CHAPTER 2

Validation and Modeling of Drivers and Barriers for Multivendor ATM Technology in India from the Perspectives of Banks

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Introduction

Multivendor ATM technology has brought a paradigm shift in ATM industry around the globe. Though adoption of this technology is matured in developed countries, a lot of opportunities exist in developing countries like India. This technology provides a uniform experience across the ATM network as a single software is installed in the entire ATM network (Arnfield, 2014; Hota, 2012). Personalized features and third-party advertising interaction experiences are quite comfortable for usage by customers. In a single-vendor environment, banks cannot decouple their pur-

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chasing decision to purchase hardware and software. Here, monitoring and applications are less complex. Once a bank adopts multivendor ATM technology, it is possible to purchase hardware and software from multiple vendors. Here, central monitoring of ATMs and single software application in the entire ATM network facilitate banks to provide a consistent experience to customers. This process also puts a competitive pressure on multivendor ATM vendors to cut down cost on ATM software and hardware purchases. Multivendor ATM technology is an extension of ATM technology with many added features. Channel convergence in banks provides scope for expansion of this ATM market in India. This research work under consideration is an effort to explore the domain of multivendor ATM technology adoption from the perspectives of banks in India. For this factors driving and obstructing the adoption of this technology, identified from the literature, were validated by top officials of banks for the context of India, using an expert survey method. Further, these validated drivers and barriers have been modeled to study their interrelationships using a qualitative technique called TISM (total interpretive structural modeling). Such an analysis would provide greater insights about the issues and challenges of adoption of this new ATM technology. A comprehensive literature review on drivers and barriers to adopt multivendor ATM technology undertaken by researchers, with an objective of identifying these barriers and drivers, resulted in drivers and barriers (Hota & Nasim, 2015).

Validation of Drivers and Barriers: Banks' Perspective

Ten drivers and five barriers were finally identified and shortlisted for further analysis (Hota & Nasim, 2015). The select drivers of multivendor ATM technology for bankers are perceived ease of use, new technology, cost control, vendor independence, network unification, increased security, analytics capabilities, real-time ATM monitoring, standardization of management and maintenance, and simplified ATM purchase. The select barriers of multivendor ATM technology for bankers are regulatory issues, complexity in working with ATM suppliers, lack of overall control, telecom infrastructures issue, and power availability issue. These drivers and barriers are listed in Table 2.1 along with their brief description.

These identified drivers and barriers have been further validated by domain experts for the Indian context (Hota & Nasim, 2015).

Table 2.1 Description of drivers and barriers of multivendor ATM technology of banks

S no.	*Drivers of adoption*	*Explanation*	*References*
Drivers of multivendor ATM technology adoption			
1	Perceived ease of use	Perceived ease of use facilitates smooth functioning of ATM services of the bank	Kadir, Rahmani, & Masinaei, 2011; Race, 2010, 2011; Wollenhaupt, 2010
2	New technology	The concept of card recycling, biometrics, integration effort with other banking channels, the concept of contactless card and coin handling are few of the new technology introductions into the market.	Wollenhaupt, 2010; Slawsky, 2013
3	Cost control	Multivendor ATM environment is relatively less costly than that of single-vendor environment	Wollenhaupt, 2010; Slawsky, 2013
4	Vendor independence	Due to the impact of this construct, banks can decouple their purchasing decisions due to vendor independence as they are not locked-in with a single vendor for both hardware and software purchasing	Slawsky, 2013; RBR, 2010; Race, 2010; Wollenhaupt, 2010
5	Network unification	Banks can provide consistent customer experience due to network unification	Cluckey, 2013; Hota, 2012; Slawsky, 2013
6	Increased security	Increased security is one the drivers for changing the existing ATM software to multivendor ATM due to introduction of remote key concept, Biometrics, 3DES and EMV (Europay, MasterCard, and Visa)	Race, 2011; Slawsky, 2013
7	Analytics capabilities	Predictive analytics improves ATM monitoring, determines mean failure, reduces operating cost of banks, and boosts the uptime of ATMs in banks	Greengard, 2009
8	Real-time ATM monitoring	Complete status of the multivendor ATM network and individual ATM monitoring is accomplished easily. Frequent visits to individual ATMs by the site engineers are reduced	Race, 2011; Slawsky, 2013; Hota, 2012

(*continued*)

Table 2.1 (continued)

S no.	*Drivers of adoption*	*Explanation*	*References*
9	Standardization of management and maintenance	Updates are distributed automatically from head office. First-level administrators' burden of work is reduced and automation increases with less human resource	Yili, 2011; Kal, 2011
10	Simplified ATM purchase	Much flexibility and choices are there for ATM purchase in case of multivendor ATM technology. Responsibilities of bank and suppliers are quite transparent	Yili, 2011; Arnfield, 2014
Barriers to multivendor ATM technology adoption			
1	Regulatory issues	Business logic and flow of operations of banks vary from country to country	Kal, 2010
2	Complexity in working with ATM suppliers	Banks face difficulty in organization levels to work with third-party suppliers and ATM manufacturers	Slawsky, 2013; RBR, 2010
3	Lack of overall control	Maintaining consistency among operating systems, ATM application, ATM monitoring, ATM hardware, and ATM networks is a challenge for banks	ATMmarketplace, 2014; Slawsky, 2013; RBR, 2010
4	Telecom infrastructures issue	Now, there is a trend of rising telecom tower companies. In rural areas, both telecom and power issues are prevailing	Slawsky, 2011; Ghosh, 2013
5	Power availability issue	One of the major barriers is the availability of power in India. Solar power is used in few places. The expansion of multivendor with solar powered ATMs in India will further develop ATM Industry in India	Kumar, 2013; Jetley, 2014

Modeling of Drivers and Barriers from Bankers' Perspective

After validating the drivers and barriers that influence adoption of multi-vendor ATM technology in banks for Indian context, it is imperative to delve deeper into the interrelationship among them. For this, the drivers and barriers for multivendor ATM technology adoption by banks in India are hierarchically modeled using TISM (total interpretive structural modeling) technique. An introduction to the methodology of TISM, and the structural model and the interpretation for the study is discussed in the following subsections.

Identification of a structure within a system, that is, identifying relationships among the variables can be of great value in dealing effectively with the system and better decision making. Hence, a qualitative tool called total interpretive structural modeling (TISM), which is an improved version of interpretive structural modeling (ISM), has been used to model the drivers and barriers for multivendor ATM technology adoption by banks in India.

Expert's inputs about the possible relationship among the factors have been taken to develop the model. Nine professionals from banks in India (HDFC, SBI, ICICI, IndusInd, and Axis) were selected for interview using judgmental sampling method. Most of these subject matter experts were prominent people in the decision process when their respective bank switched to multivendor ATM technology. The interview with them was on the interpretive logic–knowledge base of the experts are as follows:

- Professionals in banks in India with considerable knowledge and expertise on multivendor ATM technology.
- Professionals who have implemented multivendor ATM technology in the past.

The TISM technique (Nasim, 2011; Prasad & Suri, 2011; Sushil, 2005a, 2005b, 2009, 2012) has been used to interpret the links in the interpretive structural models using the tool of the interpretive matrix (Nasim, 2011; Sushil, 2005a). A brief description of the step-by-step process in the TISM methodology is described as follows (Nasim, 2011; Sushil, 2009, 2012).

Step I: Identify and Define Elements

The first step in a structural modeling process is to identify and define the elements whose relationships are to be modeled. In the context of this chapter, the drivers and barriers to adoption of multivendor ATM technology in India are the elements which are identified from the literature and validated through a questionnaire sent to domain experts in banks. The list of elements (drivers and barriers) along with their code used in modeling is presented in Table 2.2.

Table 2.2 Elements, contextual relationship, and interpretation for multivendor ATM technology adoption from banks' perspective

Element no.	*Elements*	*Contextual relation*	*Interpretation*
Drivers of multivendor ATM technology adoption from banks' perspective (TISM-I)			
D01	Perceived ease of use	Driver: D01 will influence/enhance Driver D02	How or in what way will DriverD01 influence/ enhance Driver D02?
D02	New technology		
D03	Cost control in banks		
D04	Vendor independence of banks		
D05	Network unification of banking network		
D06	Increased security in banks		
D07	Analytics capabilities of banks		
D08	Real-time ATM monitoring in banks		
D09	Simplified ATM purchase for banks		
D10	Standardization of management and maintenance in banks		
Barriers of multivendor ATM technology adoption from banks' perspective (TISM-II)			
B01	Regulatory issues	Barrier: B01 will influence/enhance Barrier B02	How or in what way will Barrier B01 influence/ enhance Barrier B02?
B02	Complexity in working with ATM suppliers		
B03	Lack of overall control		
B04	Power availability issues		
B05	Telecom infrastructures issues		

Step II: Define Contextual Relationships

For development of the model, it is vital to state the contextual relationship between the elements. The contextual relationship is dependent on the type of structure we are dealing with, such as intent, priority, attribute enhancement, process, or mathematical dependence. For example, the contextual relationships between different elements (drivers and barriers) as identified for the study are 'Driver (D1) influence/enhance driver (D2)' and 'Barrier (B1) influence/enhance barrier (B2)'. Such contextual relationships are captured using a TISM template eliciting response from the domain experts, in this case top-level officials from leading banks in India.

Step III: Interpretation of Relationship

Traditional ISM remains silent to interpret how that relationship really works. In order to interpret the ISM further to make it TISM, it is advisable to clarify the interpretation of the relationship. So, we better understand by asking the question 'In what way a driver will influence/enhance another driver?' The answer to this question provides a unique interpretation of the relationship between the factors so as to make the implicit knowledge explicit. The TISM template used provides for capturing the logic as well from the experts interviewed.

Step IV: Interpretive Logic of Pair-Wise Comparison

In ISM, the elements are compared to develop Structural Self-Interaction Matrix (SSIM). The only interpretation that is made here relates to the direction of the relationship. In order to upgrade it to TISM, it was proposed to make use of the concept of the interpretive matrix so as to fully interpret each paired comparison in terms of how that directional relationship operates in the system under consideration by answering the interpretive query as mentioned in step III (Sushil, 2005a). For each link in the knowledge base, the entry could be 'Yes (Y)' or 'No (N)' and if it was 'Yes', then it was further interpreted. So, this unearthed the interpretative logic of the paired relationships in the form of 'Interpretive logic-Knowledge Base'. This is illustrated in the Appendix (Tables 2.7 and 2.8).

Step V: Reachability Matrix and Transitivity Check

The paired comparisons in the interpretive logic–knowledge base are translated in the form of reachability matrix. Here, reachability matrix was made by making entry 1, if the corresponding entry in knowledge base was 'Y', or else it was entered as 0 for the corresponding entry 'N' in the knowledge base. The matrix was checked for the transitivity rule and updated until full transitivity was established. For each new transitive link, the knowledge base was updated. The 'No' entry was changed to 'Yes' and in the interpretation column 'Transitive was entered'. If the transitive relationship can be meaningfully explained, then the logic is written along with the 'Transitive' entry or else it is left as it is. A semi-structured questionnaire has been administered to the domain experts of multivendor ATMs in banks and their responses were further applied to develop reachability matrix and for pair-wise comparison. To make a perfect distinction and decision for the cut-off for the reachability matrix, if 60% response is given as favorable, that is, 'Y', then the response is taken as 1, otherwise 0. During the transitivity check, if responses are more than 50%, then the transitivity was taken as significant transitivity, otherwise transitive.

Step VI: Level Partition on Reachability Matrix

The level partition is carried out similar to ISM to know the placement of elements level-wise (Saxena, Sushil, & Vrat, 2006; Warfield, 1974) and determine the reachability and antecedent sets for all the elements. The intersection of the reachability set and the antecedent set will be the same as the reachability set in case of the elements in a particular level. The top-level elements satisfying the above condition should be removed from the element set and the exercise is to be repeated iteratively till all the levels are determined.

Step VII: Developing Diagraph

The elements are arranged graphically in levels, and the directed links are drawn as per the relationships shown in the reachability matrix. A simpler version of the initial digraph is obtained by eliminating the transitive relationships step-by-step by examining their interpretation from the knowledge base. Only those transitive relationships may be retained whose interpretation is crucial.

Step VIII: Interaction Matrix

The final digraph is translated into a binary interaction matrix form and interaction matrix and is interpreted by picking the relevant interpretation from the knowledge base in the form of interpretive matrix. The interpretive matrix for bank (drivers) and barriers are exhibited in Tables 2.3 and 2.4.

Step IX: Prepare TISM

The connective and interpretive information contained in the interpretive direct interaction matrix and digraph is used to derive the TISM. The list of drivers and barriers along with their levels are listed (Table 2.5 for drivers and Table 2.6 for barriers).

Table 2.3 Interpretive matrix for bank (drivers)

	D01	*D02*	*D03*	*D04*	*D05*	*D06*	*D07*	*D08*	*D09*	*D010*
D01		0	0	0	0	0		0	0	0
D02	Facilitate user friendliness		Decision decoupling for banks	Separate hardware and software purchase	Single software in entire ATM network	Addition of features, i.e. EVM, remote keys and biometrics	Easy accessibility historical transactions can analyze trends	Management efficiency of ATM channel	Increased automation in bank head office	Adoption of MVS ATM
D03	0	0		0	0	0	0	0	Transparent operations	0
D04	0	0	Supplier selection without lock-in		0	0	0	0	0	Bargaining power of banks increased
D05	0	0	Transitive	0		0	0	0	Reduce interoperability issues	0
D06	0	0	0	0	0		Transitive	Open architecture based on TCP/IP	0	0
D07	0	0	0	0	0	0		0	0	0
D08	Hassle-free operations	0	0	0	0	0	Single view of customers and operation		0	0
D09	0	0	Cost reduction for HW management and maintenance of vendors and first line administrators	0	0	0	0	0		0
D010	0	0	0	0	0	0	0	0	0	

Table 2.4 Interpretive matrix for barriers (bank)

	B01	*B02*	*B03*	*B04*	*B05*
B01		Hassle-free operating environment	Transitive	0	0
B02	0		Challenges in controlling multivendor ATMEnvironment	0	0
B03	0	Issues of updates for old/new ATM hardware/software		0	0
B04	0	Transitive	Decision to scale and reduce cost of transactions		Issue of connecting telecom tower with power source
B05	0	Transitive	Lack of alternative power sources	0	

Table 2.5 List of drivers and their levels in TISM

Driver code	*Drivers*	*Levels in TISM*
D01	Perceived ease of use	II
D02	New technology	V
D03	Cost control	I
D04	Vendor independence	II
D05	Network unification	II
D06	Increased security	IV
D07	Analytics capability	I
D08	Real-time ATM monitoring	III
D09	Standardization of management and maintenance	I
D010	Simplified ATM purchase	I

Table 2.6 List of barriers and their levels in TISM

Barrier code	*Barriers*	*Levels in TISM*
B01	Regulatory issues	II
B02	Complexity in working with ATM suppliers	I
B03	Lack of overall control	I
B04	Telecom infrastructures issue	III
B05	Power availability issues	II

The nodes in the digraph are replaced by the interaction factors placed in the boxes. The interpretation in the cells of the interpretive direct interaction matrix is depicted by the side of the respective links in the structural model. This leads to a total interpretation of the structural model in terms of the interpretation of its nodes as well as links (see Fig. 2.1 for Drivers and Fig. 2.2 for barriers).

Interpretation of the Model for Drivers of Multivendor ATM Technology Adoption by Banks

The contextual relationship among the drivers along with the interpretative logic was captured by conducting a discussion with experts from banks in India based on which a TISM model is developed (Fig. 2.1). The systematic process of the TISM methodology has been outlined in the previous section.

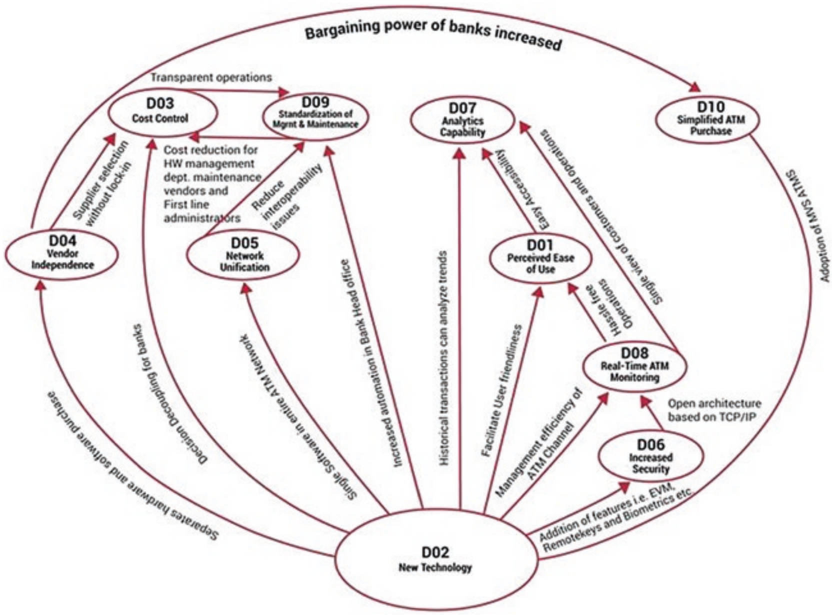

Fig. 2.1 TISM for drivers of multivendor technology adoption by banks

- Based on the feedback from experts, the ten drivers were partitioned into five levels. Support of 'New technology' is found to be the key primary driver with direct influence on all the other remaining nine drivers 'Increased security', 'Perceived ease of use', 'Cost control', 'Vendor independence', 'Network unification', 'Analytics capability', 'Real-time ATM monitoring', 'Standardization of management and maintenance', and 'Simplified ATM purchase'.
- Perceived advantages of this 'New technology' emerged as the most important driving force from both software and hardware perspectives in multivendor ATMs, facilitating smooth adoption among banks.
- 'New technology' as a key driver leads to 'Increased security' as it provides for addition of important features like EMV, remote key, and biometrics to access the ATMs, which further facilitates 'Real-time ATM monitoring' enhancing the efficiency of the banks along with cost reduction.
- The driver 'New technology' also enhances the 'Perceived ease of use' due to its user-friendly features and facilitates the banks to perform 'Data analytics' conducting trend analysis based on historical transactions of customers to improve its services. 'Real-time monitoring' facility provided by the suppliers of ATMs can facilitate to know the entire status of ATM network. Status monitoring of ATMs, monitoring of ATM modules, tracking of ATM maintenance, cash replenishment report, administrative privileges, event management, report generation, and customized alerts facilities are the important features provided by the ATM suppliers. So, site engineers need not frequently visit to the ATM terminals and many faults can be resolved remotely.
- Multivendor ATM technology further drives 'network unification' as a single software is installed in the entire network, thus reducing the interoperability issues resulting in 'standardized management and maintenance' of ATMs. Such technical ease enhances the transparency in ATM operations and leads to 'Cost control'.
- Finally, given the technical benefits of this new technology, banks are able to decouple hardware and software purchases resulting in 'Vendor independence' and 'Simplified ATM purchases'. Hence this is now encouraging Indian banks to switch to multivendor ATM installation as they are not bound to purchase both hardware and software from a single supplier as before.

Interpretation of the Model for Barriers of Multivendor ATM Technology Adoption by Banks

The contextual relationship among the barriers along with the interpretative logic was captured by conducting a discussion with experts from banks in India based on which a TISM model was developed. The step-by-step process of the TISM methodology has been outlined in the previous section. Based on the feedback from experts, five barriers were partitioned into three levels. The model for barriers of multivendor ATM technology adoption by banks can be explained through the following attributes:

- 'Telecom infrastructure issue' is the primary barrier for banks which affects 'Power management issue' as there are operational hassles in connecting telecom tower with power sources.
- 'Power management issues' directly impact 'lack of overall control' of multivendor ATM environment. 'Regulatory issues' directly impact 'Complexity in working with ATM suppliers'.
- Further, 'Lack of overall control' and 'Complexity in working with ATM suppliers' directly impact each other. 'Lack of overall control' of the multivendor ATM environment issues happens due to 'complexity of working with multiple suppliers'. Here, there are challenges for multiple suppliers to control the multivendor environment with proper coordination (Fig. 2.2).

Conclusions

This chapter discusses and elicits a summary on drivers and barriers to adoption of multivendor ATM technology in India and illustrates the use of TISM as a qualitative technique to model these drivers and enablers for a deeper understanding of the interplay of these forces. The TISM process involved subject matter experts to make the interpretive logic of the directional relation articulated for each paired comparison. This model building provides insight to industry experts. This research will also help ATM industry practitioners in identifying areas of importance of enablers and barriers to multivendor technology.

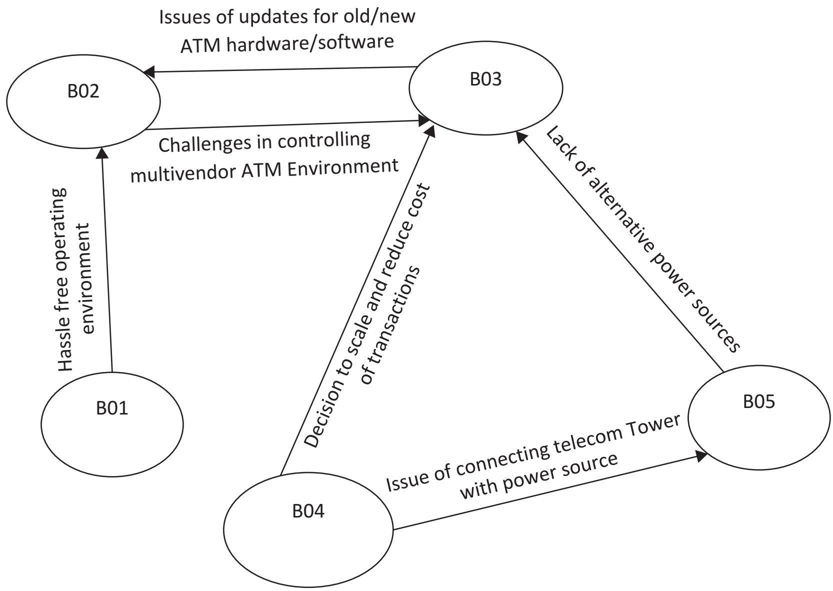

Fig. 2.2 TISM for barriers of multivendor technology adoption by banks

Major Recommendations

Based on the findings of both the TISM analysis of drivers and barriers to adoption by banks, the major recommendations have been delineated and are listed as follows:

- Advantages of multivendor ATM technology have been found to be more pronounced than barriers. Significant benefits like ‘cost control’, ‘standardization of management and maintenance’, and ‘vendor independence’ directly influence ‘simplified ATM purchases’, and hence banks should leverage these advantages.
- Efforts should be made to overcome barriers seeking government support by networking well with suppliers. Apart from this, bankers can brainstorm to find other amicable solution to such issues.
- Banks should take innovative steps to resolve telecommunication infrastructure issues. Telecom tower companies should plan to connect towers to the ATMs so that both communication capabilities and power can be provided, which is of course not a simple task in India.

Implications for Banks

Bargaining power of banks has improved as banks are no more confined to a single supplier of ATMs, thereby reducing the cost of procuring ATM network and maintenance of the networks. The purchase of ATMs is simplified. However, lack of overall control of the ATM environment is happening due to the complexity of working with multiple ATM suppliers. Though banks are independent of vendors and lock-in can be eliminated, there are challenges as procurement of ATM hardware and software is accomplished from more than one supplier. There should be an improvement in telecom infrastructure and power management in India.

Limitation of Study

This study is based on total interpretive structural modeling (TISM) as a qualitative tool. Though this tool has a strong relevance compared to interpretive structural modeling (ISM), subjectivity involved in expert opinion might be there. At the same time, the study has been conducted only on experts in banks of India. They have a good knowledge on technical and functional aspects of both single and multivendor ATM technology implementations in banks. The study can further generalize from the perspectives of other stakeholders of multivendor ATM technology.

Direction for Future Research

Looking at the barriers of multivendor ATM identified here, an action research involving the government and other agencies involved in multivendor implementation can provide solutions to the issues pertaining to multivendor ATM adoption in India. Study on perception and attitude of bankers and suppliers toward the adoption of multivendor ATM technology can be researched. Leading banks are now competing among themselves to attract customers. Banks are also going for cross-selling and up-selling opportunities to attract customers as per their personalized ATM transactions. There is an attempt by forward-thinking banks to move from multivendor to multichannel integration so as to understand the customers in totality. The study has a very strong relevance in academic literature. This multivendor ATM technology adoption study can be applied to other developing countries.

Appendices

Table 2.7 Interpretive logic: knowledge base for bank drivers

Sl. no.	*Element no.*	*Paired comparison of drivers/enablers*	*Yes/No*	*In what way a/an driver/enabler will influence/enhance other driver/enabler? Give reason in brief if your answer is YES*
D01-Perceived ease of use				
2	D02-D01	New technology will influence/enhance perceived ease of use	Y	Facilitates user friendliness
11	D01-D07	Perceived ease of use will influence/enhance analytics capability	Y	Easy accessibility
14	D08-D01	Real-time ATM monitoring will influence/enhance perceived ease of use	Y	Hassle free operations
D02-New technology				
1	D02-D03	New technology will influence/enhance cost control	Y	Decision decoupling for banks
3	D02-D04	New technology will influence/enhance vendor independence	Y	Separates hardware and software purchase
5	D02-D05	New technology will influence/enhance network unification	Y	Single software in entire ATM network
7	D02-D06	New technology will influence/enhance increased security	Y	Addition of features, that is, EVM, remote keys, biometrics, and so on.
9	D02-D07	New technology influence/enhance analytic capability	Y	historical transactions can analyze trends
11	D02-D08	New technology will influence/enhance real-time ATM monitoring	Y	Management efficiency of ATM channel
13	D02-D09	New technology will influence/enhance standardization of management and maintenance	Y	Increased automation in bank head office

15	D02-D010	New technology will influence/enhance simplified ATM purchase	Y	
16	D010-D02	Simplified ATM purchase will influence/enhance new technology	Y	Adoption of MVS ATMs
D03-Cost control				
2	D04-D03	Vendor independence will influence/enhance cost control	Y	Supplier selection without lock-in
4	D05-D03	Network unification will influence/enhance cost control	Y	Transitive
11	D03-D09	Cost control will influence/enhance standardization of management and maintenance	Y	Transparent operations
12	D09-D03	Standardization of management and maintenance will influence/enhance cost control	Y	Cost reduction for HW management dept., maintenance vendors and first line administrators
D04-Vendor independence				
11	D04-D010	Vendor independence influence/enhance simplified ATM purchase	Y	Bargaining power of banks increased
D05-Network unification				
7	D05-D09	Network unification will influence/enhance standardization of management and maintenance	Y	Reduce interoperability issues
D06-Increased security				
1	D06-D07	Increased security will influence/enhance analytics capability	Y	Transitive
3	D06-D08	Increased security will influence/enhance real-time ATM monitoring	Y	Open architecture based on TCP/IP
D07-Analytics capability				
2	D08-D07	Real-time ATM monitoring will influence/enhance analytics capability	Y	Single view of customers and operations

Table 2.8 Interpretive logic: knowledge base questionnaire for bank barriers

Sl. no.	*Element no.*	*Paired comparison of barriers*	*Yes/No*	*In what way a barrier will influence/enhance other barrier? Give reason in brief if your answer is YES*
B01-Government regulatory issues				
1	B01-B02	Government regulatory issues will influence/enhance complexity in working with ATM suppliers	Y	Hassle free operating environment
3	B01-B03	Government regulatory issues will influence/enhance lack of overall control	Y	Transitive link
B02-Complexity in working with ATM suppliers				
1	B02-B03	Complexity in working with ATM suppliers will influence/enhance lack of overall control	Y	Challenges in controlling multivendor ATM environment
2	B03-B02	Lack of overall control will influence/enhance complexity in working with ATM suppliers	Y	Issues of updates for old/new ATM hardware/software
4	B04-B02	Telecom infrastructure issue will influence/enhance complexity in working with ATM suppliers	Y	Transitive
6	B05-B02	Power availability issue will influence/enhance complexity in working with ATM suppliers	Y	Transitive
B03-Lack of overall control				
2	B04-B03	Telecom infrastructures issue will influence/enhance lack of overall control	Y	Decision to scale and reduce cost of transactions
4	B05-B03	Power availability issue will influence/enhance lack of overall control	Y	Lack of alternative power sources
B04-Telecom infrastructures issue				
1	B04-B05	Telecom infrastructures issue will influence/enhance power availability issue	Y	Issue of connecting telecom company tower with power source

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