adopting information and communication technology (ICT) and services based on it. However, there is little systematic research into how they are doing this and what are the organisational and environmental factors associated with this adoption. In this article, the authors build the model of ICT adoption in Australian and Croatian SMES, founded on premises that SMES are the main economic developing factor in all modern economies and that the adoption and the use of ICT represents the fundamental source of competitiveness and the basis for their survival on the world market. By applying Qualitative Comparative Analysis (QCA) and Boolean algebra, the authors developed a model of necessary and sufficient factors for ICT adoption by SMES in Australia and Croatia.

Key Words: SMES, ICT, adoption models, case studies, Qualitative Comparative Analysis (QCA), Boolean algebra
JEL *Classification:* O32, C80, M13

Introduction

Over the last decade, the business world has changed so rapidly that one can no longer imagine managing in a *steady state*. In no other domain has this observation been more relevant than in the field of information communication technology (ICT), which has become a major catalyst and enabler for organisational change. Thus, emerging small and medium-sized enterprises (SMES) find themselves in an environment of

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constant technological change. These changes may become a significant threat when ignored by the company, but they may as well become valuable opportunities when anticipated and where appropriately adopted. How those changes impact SMEs and how they respond to this challenge in Australian and Croatian SMEs is the question that we will try to answer in this paper.

The authors develop an adoption model of ICT by applying the Qualitative Comparative Analysis (QCA) and its formal language – Boolean algebra. QCA is a relatively new method for providing causal explanations in social science. QCA is essentially a case-oriented comparative research that provides a systematic, holistic analysis of a moderate number of cases. The method is designed to draw causal inferences from comparing configurations of the selected causal variables across cases included in an analysis. QCA holistically compares these configurations to discover necessary and sufficient conditions for the emergence of an outcome.

Conceptual Frameworks

The literature is replete with references to the adoption of information technology in small business (Kirby and Turner 1993; Brooksbank et al. 1992; Julien and Raymond 1994, Iacovou et al. 1995; Ratnasingham 1997; Premkumar and Roberts 1999; Thong and Yap 1996). Current knowledge in these areas of literature which looks into the necessary and sufficient factors leading to the adoption of IS/IT by SMEs formed the basis for the empirical component of this study. Table 1 highlights the findings from some of these studies.

Many different factors have been identified in previous studies as impacting on IT/ICT adoption by small businesses, and all use differing models in determining the factors of adoption. For this study, the factors of adoption of IT/ICT in SMEs have helped in identifying the contexts that would influence such adoption by SMEs. These factors can be categorised into factors relating to (a) technological, (b) organisational, (c) environmental, and (d) individual contexts.

Based on Rashid and Al-Qirim (2001), we have selected five technological (innovation) factors, together with five organisational factors which served for testing the framework. Poon and Swatman (1999) emphasise the importance of individual characteristics of the manager such as education, age, experience, and psychological traits as those that strongly influence innovation adoption. The authors find that manager's innovativeness and IT knowledge have a positive effect on IT adoption. The

TABLE 1 IT/ICT adoption models by SMEs in literature

Study	Technologies/applications explored	Necessary factors	Sufficient factors leading to the adoption
Kirby and Turner (1993)	Inventory control, sales, purchasing, and others	Perceived benefits, CEO's IT knowledge, CEO's attitude towards adoption of IT	Perceived usefulness of the technology, external pressure to adopt IT
Julien and Raymond (1994)	Internet access, EDI, and others	The level of assertiveness, rationality and interaction of business decision processes, structural sophistication of the firm	Rationalisation, benefits and uses of the technology to an organisation, centralisation and complexity
Iacovou et al. (1995)	Sales, purchasing, personnel and payroll, CAD/CAM, EDI, MRP, and others	Perceived benefits, CEO's IT knowledge, CEO's attitude towards adoption of IT	Perceived ease of use and/or usefulness of the technology, organisational readiness/benefits
Thong and Yap (1996)	Accounting, inventory control, sales, purchasing, personnel and payroll, CAD/CAM, EDI, MRP, and others	Size, CEO's innovativeness; employee's IT knowledge; attitude towards IT	Employee's IT knowledge, information intensity
Premkumar and Roberts (1999)	Email, online data access, internet access, and EDI	Relative advantage, top management support, size, competitive pressure	Relative advantage

Adapted from Rashid and Al-Qirim 2001, 66-67; Van Akeren and Cavaye 2000.

framework, therefore, includes manager's innovativeness and IT knowledge factors grouped under individual factors.

The external environment would play a significant role in the adoption of new technologies but was not included in many IT empirical studies. Thong and Jap (1996) find competition insignificantly influencing IT adoption in small businesses, while Premkumar and Roberts (1999) find that competitive pressure is the only factor influencing IT adoption. However, they find external support to be insignificant. Following these considerations the framework includes four environmental factors for the study.

Adapted from Rashid and Al-Qirim 2001, 68. Summing up, the four contexts along with their factors depict the IT/ICT adoption framework

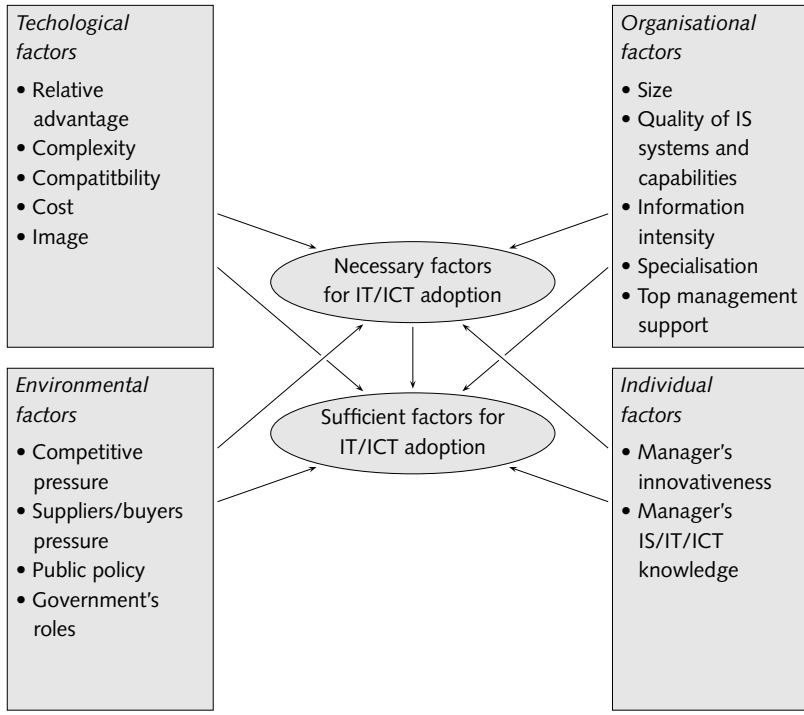

FIGURE 1 A conceptual framework for IT/IC technology adoption by SMEs

shown in figure 1. The framework portrays the various factors and their effect on the decision to adopt IT/ICT. At the first level there are necessary factors. Whether such relationships lead to IT/ICT adoption is depicted at the second level of effects (sufficient factors). Thus, the first level depicts how potential adopters generally view IT. On the other hand, the second level depicts the adoption criterion that is salient to each SME and hence emphasises certain factors more than others. The proposed framework is expected to highlight the impact of various contexts and their factors on IT/ICT adoption in SMEs.

Methodological Considerations: Features and Procedure of QCA

Qualitative Comparative Analysis (QCA) is a case-oriented approach to comparative research with an explicit goal to provide causal explanations. QCA is also a variable-oriented approach, since each case is transformed into a configuration of selected causal/independent and outcome/dependent variables. These causal configurations are first pre-

sented as nominal data with a yes/no or presence/absence dichotomy, and are then holistically compared by using the principles of Boolean logic. As a result, QCA offers deterministic causal explanations for the presence/absence of some outcomes (Ragin 1987; 2000).

The method builds on the strengths of the explanatory and interpretive research by primarily bringing complexity and intensity of an in-depth investigation to a moderate number of cases, while maintaining rigour, replicable procedures and the use of formal logic. The dialogue between theory and evidence is well structured. Starting from theoretical arguments that determine the minium set of case attributes, QCA proceeds indicatively by simplifying the complexity of the evidence in a systematic, stepwise manner. In doing so, QCA cases are transformed into unique combinations of selected causal conditions and associated outcomes, and then compared and interpreted holistically focussing on their attributes. Thus, in applying QCA, each case remains contextualised as a whole – as a meaningful, interpretable and specific configuration of causal conditions/attributes and outcome variables. The focus is primarily on comparing and interpreting these unique configurations of attributes that are not cases per se. QCA appears to be of substantial utility in research sites with contextual and multiple causal relations. The method assumes that causal variables are effective only when operated in conjunction with each other, and consequently the impact of each causal variable should be discussed only in a particular context (Krivokapic-Skoko 2003).

The QCA is based on Boolean algebra. There are two conditions or states in Boolean logic, and these are generally referred as 1, which indicates presence, and 0, which indicates absence. In Boolean logic, addition is equivalent to the logical operation 'or', while multiplication is equivalent to the logical operator 'and', where a product is a specific combination of causal conditions.

The method systematises and transforms empirical evidence into algebraic forms suitable for the data reduction process, and represents the attributes of the cases into presence-absence dichotomies. These dichotomies are then included in a truth table – a raw data matrix which comprises causal conditions and outcomes across the cases – as a tool for data reduction, while maintaining the integrity of each case. Each row in a truth table represents either a logically possible or an empirically observed configuration of attributes – causal and outcome conditions. The truth table is completed when all the cases and codes on the causal and

outcome conditions are displayed using binary mathematical forms. This matrix of binary data is then subjected to a procedure of Boolean minimisation. The procedure involves comparing groups of cases based on the presence/absence of outcome conditions and the presence/absence of selected causal conditions. These logical combinations, as represented in Boolean primitive equations, are compared with each other and then logically simplified. The comparison ends up with a logically minimal Boolean expression as an output of the analysis. This provides logically minimal configurations or the most parsimonious description of the combinations of causal conditions that produce a given outcome.

Empirical Considerations

CHARACTERISTICS OF AUSTRALIAN SMES

In 1999, the Australian Bureau of Statistics (ABS) reviewed the way businesses should be defined by size. Subsequently, the following statistical definitions are now applied for business measurement in Australia (see http://www.abs.gov.au). Small businesses (excluding agricultural businesses) are defined on the basis of full-time equivalent (FTE) employment as follows:

- non-employing businesses – sole proprietorships and partnerships without employees;
- businesses with 1–4 employees; and
- businesses with 5–19 employees.

These three groups form the small business category (those businesses employing less than 20 people), while medium-sized businesses are defined as those employing more than 20 but less than 100 people. The survey *Small Business in Australia* shows that in 2000–2001 there were 1,164,100 non-agricultural private sector businesses operating in Australia, employing around 6.9 million people. Over the period from 1990–1991 to 2000–2001, the total number of businesses increased by an average of 3.3% per year, while the total number of people working grew at 2.2% per year. By comparison, during the 12-month period 1999–2000 to 2000–2001 the number of businesses grew by 4.5%, while the number of persons working increased by 2.5% (see http://www.abs.gov.au).

Over the period 1990–1991 to 2000–2001, the average annual rate of growth in numbers of businesses varied across different size categories, ranging from 1% per year for businesses with 200 or more employees to

4.3% per year for businesses with 1–4 employees. Over the 12-month period 2000–2001, the number of businesses with 100–199 employees fell by 8.6%, with all other size categories showing increases. The most significant growth in businesses during 2000–2001 occurred for those with 20–99 employees (up 8.2%) and non-employing businesses (up 7.4%).

The change in the number of persons employed across different size categories generally reflected the change in numbers of businesses, with those having 1–4 employees recording the strongest average annual growth (up 3.5%) over the period from 1990–1991 to 2000–2001. Those businesses with 100–199 employees showed a decrease in employment numbers during 2000–2001 (down 9.2%) while still showing an average annual increase in employment of 1.4% per year over past 10 years (to 2000–2001; see http://www.abs.gov.au). These figures support the claim of significant growth in the SME sector. Indeed, the increase in the number of small businesses can be traced back to the early 1980s as shown in the table below. It coincides with the 'twin oil' shocks which triggered an unexpected reappraisal of the role and importance of small and medium-sized enterprises. In Western economics as well as in Australia there has been a surprising finding – small businesses and entrepreneurship can play a much more important role in economic growth than was previously acknowledged.

The use of e-business techniques is often cited as the principal gateway for SMEs to take greater advantage of opportunities in global markets. However, many SMEs are still lagging behind large companies in using the internet as an efficient business tool. In order to stimulate usage of the internet by SMEs, the Australian government has deployed a wide range of policies and instruments and has launched many different actions and initiatives based on them.

The number of Australian businesses using information communication technology (ICT) continues to grow. Computer use has shown a steady growth, rising from 49% at the end of June 1994 to 83% by June 2003. Similarly, the proportion of businesses with a web presence has grown rapidly, rising from 6% in June 1998 to 23% in June 2003. The proportion of businesses with internet access has also risen from 29% in June 1998 to 71% in June 2003 (Skoko 2004).

As regards the ICT adoption model, a strong relationship exists between the size of a business and the likelihood that the business is using ICT. As employment increases, so does the proportion of Australian businesses using ICT. By June 2003, all large businesses used computers

TABLE 2 Coding system used in the analysis of case studies (SMEs)

		1	2	3	4	5
(1.0)	Firm	Art Gallery	Courier	Engineering	Architects	Restaurant
(2.0)	Size	Small	Medium	Large	—	—
(3.0)	Activity	Trade	Other service	Manufacturing	Professional service	Tourism/ restaurants
(4.0)	Idea/ influence	Technological factors	Business environment	Organisational factors	Individualistic factors	—
(5.0)	Investment size (AUD)	< 5.000	5.000-15.000	> 15.000	—	—
(6.0)	IT form	Computer	One computer connected to the internet	Intranet and internet	Home site	E-commerce
(7.0)	Problems	Technical	Human resources	Financial	Time needed for adoption	Other
(8.0)	Results	Better than expected	As expected	—	—	—
(9.0)	Future expectations	Optimistic (plans for further improvement)	Pessimistic (status quo – holding the existing level of IT)	—	—	—

Source: Skoko 2003, 119.

(100%) and had access to the internet (99%), while 80% had a web presence. However small businesses had a lower level of ICT adoption; 78% used computers, 65% had access to the internet and only 15% had a web site. These results of the Australian government support policy were also confirmed by the empirical analysis conducted by Skoko (2004), which concluded that Australian SMEs adoption of IT/ICT was strongly influenced by the government support policy.

In 2000, the National Office for the Information Economy (NOIE) commissioned the professional services firm Ernst & Young to identify and examine those small and medium businesses in Australia that were successfully using advanced ICT technologies (National Office for the Information Economy 2000). The purpose of the project was to demonstrate the business benefits of e-commerce and assist small businesses to undertake their own cost-benefit analysis of e-commerce. Using these secondary data for five comparable case studies (as a minimum require-

TABLE 3 Causal (independent) variables

Code		Meaning of codes	Code of present variables	Code of absent variables
ENV	*PP*	Supportive economic policy for adoption of IT	X_1	x_1
	K	Competition/competitors	X_2	x_2
	BP	Business partners	X_3	x_3
TEH		Technological factors	X_4	x_4
ORG		Organisational factors	X_5	x_5
M		Manager's knowledge of IT	X_6	x_6
S		Staff's knowledge of IT	X_7	x_7

TABLE 4 Dependent variables (outcomes)

Code	Meaning of codes	Code of present variables	Code of absent variables
C	Computer	Y_1	y_1
CI	One computer and Internet	Y_2	y_2
NCI	Intranet and Internet	Y_3	y_3
HS	Home site	Y_4	y_4
EC	E-commerce	Y_5	y_5
$+/x$	And/or	—	—

Source: Skoko 2003, 151–152.

ment for applying QCA), we have conducted the content analysis to construct Boolean *primitive* tables of the Australian case studies.

For the purposes of empirical analysis and application of QCA as well as Boolean algebra it was necessary to develop a coding system (table 2) which would be used for further analysis to build up a Boolean *primitive* table of ICT adoption. Table 2 was developed based on the empirical research of five Australian SMEs (Skoko 2003).

The result of the above functional form can be represented as a Boolean 'truth table'. In order to understand Boolean equations which will be discussed in this paper, the coding system for independent (causal) and dependent (outcome) variables is outlined in tables 3 and 4.

Based on the process of minimization and by applying Boolean logic in this section (see Krivokapic-Skoko 2003), the results are presented as follows:

TABLE 5 Boolean *primitive* table of causal variables and outcomes for Australian SMEs (five firms)

SME	Causal factors (variables)							Outcomes				
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	Y_1	Y_2	Y_3	Y_4	Y_5
1	1	0	1	1	0	0	0	1	1	0	1	0
2	0	0	1	1	1	1	0	1	1	1	1	0
3	1	0	1	1	0	1	0	1	1	0	1	0
4	1	0	0	1	1	0	0	1	1	0	1	0
5	1	0	1	1	0	0	0	1	1	0	1	0

Adapted from Skoko 2003, 155. For coding see tables 3 and 4.

$$Y_1 = Y_2 = Y_4 = [X_1 * (X_2 * X_3 * X_4)] + [X_1 * (x_2 * x_3 * x_4) * (X_6 + X5 * x_6) + (x_1 * X_6)] \quad (1)$$

$$Y_3 = [X_1 * (x_2 * x_3 * x_4) * X_6) + (X_2 * X_3 * X_4)] + (x_1 * X_5 * X_6) \quad (2)$$

$$Y_5 = [(X_2 * X_3 * X_4)(x_5 * X_6 + (X_1 * x_6)] + [X_1 * X_6 * (x_5 + x_2 * x_3 * x_4 * X_5)] \quad (3)$$

Firstly, Australian SMEs are adopting IT/ICT in a form of computers (C/Y_1) and connection to the internet (CI/Y_2). They also design their home sites (HS/Y_3) mainly under the influence of technological factors (X_1) and factors of support by the government policy ($X_{2,3,4}$), or (+) under the influence of technological factors (X_1) together with individualistic factors (X_6) and (*) in combination with organisational factors (X_5) (equations $Y_{1,2,4}$).

As to the intranet (NCI/Y_3) form of IT/ICT, Australian SMEs are adopting it under the influence of technological factors (X_1), with (marked as $*$) or without the government support policy ($x_2 * x_3 * x_4$) but with individualistic factors present (X_6) (equation Y_3); or (+) this form is adopted by environmental factors ($X_2 * X_3 * X_4$) alone; or (+) by individualistic factors without technological factors ($x_1 * X_5 * X_6$).

Finally, e-commerce is adopted by Australian SMEs under the influence of environmental support policy factors ($X_2 * X_3 * X_4$), with individualistic technological factors but without organisational factors ($x_5 * X_6 + (X_1 * x_6)$; or (+) under the influence of technological and individualistic factors ($X_1 * X_6$) and (*) without environmental/support factors ($x_2 * x_3 * x_4$) (equation Y_5).

CROATIAN CASE STUDIES

To conduct the same analysis for Croatian case studies, we have designed a questionnaire which was sent to 100 SMEs in Croatia. 20% of SMEs from all regions of Croatia responded to those questionnaires of which 5% were not usable. It is also important to note that most of the responses did not provide us with the financial structure of their businesses, while some of them asked us not to publish their contact details. Thus, by using primary sources, we will here set up the second hypothesis and describe the development of an ICT adoption model for Croatia. However, before doing that we need to note the structure of the Croatian economy in transition and to emphasise those characteristics that might influence the results of our analysis.

In the past decade, the macroeconomic performance of the Croatian economy has not been impressive by any standard. The proclamation of independence, the war of aggression, the policy of transition from a socially self-managed economy to a market economy, and the macro- and microeconomic mismanagement have been some characteristic features of that economy. An enchantment of policy makers with the text book style liberal market philosophy has resulted in a policy of tight money control, high interest rates and an unrealistically high pegged foreign exchange rate. Accordingly, the rates of growth have been very low or negative, unemployment has been high and prices have not been stable. In addition, the balance of payment position has been highly unfavourable with mounting external and internal debt.

The decade-old downward trend in economic growth of Croatia started in the 1980s. In 1998, the GDP of Croatia was 81%, compared to the 1990 level. The lowest level was recorded in 1993 at 63%. The level of gross investment as a percentage of the GDP was as low as 11.3 in 1991 and reached a maximum of 20.6%. In 1998, according to the World Bank statistics, it was 17.6%. In 1998, the number of employed people fell from 1.57m (1990) to 1.18 million. In 1997, the deficit in the balance of payment on current account reached a record level of 2,434 million USD, while in 1998 the total external debt was around 8 billion USD. Thus, Croatian transitional economies are in the midst of an unfavourable environment for development. This stage of development is characterized by:

- adverse business settings in which the contribution of both public spending and tax burden is increasing;
- an uncertain future business acumen;

TABLE 6 Coding of Croatian SMEs (case studies)

01	02	03	04	05	06	07	08	09
1	1	4	4	—	2,4	1,5,2	1	1
2	2	3	1	3	3,4	1,5,2	1	1
3	1	2	1	3	3,4	1,5,2	2	1
4	2	1	4	2	3,4	1,5,2	2	1
5	2	3	4	1	1,2	1,5,2	—	1

For coding see table 2.

- an ever-present threat of increased inflation;
- highlighted management problems due to the unsolved (or unsuccessfully solved) ownership system;
- a lack of investment funds and financial infrastructure;
- a lack of skilled labour force;
- a lack of incentives for productivity and amortisation increase.

These structural characteristics of the Croatian economy further highlight the critical need for SMEs support and their further development as well as the importance of adopting and using ICT. As mentioned earlier, for this part we have used primary data collected by a structural questionnaire. Based on the content analysis and using the same coding system as in the Australian case, we here present characteristics of Croatian SM firms.

Based on an empirical coding of causal and outcome variables (table 6), it can be concluded that the analysed firms are small and medium in size (column 2), from different industrial sectors (column 3), which were adopting ICT (column 4) mainly under the impact of individualistic (3×4), and technological (2×1) essential influencing factors. Organizational and environmental factors played no role in the process.

In addition, it is worth noting that one small firm and one medium firm had high (over AUD 15,000) investment costs (column 5), while one medium firm had small to medium high investment costs (from AUD 5,000 to AUD 15,000). The main form (column 6) of adopted ICT was 3 and 4, which means that more than one computer (intranet) was connected to the internet and had a designed home site (3×3, 4), followed by one computer connected to the internet and a designed web site (2, 4). One firm had only one computer. The most significant hurdles for businesses adopting ICT were evenly spread amongst 1, 5, 2 (column 7).

TABLE 7 Boolean 'truth table' of causal variables and outcomes for Croatian SMEs (first five case studies)

MSP	Causal factors (variables)							Outcomes				
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	Y_1	Y_2	Y_3	Y_4	Y_5
1	1	0	0	0	0	1	0	1	1	0	1	0
2	1	0	0	0	0	1	0	1	1	1	1	0
3	1	0	0	0	0	0	0	1	1	1	1	0
4	1	0	0	0	0	1	0	1	1	1	1	0
5	0	0	0	0	0	1	0	1	0	0	0	0

For coding see tables 3 and 4.

These are technical problems, infrastructural issues (bad connections), limited human resources, as well as (5) problems linked to the current economic situation and lack of legislative and governmental support. In addition, several firms reported problems with business partners who had not installed any form of ICT, resulting in a poor use of their own IC technologies.

As regards benefits (column 8), one can conclude that an even number of firms reported that the investment in ICT was a good and a bad decision. Finally, it is important to note that all firms were optimistic about the future development of ICT and were planning to extend the use and further the investment in these technologies. From the above, it can be concluded that the Croatian economy is in transition and that it lacks a policy for SME development. It is also obvious that in those firms the ICT adoption depends on initiatives of managers/owners alone.

These factors led to the introduction of computers connected to the internet (column 6), as well as to the designed Web presentation, in most cases for marketing and promotional purposes. One small firm had one computer connected to the internet; two medium firms had both the intranet and internet installed, while one medium firm had only one computer connected to the internet. However, although planned, none of those firms introduced e-commerce, mainly because there were no legal and infrastructural foundations for it.

By applying Boolean minimization to the truth table of the Croatian comparative case studies, we derived empirically based Boolean equations outlining casual conditions that led towards positive outcomes (Y_1; Y_2; Y_3; Y_4).

$$Y_1 = (x_2 * x_3 * x_4 * x_5 * (X_6 + X_1 * x_6) \quad (4)$$

TABLE 8 Map of areas of agreement for Australian SMEs

Form of IT	Theoretical influencing factors (T)	Empirically confirmed influencing factors (R)
C, CI, HS	*TEH*	*TEH*
	env	*ENV*
	ORG	—
	IND	—
NCI	*TEH*	*TEH*
	env	—
	ORG	—
	IND	*M*
EC	*TEH*	—
	env	*ENV*
	ORG	*org*
	IND	*M*

Source: Skoko 2003, 169. For coding see tables 3 and 4.

$$Y_2 = Y_3 = Y_4 = (X_1 * x_2 * x_3 * x_4 * x_5) \quad (5)$$

The Croatian results can be interpreted as for the introduction of an IT/ICT basic form – a computer (C) under the influence of individualistic together with technological factors ($X_6 + X_1 * x_6$), but without an obvious government support policy and organisational factors ($x_2 * x_3 * x_4 * x_5$) (function Y_1). As to more sophisticated forms of IT/ICT, they were adopted under the influence of technological factors (X_1) without an environmental/support policy and organisational factors ($x_2 * x_3 * x_4 * x_5$) (function $Y_{2,3,4}$).

Concluding Comments

Finally, as regards the last step in the application of QCA, it was necessary to map areas of agreement between theoretical and empirical findings, which is presented in table 8 (Australia) and 9 (Croatia).

From table 8 it may be concluded that for adopting IT/ICT forms (*C, CI,* and *HS*) it was necessary that technological factors (theoretically hypothesised) and environmental/government support factors (not theoretically hypothesised) were present. That is, we have mapped only the technological factor area of agreement between the theoretical and the empirical model, but not the environmental factor. For adopting higher

TABLE 9 Map of areas of agreement for Croatian SMEs

Form of IT	Theoretical influencing factors (T)	Empirically confirmed influencing factors (R)
C	*TEH*	*TEH*
	env	—
	org	—
	IND	*M*
CI, HS, NCI	*TEH*	*TEH*
	env	—
	org	—
	IND	—

For coding see tables 3 and 4.

levels of IT/ICT like intranets, Australian SMEs would need a combination of causal conditions in the following order: technological support present, governmental support absent but individualistic factors present. In other words, we have mapped areas of agreement for technological and individualistic factors, but not for the governmental support factor. For the last IT/ICT form, e-commerce, we have confirmed the area of agreement for both individualistic and governmental support factors.

Similarly to the Australian case, the Croatian areas of agreement were mapped (see table 9).

From table 9 we can conclude that the adoption of basic forms of IT/ICT was influenced by technological and individualistic factors; it is therefore confirmed (the area of agreement) that the adoption of IT/ICT in Croatia is not politically supported and is left to individualists with their knowledge and IT skills. Other higher forms of IT/ICT are adopted under the influence of technological factors with an obvious absence of all other factors.

After applying the QCA method rules and the logic of its formal language – Boolean algebra, we have found that Australian SMEs are adopting ICT mainly under the influence of technological factors and factors of support by the government policy.

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