Salesforce automation systems: an analysis of factors underpinning the sophistication of deployed systems in the UK financial services industry.*

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Abstract

This study investigates organizational and strategic context variables that are linked to the sophistication of sales force automation systems in UK financial services firms. We find that increasing sophistication in SFA deployment, evaluated as a count of the number of types of results of sales campaigns that are measured, is driven directly by the information orientation of the host firm. We also find that the "sophistication" of deployed systems is, in fact, limited – the information held on the systems cannot underpin the strategic goals of the sales/marketing managers. We theorise that adoption of SFA systems is driven by managerial imperatives and that these has resulted in sales-force resistance – shown by the paucity of information held on adopted SFA systems.

Keywords for indexing: salesforce automation systems; financial services industry; system sophistication; strategic information systems

Introduction

The context of our research is the financial services sector in the UK, an industry that has experienced unprecedented change through new entrants to the market, mergers and acquisitions, international competition and new delivery channels – such as self-selection of tailored, financial products via the internet. In this climate, the industry has come under increased scrutiny in terms of its sales and marketing practices and much of the focus has been on the use of information technology to collect and use information about existing and prospective clients and their accounts. Yet, more recently, as investment in IT spending matures, the anticipated benefits from IT spending are being attenuated after the identification of potential pitfalls in the adoption of information technology to support sales and marketing [Carr, 2003; Speier & Venkatesh, 2002]. By contrast, the quantity of academic research in the area of technology and sales automation has not dramatically increased in the last 20 years [Williams & Plouffe, 2006]. However, adopted SFA systems have a reported failure level of 60-75% [Petersen, 1997; Galvin, 2002].

For some firms, continued use of traditional relationship marketing techniques coupled with extra sales-training and a limited investment in sales force automation (SFA) may be appropriate. For others, larger-scale investment in more sophisticated SFA may be optimal. In this research, we focus on the adoption of SFA and address questions to do with the variables that underpin sophisticated use of these expensive, IT-based, systems to support the sales function.

Factors influencing the level of uptake of SFA

SFA systems have been defined, variously, as (i) centralised database systems that can be accessed through a modem by remote laptop computers using special software - hence focusing on information-handling capacities [Parthasarathy & Sohi, 1997], or (ii) as the converting of manual sales activities to electronic processes through the use of various combinations of hardware and software [Erffmeyer & Johnson, 2001]. However, several authors have noted that there is a lack of a clear definition of SFA [Rivers & Dart, 1999]. In the present research, we adopt a broad, practice-based, approach to SFA and sales information system usage [Widmier, Jackson, & McCabe, 2002], and utilise a definition incorporating the application of information to support the sales function and the automated collection of information to assist the sales function – for a full operational definition, see the methodology section, below.

The adoption of technological change has been well documented in the literature with many studies based on the TAM model [Davis, 1989] where perceived usefulness and ease of use have been identified as important in the speed and level at which SFA is adopted [Avlonitis & Panagopooulos, 2005; Robinson, Marshall & Stamps, 2005]. The ability of those adopting SFA to overcome technical, organisational and strategic barriers has also been shown to be a critical factor in a number of studies [Pullig, Maxham, & Hair, 2001; Scarbrough & Lannon, 1988]. Similarly, Galliers (1991) focused on general management issues in successful planning of strategic information systems and concluded that key factors were: the attitude, commitment and involvement of

management; the current sophistication of IS within the company; the ability to measure and justify the benefits of strategic IS; and the integration of IS into business strategy. Low usage of installed systems has been identified as a major factor underlying the "productivity paradox" surrounding the poor return on investment from information systems [Venkatesh & Davis, 2000]. The current high level of dissatisfaction with investment in SFA suggests, yet again, that history is repeating itself.

Overall, research into the barriers to adoption of IT interventions are consistent with a general conclusion that organizational barriers are, in reality, more important than technical barriers, but that this is frequently not recognized by the adopting firms. Organizational barriers relate to structural issues - such as fragmentation and poor relations between functional departments - and an acceptance, by senior management, of the strategic benefits of IT intervention and a clear strategy for its implementation. These organizational barriers are likely to be a particular problem for sales applications of IT, due to their boundary-spanning activities and their interface with customers in the market place. It has been confirmed that there are clear distinctions between organizational and salesperson perspectives on the goals, benefits and obstacles associated with SFA [Honeycutt et al, 2005]. Next, we review the empirical evidence relating specifically to adoption of SFA systems. As we shall see, the focus of this empirical research has been at the level of the individual salesperson – rather than at the level of the organization.

Adoption of SFA has been suggested to be a two-stage process. Initially, the organisation makes a decision to adopt a SFA system, followed by an implementation focus on encouraging the use of the SFA by individual salespeople [Parthasarathy & Sohi, 1997]. However, many SFA projects have been classified as unsuccessful [Rivers & Dart, 1999] but, as has been noted, the academic community "…remains silent in terms of reporting factors associated with SFA adoption and use" (p145). In fact, the majority of research that has been conducted has focused on individual-level factors – i.e., at the level of the individual salesperson – leading to technology adoption and use amongst the sales force demonstrate the importance of salespeople's attitudes towards the new systems – including perceived usefulness and perceived compatibility with existing systems [Jones, et al., 2002]. Similarly, the importance of individual-level factors such as perceived ease of use and perceived usefulness – attitudes which themselves are shaped by general beliefs that the individual holds about computers – is critical in the initial acceptance of SFA technology [Venkatesh, 2000]. Venkatesh and Davis (2000) extended this latter investigation by using three points of measurement – pre-implementation, immediate post-implementation, and three months post-implementation. These authors found that factors such as social influence – whether an individual perceived that other individuals who were important to him/her thought he/she should perform the behavior in question – were also important as were factors such as job relevance, perceived quality of the output of the technology, and perceived ease of use. Taken together, Venkatesh and

Davis found that these factors accounted for about 50% of the variance in usage intentions.

A study on the usage of adopted SFA found that the major sales use was for sales calls and expense reports [Widmier, et al., 2002]. However, fewer than one-half of the salespeople sampled used the technology for calendar reports. Additionally, the majority of the applications of the SFA reporting technology were initiated by companies rather than by salespeople. This was because, Widmier et al argued, the sales managers saw the SFA technology as a "… very useful tool in managing the sales force". Less-experienced salespeople indicate a significantly more positive attitude toward this corporate technology than more-experienced salespeople – who thought that adoption of the technology would result in a loss in employees' privacy [Keillor, Bashaw, & Pettijohn, 1997]. The authors argued that the solution to this issue was clear-cut: "Experienced salespeople may need to be explicitly shown the connection between technology and productivity, and perhaps learn of the threat associated with less-experienced salespeople who may have the ability to become competitive faster than in the past" (p 217).

In contrast to this, simplified, management-focused advice, is the work of Speier and Venkatesh (2002) who collected survey data from 454 salespeople across two firms that had implemented SFA tools in the USA. They found that, immediately after training in the tools, salespeople had positive perceptions of the technology but, six months after implementation, the technology had been

widely rejected by the salespeople and, at the same time, salesperson absenteeism and voluntary turnover had significantly increased. Interview data indicated that the SFA tools were a primary driver for those salespeople choosing to leave the two firms. Speier and Venkatesh conclude that SFA technology may alienate successful salespeople in that the technology may change the salesperson's role by generating "… greater internal conflict and power redistribution when competence–destroying technologies are implemented… managers can quickly and easily assess the number of, frequency of, and time allocated to sales call, which results in increased monitoring… which increases the power differential between manager and salesperson in favour of the manager" (p110). The implication is that successful SFA implementations need to be carefully thought-through in terms of the "knock-on" implications. Speier and Venkatesh thus develop the issue of the "logic of opposition" raised by Robey and Boudreau (1999) in their analysis of the organizational consequences of information technology interventions. Sviokla (1996) investigated the use of an expert system designed to support the insurance sales process at four insurance companies. Before the system was introduced sales agents "often 'owned' the clients and successfully took their business as they moved from one firm to another". After the system was introduced, all the detailed client data were fed straight to the home office and so "the company adopting the system could track its salespeople at a higher level of detail…" (p32). Sviokla concludes that successful implementations were considerate of political ramifications of the adoption of technological innovation

[Sviokla, 1996]. Therefore, a prime management task is to motivate salespeople to share knowledge and insight with their peers [Desouzza, 2003].

By contrast with this focus on the role of the individual salesperson in SFA adoption, other, more general, studies of information systems adoption and CRM have focussed on organizational-level variables [e.g., Ragowsky, Stern, &Adams, 2000; Jones et al, 2002] and the sophistication of management of information systems to organizational structure and performance [Raymond, Pare, & Bergeron, 1995]. Others have found that the effective use and sophistication of CRM is achieved by matching organizational capabilities to market context - rather than by an uncritical adoption and development of systems [Ryals and Knox, 2001]. Indeed, such systems need to be strategically orientated and integrated with an organization's competitive strategy [Erffmeyer and Johnson, 2001].

The research reported in the present study investigates the current usage and sophistication (evaluated as a count of the number of types of results of sales campaigns that are measured) of SFA in the UK financial services industry, and reports on potential strategic and organizational barriers to its sophisticated implementation. Overall, the importance of contextual factors on SFA use and sophistication has been strongly supported empirically. However, as we have reviewed, within specific studies of levels of SFA adoption, the research focus has, to date, been at the level of the individual adopter – often the salesperson – rather than at the level of the organization. These studies indicate that

adoption of SFA systems are driven by managerial imperatives – such as cost control and the wish to control and manage the salesforce - and that, subsequently, usage of adopted systems may be resisted by the sales force. This extant research focus on the salesperson and his/her level of adoption of SFA contrasts with the conclusions of the literature on the organizational context for the adoption of marketing and sales information systems in the financial services industry, reviewed earlier. There, the conclusion was that organizational barriers are likely to be a particular problem. For this reason, the present study is focused at the level of the organization - and studies the effects of selected strategic and organization variables on the sophistication of SFA. Does the study of organizational-level variables aid our understanding of SFA sophistication? This is the issue addressed in this paper.

Conceptual Model

The research reported in this paper measures a number of organizational and strategic variables and relates them to SFA sophistication - evaluated as a count of the number of types of results of sales campaigns that are measured . Our focus is on understanding the way in which internal strategic and 'people' issues relate to SFA sophistication.

It has been argued that the capability of firms to enter the strategic IT phase will depend on three elements: (1) their existing level of IT operations, and the (2) strategic and (3) organizational context within which decisions are made and implemented. The strategic context relates to a number of variables that reflect

the ability of the firm to think and act strategically. The organizational context relates to these factors which will inhibit or support such a strategic orientation and reflects the past experiences and organizational learning that has taken place, as well as the structures created to manage operations. In this paper, the strategic context variables studied were the strategic importance of sales decisions and the strategic integration of IT and sales. The organizational context (particularly relating to IT and marketing) included customer information orientation and degree of both organizational slack and control.

Our analysis of the relevance of these five variables to the sophistication of SFA is detailed in the next section. A subsequent section details both our research model and the nature of our sample of the UK financial services sector.

Strategic Context Variables

Strategic importance and integration

The successful strategic application of IT requires not only a recognition of the strategic importance of certain functional decisions but also the integration of business and IT strategy and a common understanding of aims, objectives and needs from users and suppliers of the IT system [Venkatraman, 1994]. Organisations with little integration of IS strategy with business strategy have a greater likelihood of implementation difficulties [Baets, 1992].   Thus, for successful deployment of sophisticated SFA, functional areas should, themselves, be involved in the strategic planning process [Hammer & Mangurian, 1987; Venkatraman, 1994] and so, in the context of SFA

applications, marketing and IT investment decisions should be linked and integrated. If competitive advantage is to be secured from IT and SFA then information strategies need to be developed in the same process and at the same time as the business strategy, and given a high importance. In the financial services industry, this is far from being the norm [Wright & Donaldson, 2002].

The integration of marketing and IT personnel into 'strategic' activities and decisions, is thus likely to increase the probability that an IT-based sales strategy, such as SFA, is implemented in the form of sophisticated systems.

Organizational Context Variables

Information Orientation

The interaction of people, information, and technology establishes an orientation towards the use of information within a company, which in turn may affect business performance [Marchand, Kettinger, &Rollins, 2001]. This concept measures how key individuals in an organizsation possess the capabilities associated with effective use of the data they have collected. We define information orientation as information sophistication, linked to the ease of use and capabilities of systems, and is a holistic view of effective information use. [Sinkula, 1994] sees organizational learning as the acquisition, distribution and interpretation of knowledge. Our own conceptualisation of information orientation has similarities with the concept of IT maturity and the ability of systems to provide relevant and sophisticated information. A high degree of

information orientation thus represents the progress of the IT function into the strategic IT era [Sabherwal & Vijayasarathy, 1994] and as having the orientation necessary to support a strategic marketing application such as SFA. A strong information orientation is, therefore, a necessary but not sufficient underpinning to a strong customer orientation.

Organizational slack and control

Organizational slack is a term first coined by Cyert and March (1963) and can be defined as the degree to which uncommitted resources are available to an organization. Slack helps individuals by influencing the perception of availability of knowledge, resources and opportunities and hence encourages higher levels of sophistication in adoption. This situation can lead to excesses however, resulting in the demand for more organizational control. In a control environment, financial and performance management systems are used to ensure that IS activities are effective and efficient. Whereas, in the slack environment, sophisticated controls are absent and more resources are available than are strictly necessary to get the job done.

Nolan (1979) pointed out that the balance of these two variables is important in understanding the stage of organizational learning that the organization has reached with regard to its IT development. Individuals' perceptions of the balance of these two variables will be key variables in understanding personal intention and behaviour [Ajzen, 1991] and has been shown to be relevant in the

acceptance of information systems [Mathieson, 1991; Taylor & Todd, 1995; Venkatesh, 2000].

Our Research Model

To recap, our broader research question is to evaluate the two strategic and the three organizational variables as predictors of SFA sophistication. Our Research Model is given in Figure 1. In this model, we show that the increasing strategic importance of sales and the increasing integration of IT and sales will both act to increase the information orientation of the firm. Additionally, increases in the strategic importance attached to sales decisions will also impact the integration of IT and sales. Also, increases in organisational slack and decreases in organisational control will act to increase both the firm's information orientation and the integration of IT and sales. Finally, increases in the information orientation of the firm will impact on the level of sophistication of information held on customers - evaluated as a count of the number of types of results of sales campaigns that are measured.

Insert Figure 1 about here

Research Methodology and sample characteristics

Our study focuses on a single information intensive industry, financial services and a particular sales application of IT, SFA. Our measures examine both the technology of SFA and the information that is contained within SFA systems to support the activities of the salesforce. Intuitively, it would seem that

respondents in information intensive industries would have more fully thought through their opinions on enabling factors in the deployment of IT for strategic advantage [cf Sabherwal & Kirs, 1994]. As in the current study, Sabherwal and Kirs selected an information intensive industry to increase the likelihood that the issues addressed were important to the respondents. It has been argued that focussing on a single industry, within a common environment, controls for external influences [Child & Smith, 1987] and enhances internal validity. Our questionnaire items was pre-tested within qualitative interviews with consultants from IBM and Merial about the changing role of salespeople and the way in which salespeople add value in the new information age.

Our study is based on a quantitative survey of a sample of named sales and marketing managers in all UK banks, building societies and insurance companies taken from the Marketing Manager Yearbook 2001 [AP Information Services, 2001]. We used secondary sources to identify firms that were fund managers, pension houses, and head-office operations, and who did not have a field sales force. Merchant banks and some stockbrokers were also deliberately removed from the list since they, too, have no dedicated sales forces. One hundred and forty two companies were finally selected – based on our own judgment – that would have a sizeable sales force. Next, telephone contact was established to ensure that the companies had a sales force and to ensure the contact was current and relevant. After follow up phone calls and one repeat mailing, 72 usable responses to our mailed questionnaire were received. The sample response rate was compared to the industry structure and found to be

representative of the industry – whilst favoring larger firms with a substantial sales presence. We found no differences in the sales-force size profiles of early and late respondents. Respondents were the Marketing or Sales Director/Manager. Table 1, below, gives a summary of the nature of our obtained sample.

Insert Table 1 about here

Our information sophistication measure counted the number of types of results of sales campaigns that are measured by a firm. The exact questions used are given in Appendix 1. In our UK-based study, the American term "Sales Force Automation" was replaced by the UK term "Sales Information System" – since pre-testing revealed that the latter term was the common parlance for SFA in the UK. We evaluated adoption of SIS/SFA by asking the respondent two linked questions:

1   A Sales Information System has been defined as "the collection of information to assist the sales and customer management process. Do you have a Sales Information System?

Yes / No

2   Do you have an automated (computer-based) Sales Information System?

Yes / No

Almost all of our 72 firms claimed to be using some form of automated sales information system. These systems are now widely available and used by financial services companies. In our sample 92% had some form of system and 89% claimed to have an automated SIS. The average time they had been using such systems was seven years.   The level of perceived sophistication was however, found to be variable.   Using the 7-point scale, ranging from 1 "low level", most perceived themselves as about 4 (mean 4.03, standard deviation 1.65). Our subsequent analysis focuses on the total sample of 72 firms who, to differing degrees, measured the results of sales campaigns

Measurement of Strategic and Organisational Variables

The scale development methodology is detailed in [Fletcher and Wright 1997]. In that study, question development was focussed on issues to do with the uptake of database marketing (DBM). In the present study, we utilize the same scales but alter the wording of specific questions to address SFA - rather than DBM - contextual issues. Because of these slight changes, we present, in the current paper, in-sample reliability estimates for the altered scales.

Strategic Importance and Integration

Appendix 2 details our measures of: (1) the strategic importance of sales decisions and (2) the strategic integration of IT and sales. Cronbach Alphas (conducted in-sample) were 0.58 and 0.79 for the two scales, respectively. [Fletcher and Wright's 1997] Alphas were 0.64 and 0.71, respectively.

Information Orientation

Our measure of information orientation is also detailed in Appendix 2. The in-sample Cronbach Alpha was 0.89. [Fletcher and Wright's 1997] Alpha was 0.87.

Slack and Control

Our measure of organizational control is detailed in Appendix 2. The in-sample Cronbach Alpha was 0.82. Our measure of organizational slack is also given in Appendix 2. The in-sample Cronbach Alpha was 0.86. [Fletcher and Wright's 1997] Alphas were 0.85 and 0.66, respectively.

Findings

Table 3 sets out our samples obtained means and standard deviations on our measures, together with minimum and maximum possible scores on each measure, where appropriate.

Insert Table 3 about here

Focusing on those scores that were in the top quartile of the possible scores on each scale, then, in general, our sample perceived: the strategic importance of sales decisions; the strategic integration of IT and sales; and their information orientation as, either, very important or very high.

Goodness of Fit of the Research Model

The traditional measure of model fit is the X2 value and its associated confidence level. While no consensus exist on the sufficiency of a single index to define model quality, using several indicators together are considered to be an accurate reflection of overall model fit [Bollen, 1989; Kaplan, 2000]. Therefore, several disparate indices were used, as suggested by [Tanaka 1993], to converge on an overall assessment, including the root mean squared error of approximation [Steiger, 1990], normed fit index [Bentler & Bonnet, 1980], the incremental fit index [Bollen, 1989], the comparative fit index [Bentler, 1990] and goodness of fit index [Joreskog & Sorbom, 1981]. Our obtained values are given in Table 4.

Insert Table 4 about here

As summarized in Table 4, the hypothesized model holds up well when tested against the sample of 72 UK financial service respondents. The X2 value is not

statistically significant with 4 degrees of freedom[1] and X2 value (5.61) is close

to degrees of freedom (4), which suggests a good fit. The root mean squared

error of approximation is 0.075, which suggests a good fit since it is below the

critical point 0.08 as suggested by [Browne and Cudeck 1989]. Further, the

normed fit index, the comparative fit index, the incremental fit index, and the

goodness of fit index are all between 0.93 and 0.98, suggesting that the

research model fits the observed data well. Once the fit between the

hypothesized model and the observed data is found to be acceptable as shown

above, individual paths using structural equation models can then be interpreted

to evaluate the strength and significance of these relationships as discussed in

detail below.

Hypothesis tests

When an obtained t-value exceeds |±1.96|, it means that the hypothesis is

significant at the 5% level of significance. This method is valid subject to the

condition that our sample is large. In practice, it is often difficult to know whether

our samples are so large that these large sample approximates are valid.

However, the approximation is usually good for samples larger than 30 [Cramer,

1946]. Because our analysis is based on 72 UK finance service respondents,

the statistical inference is appropriate.

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[1] Given that the null hypothesis in the X^2 test is that there is no difference between the covariance matrix predicted by the model and the observed data, an insignificant result suggests a perfect fit.

Equation 1 in Table 5 shows that the values of t with organizational slack (OSTOT) and integration of IT and sales (SITOT) are larger than the 1.96 which leads to the conclusion that the higher organizational slack and integration of IT and sales, the higher level of information orientation (IOTOT) exists (hypothesis 2 and hypothesis 4). Equation 2 in Table 5 shows that the value of t obtained for strategic importance of sales (SINTOT) is larger than the 1.96 and demonstrates that increasing strategic importance of sales leads to increasing integration of IT and sales, supporting hypothesis 5. From equation 3 in Table 5, the obtained t-value of level of information orientation is larger than 1.96. The result indicates that increasing information orientation leads to increasing sophistication of information held on customers (MTI2), (hypothesis).

In this study, we also want to investigate if level of information sophistication mediates the relationship between (i) strategic importance of sales, (ii) organizational slack, (iii) organizational control, and (iv) integration of IT, with sophistication of information held on customers. Our analysis demonstrates that information orientation mediates the relationship between organizational slack and sophistication of information held on customers. Although information orientation does solely mediate the relationship between strategic importance of sales and sophistication of information held on customers, we obtain an indirect effect of strategic importance of sales on information orientation. This indirect effect is mediated through integration of IT and this effect, finally, impacts on the sophistication of information held on customers. In all pathways, information orientation is critical as a mediating variable that exerts the only direct influence

on the sophistication of information held on customers. Table 6 details the results of our hypothesis testing and Figure 2 presents our obtained model.

Insert Table 5 about here

Insert Table 6 about here

Insert Figure 2 about here

In short, our modelling investigation reveals that information orientation was identified as the direct predictor of the sophistication of information held on customers. But information orientation mediates the effects of (i) organizational slack, (ii) strategic importance of IT and sales, and (iii) integration of IT and sales. Why should this be the case? What was the variability, between our sampled financial services firms, in terms of information sought - and held - on deployed SFA systems? Would this, post-hoc, investigation provide us with any closer understanding of our major finding? To answer these questions, we looked, in detail, at some basic data that we collected from our respondents at the time of our main survey. Whilst our respondents, sales managers and directors, have strong aspirations for their adopted SFA (as shown in Table 7, below) the information held or desired to be held (as shown in Tables 8, 9, 10, and 11, also below) cannot, we assert, fulfil these aspirations. In short, as we

shall see, our respondents claim to be sophisticated in their use of SFA applications, but yet, in an absolute sense, they are not. In the next section, we document a disconnect between what our SFA users consider to be sophisticated and what these same SFA users could be doing with their installed systems.

Basic data on our respondents' installed SFA systems

Respondents were asked how important certain objectives were for their SIS. Table 7 shows means and standard deviations for these objectives on a scale from one, not at all important to seven, crucially important.

Insert Table 7 about here

As Table 7 reveals, the purpose of these systems appears quite general with most respondents claiming to use them for customer acquisition, customer retention, improved customer relationships and contact management integration. Further analysis clarifies this result however. As we saw, earlier - in the subsection SFA usage and sophistication – our sales and marketing directors perceive that their systems operate at about a mid-level of sophistication (an obtained mean of 4.03 with a standard deviation of 1.65 using a 7-point scale ranging from 1 "low level" 7 "high level"). But further investigation indicates that this perception may be misplaced. Table 8 shows

that the installed SFA systems hold a paucity of information to manage customer relationships.

Insert Table 8 about here

For example, although most measure the number of sales generated, the number of customers gained, revenue increases and opportunities identified, relatively few measure more problematic areas such as individual customer value, share of customer business, effectiveness of different marketing mix elements or efficiency of different customer conduct strategies. About 40 per cent do not measure customer satisfaction at all and only about 30 per cent attempt to predict customer potential. Costs per customer and costs per sale are also not measured by 50 per cent of the sample. Even more surprising is the low level, less than 40 per cent of the sample, who measure the degree of a relationship enhancement. Clearly, the objectives set for the SFA cannot be met by the results that are, in fact, measured by the sample of financial services firms. Table 9 further clarifies this inference.

Insert Table 9 about here

As Table 9 reveals, sales and marketing managers generally feel they have adequate information and at least 50 per cent of the sample do not see the

need for any more. But both the quantity and quality of information held is at a low level of complexity. As expected, almost all hold name, address and telephone number but far fewer have fax, email or the names of different contacts with customers. Table 10 shows the extent to which different types of data are held.

In terms of data that would really make a difference in the strategic use of SFA – such as purchasing profiles, competitor products or services held and previous contact records – the data held by the financial services organizations are relatively sparse.

Respondents were next asked the degree to which they used SFA for aspects of sales planning on a scale from one, 'not at all' to seven 'comprehensively'. Table 9 sets out the findings.

Insert Table 10 about here

As Table 10 reveals, SFA systems are being used extensively in sales planning for a variety of purposes but, as expected at this stage in the presentation of the results of our research, the major use is to develop mailing lists. Table 10 addresses the degree to which respondents utilised SFA for operational uses - using the same response scale as in Table 7.

As Table 11 shows, the strongest use is made of SFA for contact management and sales cycle tracking but very little use is made of SFA for ordering or billing. Remarkably, customer care is not a major use of the SFA in operational terms – scoring less than half-way up the seven-point scale from not at all to comprehensively.

Insert Table 11 about here

Discussion

Overall, our research investigated the extent to which a range of strategic and organizational context variables would differentiate financial services firms who have SFA systems of varying degrees of sophistication. However, in contrast to our expectations, differences in the degree of sophistication of currently installed SFA systems are linked to the direct influence of one variable only – information orientation. Recall that we defined information orientation as information sophistication, linked to the ease of use and capabilities of systems. Additionally, our results contain a host of contradictions: whilst our respondents, sales managers and directors, have strong aspiration for their adopted SFA, the information held or desired to be held does not /will not/ fulfil this aspiration. The paucity of information held, indirectly confirms and extends the research of Widmier, Jackson and McCabe [Widmier, et al., 2002], discussed earlier, on the reluctance of salespeople to populate SFA systems with data – which suggested that salesperson resistance to SFA is a critical issue in achieving the

operational deployment of sophisticated SFA. Our research review, presented earlier, suggested that barriers to new technology adoption have often been seen as related to the lack of user friendly software, or technical difficulties in matching databases, but recent technological development suggest this is less likely to be the case in practice. Previous research has shown that organisational and strategic barriers were seen by respondents in financial services firms as less important than technological barriers for less sophisticated information systems [Fletcher & Wright, 1995], but as sophistication increased these were expected to become more critical. In the current study, we have documented that most UK financial services firms now have SFA systems, but, despite this, their ability to deploy currently installed systems in a truly sophisticated, strategic way in order to meet our respondents' espoused strategic goals is, in fact, moot.

Salespeople are often the primary source of information within a customer/seller relationship and thus play a critical role in successfully building relationships. The amount and type of information considered as necessary for a SFA system will be determined by the customer orientation strategy of the firm [Lambe & Spekman, 1997] but in our findings this does not relate to sophistication. Our finding that information orientation is the primary driver of SFA "sophistication" – and that this sophistication is of a low actual level - implies that financial organisations have progressed further in their acquisition of technological capability than in their strategic or organisational thinking. This inference is supported by the work of Fletcher and Wright (1996) who studied the strategic

context for information systems use in the UK financial services industry. Using a sample of 46 per cent of all major banks, building societies and insurance companies, they found a good degree of integration of marketing and IT functional groupings with the firm-wide strategic planning process but, at the same time, documented a high degree of strategic ambiguity and lack of strategic time frame for such investment decisions. These results, coupled with a general reliance on traditional cost benefit appraisal methods were, they argued, indicative of a short-term, rather than strategic, focus for information systems use. Fletcher and Wright argued that, within the UK financial services industry, the strategic vision did not exist to enable the majority of those firms adopting information systems to support marketing to gain sustainable strategic advantage.

The current study suggests that the UK financial services industry's present approach to level of SFA adoption and deployment – without an underpinning customer focus – strongly implies an alternative focus on improving technical capabilities of IT systems, perhaps for managing the salesforce, rather than aiding the sales force to enhance their capability to achieve sales. Our documentation of the paucity of information held on the installed SFA systems strongly implies that the sale force resistance to such systems - as documented by [Speier and Venkatesh 2002] and described earlier – may also be descriptive of the UK financial services industry.

Automating a sales force is a two-stage process. First, the strategic decision to adopt the new system must be made, and previous research suggests this is often done on a 'copycat' basis rather than with a clear strategic aim. Second, the system has to be used and implemented by the end-users, in this case individual salespeople. It is in this second stage that our findings suggest errors are likely to be made which may lead to failure. While the initial decision is an organizational context, the latter stage is much more on an individual basis – where the individual salesperson is required to become involved in populating the database with information. Our research therefore supports the views of Parthasarathy and Sohi (1997) that this "dual adoption" is a critical factor to achieve strategic usage. What they call 'non monetary' costs of adoption will need to be considered to ensure the second stage of adoption is successful.

Implications for Management and Research

Clearly, management and motivation of sales staff is likely to be a key component in the future development/deployment of SFA, as identified earlier [Robey & Bourdreau, 1999; Speier & Venkatesh, 2002; Sviokla, 1996]. Our findings show that a managerially-focused, information orientation to sophistication in adoption may lead to sales force resistance – as documented in prior studies of sales force reaction to SFA implementations, discussed earlier. It follows that those firms wanting the most from SFA may be most apt to fail, as in, for example, the pitfalls of customer relationship management (CRM) innovations that have tried to build relationships with disinterested customers [Rigby, Reicheld, & Schefter, 2002]. These customers, subsequently,

turned into vociferous critics of such ill-thought implementations. Best practice in CRM has been reviewed elsewhere [Zeithaml, Rust, & Lemon, 2001]

The findings put forward in this paper suggest that research in SFA needs to focus on organizational issues that act to prevent employees providing data for use in what have been termed "codification-strategy" approaches to knowledge management [Hansen, Nohria, & Tierney, 1999]. Here, the focus is to provide databases of knowledge - which can be assessed by anyone in the organization. This approach contrasts with the "personalization-strategy" – where the focus in knowledge management is on enhancing communication between i) those in the organization who would benefit from access to particular knowledge and ii) those who possess that knowledge.

Our current results contrast with earlier research on the adoption and sophistication and database marketing applications in the UK financial services sector. In these studies [Desai, Wright, & Fletcher, 1998; Fletcher & Wright, 1997] it was found that increased sophistication in installed database marketing systems was closely linked to a strong information orientation within the host organization, a large direct marketing department, and strong strategic integration of IT and marketing functions. However, adoption of database marketing systems was, interestingly, linked to a wider set of variables including strong customer orientation, organizational slack, a large of the marketing department, and lack of incrementalism in decision-making. In short, a financial service firm's customer orientation was seen to differentiate between users and

non-users of DBM. But, significantly, DBM adoption and sophistication can be driven, entirely, at a managerial level – there is no essential requirement for salespeople, or others, to populate DBM systems with data, the data are provided by the actions and processes of the information systems themselves. In our introduction section, we reviewed the organizational context of SFA in the UK financial services sector. We concluded that firms, in this sector, appeared relatively insensitive to the true organizational issues in the adoption of sophisticated IS. Organizational issues are, of course, the ones identified as one of the four perils leading to CRM failure [Rigby, et al., 2002]. CRM, along with SFA, requires organizational change enabled by employee support. Whilst SFA can provide a powerful enabler for CRM, it cannot automate the human aspects of the sales function. By contrast, as we discussed earlier, DBM implementation has less reliance on human compliance.

In summary, our current study's identification of information orientation as the sole direct driver of SFA "sophistication" suggests strongly that managerial imperatives underpin SFA deployment within the UK financial services industry. The paucity of information actually held on deployed systems suggests strongly that sales-force resistance is a reaction to this managerial imperative. As such, our work supports the importance of earlier research on individual-level factors in SFA acceptance. Clearly, the study of broad range of organizational-level contextual variables adds, in fact, little to our understanding of the realities of the managerial priorities of our sales and marketing directors.

Our research demonstrates that the UK financial service industry's present approach to SFA sophistication – without an underpinning customer focus or a strong focus on the human aspects of the sales function - is flawed. The paucity of information held on the installed system strongly implies that the sale force resistance to such systems may also be descriptive of the UK financial services industry. It follows that future studies of SFA adoption and usage should study individual-level variables such as employees' trust in their organization. For example, a number of studies have already acknowledged that employees' trust is a critical variable influencing the performance, effectiveness, and efficiency of the organization [Kramer & Tyler, 1996; Lewicki, McAllister, & Bies, 1998; Mayer & Davis, 1999; Mayer, Davis, & Schoorman, 1995; Whitney, 1994]. Earlier research identified links between trust and a variety of work behaviours, including organizational citizenship and employees' performance [Mayer & Davis, 1999], problem-solving [Zand, 1972], job satisfaction [Aryee, Budhwar, & Chen, 2002; Gould-Williams, 2003], and organizational commitment [Cook & Wall, 1980].

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Figure 1: Determinants of the sophistication of SFA
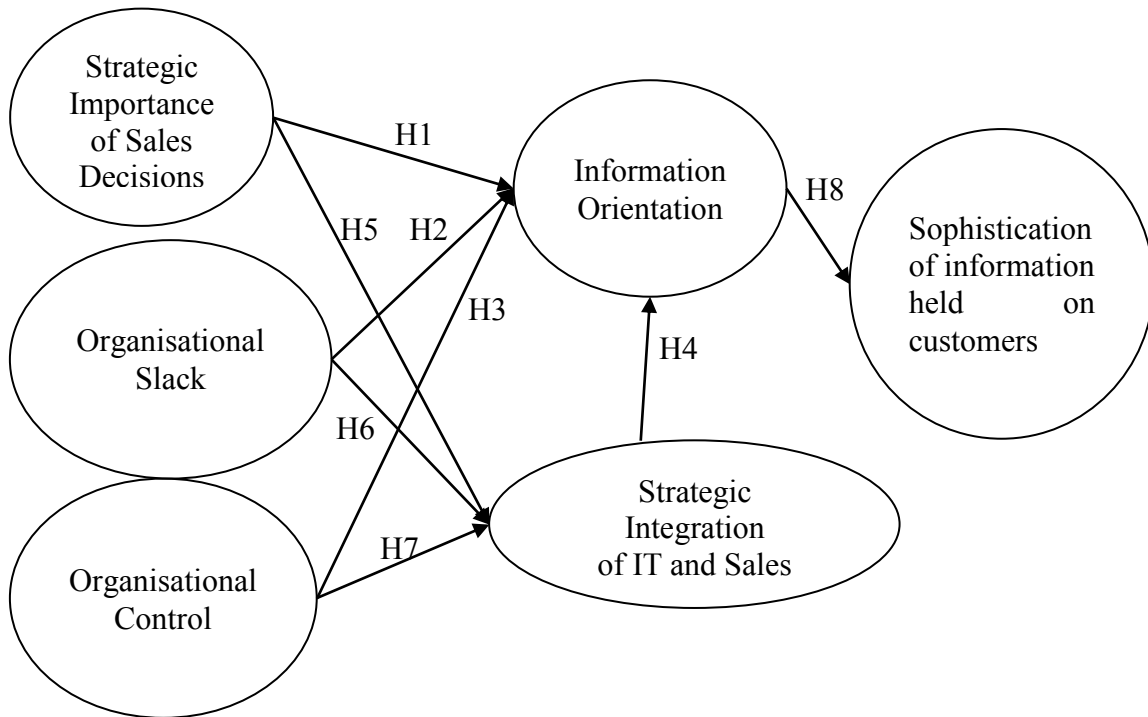
In terms of specific hypotheses:

Hypothesis 1: There is a positive relationship between perceived strategic importance of sales decisions and level of information orientation.

Hypothesis 2: There is a positive relationship between organizational slack and level of information orientation.

Hypothesis 3: There is a negative relationship between organizational control and level of information orientation.

Hypothesis 4: There is a positive relationship between integration of IT and sales and level of information orientation.

Hypothesis 5: There is a positive relationship between perceived strategic importance of sales decisions and integration of IT and sales.

Hypothesis 6: There is a positive relationship between organizational slack and integration of IT and sales.

Hypothesis 7: There is a negative relationship between organizational control and integration of IT and sales.

Hypothesis 8: There is a positive relationship between level of information orientation and a count of the number of types of results of sales campaigns that are measured.

Figure 2: Obtained model of the determinants of the sophistication of SFA
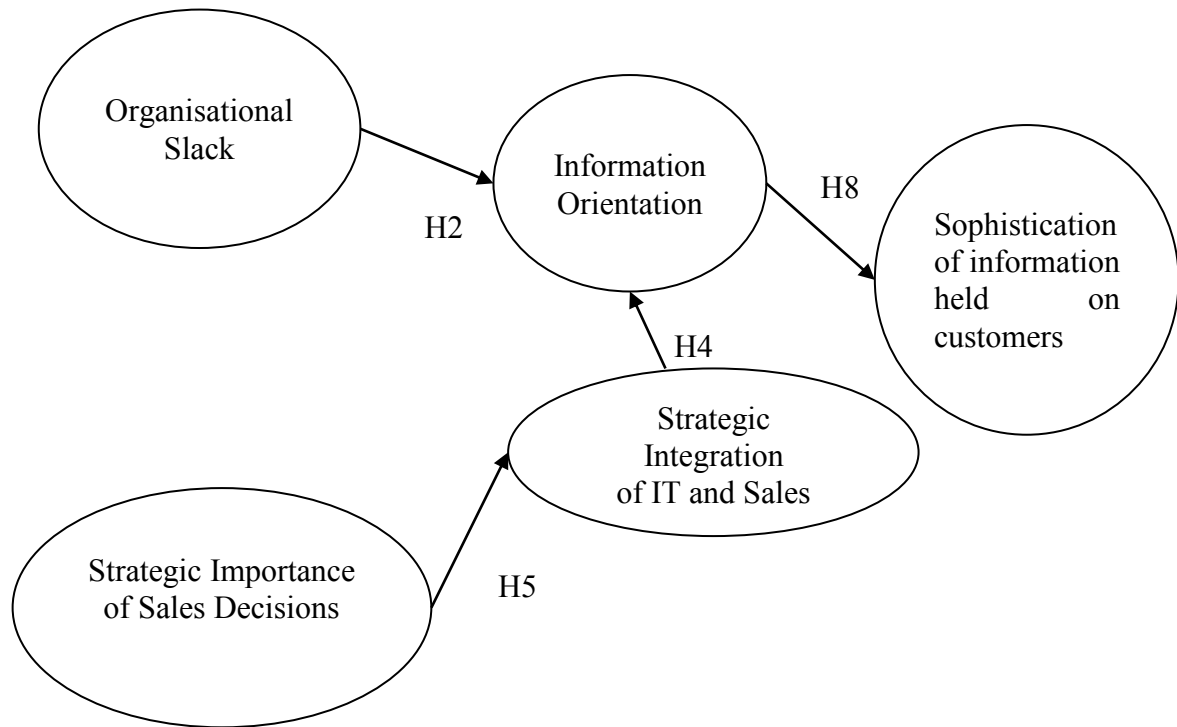
Table 1
Nature of our sample

	Mean	Median
Total number of employees	3,217	500
Number of outside sales force	211	25
Number of inside sales force	260	20
Total number in sales and service	1,140	170

Table 3
Means and Standard Deviations of our questionnaire measures

	$\overline{X}$	sd	Cronbach Alpha	Possible Minimum	Possible Maximum
Strategic Importance of Sales Decision	15.01	3.31	0.58	3	21
Strategic Integration of IT and sales	43.39	8.67	0.79	9	63
Information Orientation	63.04	17.5	0.89	14	98
Organizational Slack	8.11	3.18	0.82	2	14
Organization Control	6.86	2.84	0.86	2	14
Dependent measure: count of the number of types of results of campaigns that are measured	8.39	4.24	Not applicable	0	17

Table 4
Research Model fit indices

Degrees of freedom	4
X^2	5.61
RMSEA	0.075
NFI	0.9266
CFI	0.9715
IFI	0.9756
GFI	0.9743

Table 5
Estimates of Coefficients of the Research Model

IOTOT = 0.4044*SINTOT + 0.05748*SITOT + 0.3941*OSTOT - 0.02401*OCTOT,
    (0.1028)   (0.1078)   (0.09885)   (0.1044)
    3.9333   0.5333   3.9867   -0.2301

Errorvar.= 0.6856 , R^2= 0.3144
(0.1151)
5.9582   **<equation1>**

SINTOT = 0.2701*SITOT - 0.08694*OSTOT - 0.03282*OCTOT, Errorvar.= 0.9134 ,
R^2= 0.08659
    (0.1202)   (0.1136)   (0.1204)   (0.1533)
    2.2470   -0.7651   -0.2725   5.9582 **<equation2>**

MTI2 = 0.6030*IOTOT, Errorvar.= 0.6364 , R^2= 0.3636
    (0.09467)   (0.1068)
    6.3692   5.9582   **<equation3>**

Table 6
Hypothesis tests for the Research Model

	Estimates	T-value
Hypothesis 1	0.057	0.53
Hypothesis 2	0.394	**3.99**
Hypothesis 3	-0.024	-0.23
Hypothesis 4	0.404	**3.93**
Hypothesis 5	0.270	**2.25**
Hypothesis 6	-0.087	-0.77
Hypothesis 7	-0.033	-0.27
Hypothesis 8	0.603	**6.37**

Table 7
Objectives for SFA?

Importance of the following	Mean	Standard deviation
Increased customer acquisition	5.7	1.2
Increased customer retention	6.1	0.9
Enhanced customer relationship	6.1	1.2
Integration to contact management	5.5	1.4

Table 8
Count of the number of types of results of sales campaigns that are measured

If you measure results, please tick if you measure the following:	%
Number of potential customers reached	53
Opportunities identified	69
Number of customer gained	74
Sales by segments	69
Number of sales generated	81
Revenue per customer	66
Share of customer business	38
Cost per customer business	43
Cost per sale generated	47
Contribution to profits	79
Level of customer satisfaction	62
Individual customer value	36
Effectiveness of different marketing mix elements	38
Effectiveness of different contact strategies	38
Relationship enhancement	39
Overall marketing operations	42
Other	8

Table 9
Information held

What information is presently held or would you like to hold in the customer information file	% Presently held	% Would like to hold
Name and address	100	8
Post code	100	8
Telephone number	97	9
Fax	69	13
E-mail	73	27
Names of all contacts	66	25
Customer order history	56	22
Purchasing profile	35	38
Own products held	61	19
Competitor's products held	14	51
Previous contact response details	43	35
Credit rating	29	19

Table 10
Sales planning uses for SFA

Utilisation of:	Mean	Standard deviation
Mailing list	5.3	1.6
Customer profiling	4.6	2.0
Prospect bank	4.3	2.0
Lead generation	4.6	1.8
Segmentation	4.6	1.8
Campaign effectiveness	4.3	1.8

Table 11
Operational uses for SFA

Utilisation of	Mean	Standard deviation
Ordering systems	2.5	2.0
Billing system	3.2	2.3
Customer care/service system	3.8	2.0
Contact management	4.9	1.5
Sales cycle tracking	4.2	2.0
Sales reports	5.4	1.5
Corporate data warehouse	4.1	1.9

Appendix One

Measure of SIS sophistication
If you do measure results, please tick if you measure any of the following:
No. of potential customers reached   _____
Opportunities identified   _____
No. of customers gained   _____
Sales by segments   _____
No. of sales generated   _____
Revenue per customer   _____
Share of customer business   _____
Cost per customer business   _____
Cost per sale generated   _____
Contribution to profits   _____
Level of customer satisfaction   _____
Individual customer value   _____
Effectiveness of different marketing mix
elements   _____
Effectiveness of different contact strategies   _____
Relationship enhancement   _____
Overall sales operations   _____
Other [please state]   _____

Appendix Two

Strategic context

Strategic importance of sales decisions

1   How important are sales decisions to the strategic decisions that your organization takes?
     Not at all important 1234567 Crucially important
2   How serious would it be for our organization if the sales decision was wrong?
     Not at all important 1234567 Crucially important
3   How involved are sales personnel in strategic planning?
     Not at all important 1234567 Totally

Strategic integration of IT and sales

1   How important are IT decisions to the sales decisions your firm makes?
     Not at all important 1234567 Crucially important
2   How serious would it be to the sales function if the IT decision is wrong?
     Not at all important 1234567 Crucially important
3   How interlinked are sales strategy and IT strategy investment decisions?
     Not at all   1234567 Totally
4   In your organization, how dependent are sales on IT for the performance of everyday routines?
     Very dependent 7654321 Not at all dependent
5   In your organization, how dependent are sales on IT applications in achieving marketing performance objectives?
     Very dependent 7654321 Not at all dependent
6   For your organization, to what degree do you think it likely that IT developments in sales will create competitive advantage in the future?
     Very likely 7654321 Not likely at all
7   For your organization, to what degree do you think it likely that IT applications will contribute to achieving future sales goals?
     Very likely 7654321 Not likely at all
8   To your mind, what is the current rate of use of IT to support sales by companies in your industry?
     Very little 1234567 A great deal
9   How much do you think this will increase in the next 5 years?
     Very little 1234567 A great deal

Organizational context

Information orientation

Below are a number of statements which could be used to describe a sales information system. To what extent to you agree or disagree with the statements, as they apply to your organization's provision of sales information?

1   Our system is almost totally manual
agree 1234567 disagree
2   Sales personnel can easily obtain all the marketing data they need from our system
agree 7654321 disagree
3   Our system has many interfaces with external commercial databases
agree 7654321 disagree
4   Computerisation of systems creates more problems than solutions
agree 1234567 disagree
5   Our system holds customer information files which are directly accessible by sales personnel agree 7654321 disagree
6   Customer information files cannot be justified on cost grounds
agree 1234567 disagree
7   Our system allows product cross-holdings by customer to be easily identified agree 7654321 disagree
8   Our system records and stores responses to all sales campaigns in the customer information file agree 7654321 disagree
9   Sales personnel always use customer information to direct mailings and/or other promotional activities agree 7654321 disagree
10   Our system has statistical capabilities to analyse all sales and/or customer data agree 7654321 disagree
11   Our system is not very user friendly for sales purposes
agree 7654321 disagree
12   The sales department has access to software for direct marketing purposes on our system agree 7654321 disagree
13   Our IS is extremely sophisticated
agree 7654321 disagree
14   Our IS is built around up-to-date technology
agree 7654321 disagree
15   Our IT people can design and install all software suitable for sales purposes
agree 7654321 disagree

Organization slack

1   To what extent are resources available if sales wished to make greater use of computing facilities?

       easily available 7654321 available with difficulty

2   To what extent are resources available if sales wished to increase the amount of customer information they gathered and stored?

       easily available 7654321 available with difficulty

Organizational control

1   What level of control would be placed on sales' use of computing facilities and resources?

       low control 1234567 high control

2   What level of control would be placed on sales' need to gather and store information?

       low control 1234567 high control

Appendix Three

Goodness of fit indices for the Research model

Degrees of Freedom = 4
Minimum Fit Function Chi-Square = 5.8461 (P = 0.2109)
Normal Theory Weighted Least Squares Chi-Square = 5.6119 (P = 0.2301)
Estimated Non-centrality Parameter (NCP) = 1.6119
90 Percent Confidence Interval for NCP = (0.0 ; 12.1295)
Minimum Fit Function Value = 0.08234
Population Discrepancy Function Value (F0) = 0.02270
90 Percent Confidence Interval for F0 = (0.0 ; 0.1708)
Root Mean Square Error of Approximation (RMSEA) = 0.07534
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.2067)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.3132
Expected Cross-Validation Index (ECVI) = 0.5579
90 Percent Confidence Interval for ECVI = (0.5352 ; 0.7060)
ECVI for Saturated Model = 0.5915
ECVI for Independence Model = 1.2911
Chi-Square for Independence Model with 15 Degrees of Freedom = 79.6695
Independence AIC = 91.6695
Model AIC = 39.6119
Saturated AIC = 42.0000
Independence CAIC = 111.3295
Model CAIC = 95.3152
Saturated CAIC = 110.8100
Normed Fit Index (NFI) = 0.9266
Non-Normed Fit Index (NNFI) = 0.8930
Parsimony Normed Fit Index (PNFI) = 0.2471
Comparative Fit Index (CFI) = 0.9715
Incremental Fit Index (IFI) = 0.9756
Relative Fit Index (RFI) = 0.7248
Critical N (CN) = 162.2456
Root Mean Square Residual (RMR) = 0.04334
Standardized RMR = 0.04334
Goodness of Fit Index (GFI) = 0.9743
Adjusted Goodness of Fit Index (AGFI) = 0.8652
Parsimony Goodness of Fit Index (PGFI) = 0.1856