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Competitive Intelligence and Information Technology Adoption of SMEs in Turkey: Diagnosing Current Performance and Identifying Barriers

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ABSTRACT: The need for SMEs to behave in a more concise and coherent competitive fashion is well recognised. This study reports on an empirical study of SMEs in Turkey. Their responses were applied to a behavioural and information technology adoption framework which enabled the identification of areas where changes would be required for these firms to begin operating at a higher level of competence. The findings revealed significant scope for improvements on all strands of the diagnostic framework: attitude, gathering, location, technology support, IT systems support and finally, use of intelligence-based output by decision-makers. Through free form responses, it was also possible to identify barrier to higher level adoption and performance inhibiters, which were subsequently, categorised and assessed for significance.

KEYWORDS: Competitive intelligence, Information Technology, Adoption, SMEs, Performance Barriers

Introduction

Globalization and the fast improvement of Information and Communication Technologies (ICT) significantly increases the competitive pressure (Bisson et al., 2012). Leidner et al., (2011) indicated that *"as the pace of technology increases, market preferences become increasingly dynamic as well"* (p. 423). Indeed, in addition to facing increasing numbers of traditional competitors, businesses can be one click away from extinction as they grapple with the relentless rise of e-commerce (Chaffey et al., 2009). Yet, the need to integrate intelligence into one's product and services follows the quick rhythm of innovation (Schilling, 2010) which is leading society away from an information rich age to an intelligence rich age (Bourret, 2008). This paper reports on an

empirical study of the SME sector in Turkey, with particular emphasis on the adoption, or otherwise, by practitioners, of technological support and IT support systems, in the pursuit of what Wright (2011) has termed as Intelligence Based Competitive Advantage (IBCA©).

The creation of knowledge and its application to business decision-making is deemed to be a key source of competitive advantage for firms (McAdam et al., 2007; Nonaka & Von Krogh, 2009; Sherif & Xing 2006; Von Krogh, 2009; Wang et al., 2009; Yang, 2005). The conversion of information to intelligence is critical in this task as the volume of data and information grows exponentially, blurring a company's understanding of its immediate and potential environment (Bawden & Robinson, 2009; Foenix-Riou, 2011; Qamar et al., 2010). Nearly 15 years ago, Hitt et al., (1998) reported that *"with changed dynamics in the new competitive landscape, firms face multiple discontinuities that often occur simultaneously and are not easily predicted"* (p. 22). The competitive landscape has changed even more dramatically than they predicted (Cravens et al., 2009), requiring firms to adopt an organisational philosophy, which integrates Competitive Intelligence (CI) tools and methodologies into the mind-set of all employees regardless of status (Wright, 2011).

This study was significant and unique because it addressed an important scientific gap in the literature, that being the level of information technology adoption combined with CI practices of SMEs in Turkey. A key feature of this work was the recognition of the potential for IT and IS adoption to deliver IBCA© and the realisation that for SMEs in particular, this is no longer an option, rather a pre-requisite for success in an increasingly turbulent and complex business environment. The study is also a timely contribution which adds to the growing interest in this area, as noted by Dhaliwal et al., (2011).

Why SMEs? Why Turkey?

SMEs play a vital role in Turkey as they comprise 98-99% of all firms, represent 81% of all employment and contribute 36% of the total GDP of the country (Kavcioglu, 2009). While the world economy is dull, the light is now on Turkey since its economy is currently one of the better performers, with 8.2% growth in 2010 (Central Intelligence Agency, 2011) and is the second fastest growing economy in the world after China (Bryant, 2011).

Turkish SMEs constitute a political power as many support the current Prime Minister, Mr Erdoğan (Hubert-Rodier, 2013) and they are very concerned at the current protests, and the potential for this to affect the success of their businesses. Recent events in Turkey have already had an impact on the country's economy with the Istanbul Stock Exchange suffering a 19% loss in value in just ten days between 31st May and 10th June 2013 (Euronews, 2013).

More fundamental problems exist though, as Kavcioglu (2009) reported that Turkish SMEs have marketing problems, compounded by a lack of information and technology expertise. This study therefore, was not only significant because no research of this type, or depth, had been undertaken thus far, but it included the unique aspects of technological support and IT support systems. Using empirical evidence, the aim was to identify and classify CI behaviour and attitudes of SMEs in Turkey, against an extended typology of practice, based on that first produced by Wright et al., 2002).

The collection of information, its aggregation and dissemination allows a firm to build knowledge (Chaffey & White, 2011; Cook & Cook, 2000; Eren & Erdoğmuş, 2004) which is an important contributor to competitive advantage (Hanna, 2007; Nonaka & Von Krogh, 2009; Spraggon & Bodolica, 2008; Teece, 2005; Tziralis et al., 2009; Zha & Chen, 2009). Koksal (2008) underlines that *"higher levels of information utilization are expected to increase company performance since companies learn to effectively manage competition, understand customer needs, and target profitable markets"* (p. 418). Thus, the adoption of information technology (IT) is a challenge faced by all SMEs (Chuang et al., 2009; Nguyen, 2009). IT can allow SMEs to become global players, most notably via e-commerce (Chaffey et al., 2009). Lester & Tran (2008) stress that one of the most important components of an SME's operation in today's competitive environment is its IT adoption, and the potential for IT to enable or support strategic, tactical and operational decisions was recognised by Sambamurthy et al., (2003) and

Krishnan et al., (2007). Huang et al., (2009) commented that *"organizations introduce IT governance mechanisms in order to rationalise and coordinate their IT related decision-making so that IT assets, efforts and investments are aligned with the organisation's strategic and tactical intents"* (p. 158).

Nearly 20 years ago, Kettinger et al., (1994, p 48) stated that *"the attainment of sustained IT-based competitive advantage may be more of a process of building organizational infrastructure in order to enable innovative action strategies as opposed to 'being first on the scene'"* (p. 48). Although IT has been recognized as a key element of success in today's hyper-competition (Chaffey & White, 2011), the commoditisation and affordability of both hardware and software means it is no longer simply the act of ownership which delivers competitive advantage. The real benefit comes in the management and organisation of IT such that it supports the firm's decision-making and aids the achievement of objectives (Chen, 2011; Galliers, 2004, 2006; Gallivan & Srite, 2005; Gorla et al., 2010; Kappos & Rivard, 2008; Leidner & Kayworth, 2006; Leidner et al., 2011; Ray et al., 2005; Wade & Hulland, 2004;). In their research, Baptista et al., (2010) concluded that it was essential for *"senior management to continuously raise awareness about the strategic possibilities of established technology to ensure that they do not 'drift away' from business needs"* (p. 182). Nevo & Wade, (2011) posit that *"when it comes to IT assets, it is not the things you have that count, but how you use them, or more specifically, how you combine them"* (p. 143) yet Dhaliwal et al. (2011) emphasised that the strategic - business - IT alignment is one of the hottest research topics in the field of Management Information.

The acquisition, retention and future development of IBCA© thus becomes essential to firms of all sizes, and its employees but especially to SMEs (Bisson, 2003; Lee & Trim, 2006; Tziralis et al., 2009; Wright, 2011; Zha & Chen, 2009).

The Important of CI Practice to SMEs

Within the extant literature of CI research, the focus is primarily related to large firms, (Burke & Jarratt, 2004; ISOPTT, 2006; Smith et al., 2010; Tarraf & Molz, 2006; Wagner, 2008) yet Xinping et al., (2010) reminded us that the problems faced by larger organisations and their associated decision-makers are exactly the same as those faced by SMEs. The challenge for the latter is even more pronounced as they wrestle with these issues without the benefits of resource and expertise advantages, typically found in larger enterprises. In their study of small knowledge-intensive business service firms, Huggins & Weir (2012) noted that small firms were less likely to register patents, hold intellectual property rights, or own IT based assets such as complex knowledge management intranets. As such, the ability of small firms to engage with CI practices and to leverage that as a source of competitive advantage is a key investment area in the EU. Studies in France (Larivet, 2009; Smith et al., 2010) note the high level of government funded intervention and support which not only provides practical and intellectual assistance to their SME sector but results in a heightened awareness of the commercial benefit of such practice (Smith, 2005). This becomes all the more important when it is realised that *"in most countries, SMEs constitute the main source of employment and are increasingly active participants in the globalized economy"* (Bisson, 2010, p. 24). Yet, the financial crisis which started in 2008 and shows no sign of retreating (Bresson & Bisson, 2011; Evrard Samuel et al., 2011; Krugman & Wells, 2010), only serves to enhance the importance of the SME sector to a country's economic success. It could easily be argued that developing CI awareness within the SME sector of any country, and providing support which will encourage them to attain IBCA© is even more important now than it ever was.

Expert execution of CI requires dedicated software and hardware in order to obtain the right information in response to intelligence needs, the production of accurate analysis and its timely dissemination to the right person to take the right decision (Bisson, 2010; Gordon et al., 2008; Wright, 2011). Therefore, SMEs need to build their Information System (IS) for strategic purpose (Franco et al., 2011a; Garg et al., 2010; Rouibah & Ould-Ali, 2002; Zhang et al., 2010) as opposed to a purely operational purpose (Bhagwat & Sharma, 2007; Litan & Rivlin, 2001). As a consequence, a Strategic Information System (SIS) needs to be built which becomes a vital influence on a firm's success as it shapes strategy and contributes to the

implementation of that strategy (Dhaliwal et al., 2011; Galliers, 1991; 2004; 2006; Ma et al., 2008; Petrini & Pozzebon, 2009; Rishi & Goyal, 2011). Rouibah & Ould-Ali, (2002) also emphasised that *"an SIS, oriented toward external changes helps an organization to remain competitive and proactive"* (p. 137). Wang et al., (2003) state that *"if appropriately deployed and used, information technologies could produce many strategic and operational benefits for organizations"* (p. 2). Whilst most research into the benefits of Information Technology (IT) adoption and its links to the creation of sustainable competitive advantage has been conducted in the developed world and larger enterprises, (Lee et al., 2011; Quan & Hu, 2006; Roztocki & Weistroffer, 2008; 2011; Samoilenko, 2008) others advocate that IT needs to be widely adopted equally by SMEs (Chang et al., 2010; Chuang et al., 2009; Hanna, 2007; Nguyen, 2009; Sultan, 2007). These views are echoed by the authors of research into SME CI practice in Canada (Brouard, 2006; Tannev & Bailetti, 2008; Tarraf & Molz, 2006), in France (Afolabi, 2007; Bisson, 2003; Knauf, 2007; Salles, 2006; Smith et al., 2010) and in Switzerland (Begin et al., 2007). Mazzarol et al., (2009), reported that *"owner-managers from small firms need to be alerted to environmental changes, committed to innovation and willing to change or take action if required"* (p. 338). Lesca et al., (2005) also said that *"in order to become more and more competitive, SMEs and above all SMEs of emergent countries need to capture international and transnational markets*" (p. 1).

The evidence above suggests that the combination of CI methods and technology tools by SMEs is critical, not only for all countries, but especially for a nation such as Turkey which relies so heavily on that sector of its commercial constitution, for fiscal, trade and employment success.

Very few studies have been conducted in emerging countries (Ifan et al., 2004; Zha & Chen, 2009) with only two in the country selected for the study reported here. Taşkin et al., (2004) investigated the technological intelligence capacity in Turkish companies, using a sample of 300 firms but no identification of firm size was evident. Koseoglu et al., (2011) investigated the CI practices of privately held SMEs in the Afyonkarahisar region with a particular focus on the use of internal or external resources. They applied six general hypotheses to the 216 usable surveys obtained from a 1000 random sample. From an unequal data set (71.3% services / 28.7% industrial/manufacturing) comparisons were drawn and it is not surprising that their findings suggested that service sector firms showed more deployment of both internal and external resources than industrial/manufacturing firms. That study did not especially enlighten us into the CI practices of SMEs in Turkey, it simply served to identify our lack of knowledge of how CI practice is conducted in the SME sector in this important emerging market.

Methodology and Methods Adopted

In contrast to the work of Koseoglu et al., (2011) this study was conducted in the heart of the country, Istanbul, and was framed within a well-regarded, empirically tested, proven typology of practice, first developed by Wright et al., (2002). This model has been a platform or inspiration for further work and/or replication studies by authors such as Adidam et al., (2009), April & Bessa, (2006), Bouthillier & Jin, (2005), Dishman & Calof, (2008), Hudson & Smith, (2008), Larivet, (2009), Liu & Wang, (2008), Oerlemans et al., (2005), Santos & Correia, (2010), Smith, (2005), Tryfonas & Thomas, (2006), Whitehurst, (2008), Wright et al., (2008) and Wright et al., (2009a; 2009b). This provides evidence of validation of the measures developed and as such it was deemed to be one which was entirely appropriate to use as the foundation for this work.

The overarching research approach was to identify the views of a community working in a variety of industry sectors, thus a constructivist/transformative approach was adopted, whilst accepting that any data collected could only be a reflection of 'provisional knowledge' as opposed to the discovery of indisputable 'facts'. That said, and with regard to the robustness and grounding in practice of the questionnaire, the results are nevertheless indicative of an SME sector and as such, the study is perfectly capable of being replicated in the SME environment of other countries and used for comparison purposes.

Questions were asked which would reveal a type of behaviour or operational stance along the four

original strands of CI practice: *Attitude*, *Gathering*, *Location* and *Use*. The opportunity was taken to extend that typology to include two further strands: *Technology Support*, identified as the degree of investment made to assist with gathering competitive information and *IT Support Systems*, identified as the type of systems used to manage the flow of competitive information. This enabled greater investigation into the issue of practitioner engagement with strategic information systems which also coincided with the thoughts of Lee (2010) who called for research of this nature to be more relevant to practice and to go beyond the technical aspects of IS development. It was within these boundaries of relevance and practical application that this study was constructed and executed.

The resultant framework and strand descriptors, which were derived from empirical evidence and against which responses were applied, is shown in Table 1. The optimum level of performance, indicative of best practice is identified by the shaded areas of Table 1, i.e. Strategic Attitude (A4), Hunter Gathering (G1), Designated Location (L2), High Technology Support (TS4), Bespoke IT Systems (ITS6) and Strategic User (U4).

Table 1: A Behavioural and Operational Typology of Competitive Intelligence Practice

Attitude

A1	**Immune Attitude**	Too busy thinking about today to worry about tomorrow. Thinks that the firm is either so small, so big or so special that it enjoys immunity from competitors and thus CI is a waste of time. Minimal or no support from either top management or other departments.
A2	**Task-Driven Attitude**	Finding answers to specific questions and extending what the firm knows about its competitors, usually on an ad-hoc basis. Departments more excited about CI than top management who don't see the benefits.
A3	**Operational Attitude**	A process, with the company at its centre, trying to understand, analyse and interpret markets. Top management usually trying to develop a positive attitude towards CI because they can see it might increase profit, and therefore personal bonuses. Unwilling or unable to think about the application of CI for the long term.
A4	**Strategic Attitude**	An integrated procedure, in which competitors are determined as those who are satisfying our customer's needs, current and/or future. Monitoring their moves, anticipating what they will do next and working out response strategies. Receives both top management support, co-operation from other departments and is recognised by all as essential for future success.

Gathering

G1	**Easy Gathering**	Firms which use general publications and/or specific industry periodicals and think these constitute exhaustive information. Unlikely to commit resources to obtain information which may be difficult or costly to obtain. Always looking for an immediate return on investment.
G2	**Hunter Gathering**	Firms knowing that Easy Gathering information is available to all who care to look. Realise that if CI is to have a strategic impact then additional, sustained effort is required. Resources are available which allow researchers to access sources within reasonable cost parameters, back their instinct, follow apparently irrelevant leads, spend time talking, brainstorming and thinking about CI problems without always being pressured for 'the answer'. Firms which appreciate and support intellectual effort.

Location

L1	**Ad-Hoc Location**	No dedicated CI unit. Intelligence activities, where undertaken are on an ad-hoc basis, subsumed into other departments, with intermittent or non-existent sharing policies.
L2	**Designated Location**	Firms with a specific intelligence unit, full time staff, dedicated roles, addressing agreed strategic issues. Staff have easy access to decision makers, status is not a barrier to effective communication.

Technology Support

TS1	**Simple Tech Support**	The company is just using the free web such as a search engine or looking at some web sites which require no specific knowledge. Also use general office software such as spread sheets.
TS2	**Average Tech Support**	Using off the shelf products such as meta-search engines which simply reorganise publicly available information for own use. Company might use web sites requiring specific knowledge (e.g. Espacenet) and pay to use specialised websites and databases (e.g. patent and finance).

TS3	**Advanced Tech Support**	This information system holds vital and high level information as well as operational and tactical material. Is fully integrated across the business and continually evolves to meet the firm's requirements. Content analysis (e.g. statistical analysis) provided.
TS4	**High Tech Support**	In addition to advanced tools, firms use 'clever' algorithms aimed at understanding automatically the competitive information collected. These algorithms are based on semantics.

IT Systems

ITS1	**Dismissive IT Systems**	Does not use any IT system to manage competitive information which may occur as the result of a considered decision not to engage with IT systems for this purpose or may be out of ignorance of the potential which engagement might deliver. Think that competitive information is in their minds and that they rely on their memories.
ITS2	**Sceptic IT Systems**	Has a system to manage competitive information but prefers to use paper based records. The firm declares that it does not trust IT systems sufficiently, is concerned about the safety of information and is wary of their reliability. May be the result of a bad experience or ignorance of what is available to satisfy such concerns.
ITS3	**Standardised IT Systems**	Uses a standard off-the shelf system, usually purchased from a software vendor and installed on computers located within an organisation. No customisation or developmental work is considered worthwhile, either on the grounds of cost or lack of expertise in-house to be able to specify what the firm needs.
ITS4	**Hosted IT Systems**	A standard system is used, but it is not managed by the company itself (e.g. pay per view system). The responsibility for managing it lies elsewhere, with the host, rather than the firm itself. The whole process is expertly overseen and protected as well as backed-up automatically to a distant secure location.
ITS5	**Tailored IT Systems**	An off-the-shelf system or hosted solution is tailored according to an organisation's needs regarding its competitive information. Considerable intellectual effort is put into developing this over time as expertise increases and requirements change.
ITS6	**Bespoke IT Systems**	Unique to the firm system which has been designed in-house, aimed at collecting, analysing and disseminating competitive information in real time. The system is inimitable, being designed to meet the specific needs of specific decision-makers. Funds are made available for adaptations, updates and upgrades over time. The system's central role in delivering competitive information is recognised.

Use

U1	**Joneses User**	Firms tend to engage in the use of CI output, only because it is what everybody else seems to be doing and they think they should do the same. They try to obtain answers to disparate questions but no organisational learning is taking place rom one project to the next. Has commissioned a CI report from a consultant because that is what everybody else has done. The expenditure will have little beneficial effect as the firm will be ill-equipped to either understand or act on its findings due to unfamiliarity with the terminology. The firm will have no organised process for CI, will use any output for short-term decisions only and will regard monitoring technology standard changes as their primary reason for adopting CI practice.
U2	**Knee Jerk User**	Firms which obtain some CI data, fail to assess its quality or impact, yet act immediately. Can often lead to wasted and inappropriate effort, sometimes with damaging results. Such firms are most vulnerable to planted mis-information by more CI aware competitors
U3	**Tactical**	Concentrate their CI efforts to inform tactical measures such as price changes, promotional effort. Some firms can successfully argue that CI loses

	User	its impact and timeliness if it gets stuck at the strategic level but are, nevertheless, acutely aware of its potential value to the business. Willing to act on CI output and will carefully examine short term moves by competitors as well as their business plans to understand the potential effect on their own firm.
U4	**Strategic User**	CI is used to identify opportunities/threats in the industry and to aid effective strategic decision making. All levels of staff, management and operational, are aware of Critical Success Factors (CSFs) and their attendant CI requirements. Continuous, legal measures used to track competitors, simulate their strengths and weaknesses, build scenarios, and plan effective counter attacks. The entire focus is on the achievement of sustainable competitive advantage, assessing competitor M&A plans and predicting their long term behaviour. CI data is systematically applied to 'what-if?' discussions whilst contingency planning and counter intelligence is a part of normal strategic thinking. Action plans are implemented and mistakes are seized upon as learning, rather than blaming, opportunities. Open and facilitative management culture exists which epitomises trust and encourages involvement by all, regardless of position in the firm.

To ensure compatibility of analysis, the questionnaire used by Wright et al., (2002) was adapted and each of the strands were transformed into diagnostic questions which could then be translated into a typology verdict for that individual firm. Set apart from the main category questions, a self-declared position statement was offered which was used to either confirm or contradict answers given within each category. This served as a clarification mechanism which revealed any inconsistency in a typology verdict based on the allocations of answers to individual questions and the self-declared position statement.

General questions were asked which allowed the responses to be classified according to turnover, sector, employee numbers, main markets and export activity. Before execution the questionnaire was translated, back-translated, piloted and any issues of clarity or potential for misunderstanding were addressed. Identifying target firms to receive the research instrument was accomplished with the assistance of the Istanbul Sanayi Odasi (Istanbul Chamber of Industry) which provided a membership list. This was cleaned to deal with duplicate data and to eliminate firms which were outside the EU definition (EU Commission Recommendation, 2003) of an SME in terms of turnover (< €50 million) and/or number of employees (< 250). A self-selecting sample of 371 firms indicated a willingness to take part in the survey and the link to the on-line questionnaire was sent to those firms. Only 28 recipients of the invitation subsequently declined to respond. A total of 22 responses were deleted as their answers to the firm classification questions revealed that they too fell outside the scope of the EU's definition of an SME. A further seven responses were identified as being from firms which had identified themselves as the local branch of a global company. These firms, although small in number, were considered to be less independent than a typical SME, would not behave in a comparable fashion and would potentially be acting under the direction of a much larger, potentially more resourceful entity. For these reasons, their responses were removed from the data set which resulted in a total of 314 returns being recorded, representing a response rate of 84.6%. The target group represented 55% of Turkey's trade, 45% of the country's wholesale trade and generated 21.2% of Turkey's gross national product (Istanbul Metropolitan Municipality, 2009).

Sample Profile

The results presented here are a sub-set of the larger survey referred to above but in accordance with this Journal's readership, the responses and analysis are derived only from the 144 firms which not only addressed all elements of the questionnaire but were able to indicate a response to the technological support, and IT support systems sections, as they related to their CI practice. Being an exploratory study this was considered to be an acceptable number of responses to conduct the analysis, albeit a self-selecting, convenience sample. The number of responses analysed by variable are given in Table 2.

Table 2. Sample Profile

Turnover	
< €2 Million	65
< €10 Million	60
< €50 Million	19
Number of Employees	
< 10	23
< 50	72
< 250	49
International Contribution to T/O	
< 10%	43
< 25%	19
< 50%	22
< 75%	9
> 75%	16
Don't Know	35
Local vs Global Markets	
Local	49
Local and Global	80
Global	15

Analytical Approach

The major objective was to demonstrate how the derived empirical evidence could be applied to the diagnostic typological framework which could then be used as a hierarchical framework of current and potential positioning for individual firms. It is anticipated that this could then be used to guide firms wishing to engage in best practice behaviours and improve their potential to move across the typology strands. This could also provide a

benchmark for other emerging countries which have a predominance of SMEs in their economy. The two major sector groupings were manufacturing with 86 returns and services with 58 returns which provided an initial over-arching sector allocation along each typology strand. Subsequent analysis treated the 144 returns as being a representation of the Turkish SME sector.

Results and Discussion

In order to determine the existence, or otherwise, of relationships between the five known variables: sector, turnover, number of employees, international contribution to turnover and dependence on local vs global markets, cross-tab analysis was undertaken. It was important not to lose any richness of the data and opinions given as these were considered to be highly valuable. As such, the deployment of statistical measures which could potentially, over-simplify matters was considered detrimental to the analysis process. To confirm this as a true situation, a Pearson Chi-Square (Placket, 1983) test was run on all elements of the data reported below and in all cases, it was obvious that any attempt to assign statistical significance to the data would be inappropriate as the Pearson (p) did not reveal the required result of being less than 0.05. This does not mean that the results have no value. They are revealing in themselves and lead to appropriate conclusions for a study of this nature. The behavioural and attitude descriptors which formed the foundation for all questions asked are shown below, by typology strand, along with the responses gained and a discussion of the implication of those results.

Attitude

The responses to this batch of questions were allocated to four major categories of competitive intelligence attitudes, A1 (Immune), A2 (Task-Drive), A3 (Operational) and A4 (Strategic). The results and analysis by variable for this strand of the typology are shown in Table 3.

Table 3. Attitude towards Competitive Intelligence Practice

	Count				***% (rounded)***			
Sector	**A1**	**A2**	**A3**	**A4**	**A1**	**A2**	**A3**	**A4**
Manufacturing	11	58	8	9	13	67	9	11
Services	9	34	11	4	15	59	19	7
Turnover	**A1**	**A2**	**A3**	**A4**	**A1**	**A2**	**A3**	**A4**
< €2 Million	9	46	6	4	14	71	9	6
< €10 Million	9	36	9	6	15	60	15	10
< €50 Million	2	10	4	3	10	53	21	16
Number of Employees	**A1**	**A2**	**A3**	**A4**	**A1**	**A2**	**A3**	**A4**
< 10	3	13	4	3	13	57	17	13
< 50	8	49	8	7	11	68	11	10
< 250	9	30	7	3	19	61	14	6
Int. Contribution to T/O	**A1**	**A2**	**A3**	**A4**	**A1**	**A2**	**A3**	**A4**
< 10%	5	29	5	4	12	67	12	9
< 25%	5	10	2	2	25	53	11	11
< 50%	4	12	3	3	18	54	14	14
< 75%	2	6	1	0	22	67	11	0
> 75%	1	12	1	2	6	75	6	13
Don't know	3	23	7	2	9	65	20	6
Local vs Global Markets	**A1**	**A2**	**A3**	**A4**	**A1**	**A2**	**A3**	**A4**
Local	3	36	7	3	6	74	14	6
Local and Global	15	46	11	8	19	57	14	10
Global	2	10	1	2	13	67	7	13

As the prime mover for CI effectiveness, a firm's attitude towards such activity will colour its approach to all subsequent actions. A Task-Drive (A2) attitude dominated significantly across all the variables with the manufacturing sector being only slightly more competent than the services sector. Overall though, the trend is clear. Only 11% of firms in total demonstrated the best practice Strategic Attitude (A4) which is also linked to the small increase in A4 attitude, from firms with a larger turnover. This may well be explained as increased turnover being a direct cause, with the link towards greater strategic awareness and more advanced CI being practiced being an effect. It should be noted that this decomposition of the data gives the highest A3 value (25%), indicating that turnover is a major factor in differentiating between attitudes. That said, when asked the over-arching question of how they would describe their firm's approach to CI, a greater swing towards A1 became evident with 48% saying that they were either too busy to think about it or that it was a waste of time. More in line with the data, 38% said that they tried to find answers to specific questions on a one-off basis (A2) and 14% said that they tried to understand, analyse and interpret markets on a short term basis. No firm agreed with the statement that they had an integrated competitive information process where they monitored competitors, anticipated their moves and planned their reaction strategy (A4).

It might be reasonable to assume that an increasingly mature attitude would be observed as a function of company size, as measured by the number of employees but this is not the case. In fact the frequency of higher order attitudes decreases as the number of employees increases.

The highest percentage figure exhibiting A2 behaviour was in the >75% of international contribution to turnover category. Whilst accepting that the count had an influence here, the inference can be drawn that as firms achieve greater global exposure, there is a concurrent increase in the need for the adoption of a more positive attitude towards CI practice. The evidence suggests the verdict of a *Task-Driven Attitude (A2).*

Gathering

The responses to this batch of questions were allocated to two major categories of competitive intelligence gathering practice, G1 (Easy Gatherers) and G2 (Hunter Gatherers). The results and analysis by variable for this strand of the typology are shown in Table 4.

Table 4. Gathering Behaviour

	Count		***% (rounded)***	
Sector	**G1**	**G2**	**G1**	**G2**
Manufacturing	51	35	59	41
Services	30	28	52	48
Turnover	**G1**	**G2**	**G1**	**G2**
< €2 Million	33	32	51	49
< €10 Million	35	25	58	41
< €50 Million	13	6	68	32
Number of Employees	**G1**	**G2**	**G1**	**G2**
< 10	14	9	61	39
< 50	36	36	50	50
< 250	31	18	63	37
Int. Contribution to T/O	**G1**	**G2**	**G1**	**G2**
< 10%	20	23	47	53
< 25%	10	9	53	47
< 50%	13	9	59	41
< 75%	8	1	89	11

> 75%	10	6	63	37
Don't know	20	15	57	43
Local vs Global Markets	**G1**	**G2**	**G1**	**G2**
Local	23	26	47	53
Local and Global	48	32	60	40
Global	10	5	67	33

Easy gatherers (G1) characteristics were demonstrated by the majority in all categories of analysis except just two. Easy gatherers typically use general publications and/or specific industry periodicals as their main, or only, source of competitive information, tending to rely on passive and simple, environmental scanning frameworks. They mistakenly believe that these constitute an exhaustive information search and eschew the opportunity to operate at anything more than a base level of data collection.

The two exceptions were the 23 firms which declared that <10% of their turnover came from an international contribution, which very closely matched the response of 26 firms which declared their market to be entirely local. These are also likely to be the firms with <50 employees. These firms, somewhat surprisingly, given the local nature of their business, were displaying what is considered to be the ideal, best practice, Hunter Gatherer (G2) characteristics which means they understand that G1 information is available to all who care to look. They also realise that if CI is to have a strategic impact on their activities, sustained effort, beyond the basic level is required. In G2 firms, resources are available which allow researchers to access sources within reasonable cost parameters, back their instinct, follow apparently irrelevant leads, spend time talking, brainstorming and thinking about CI problems without always being pressured for 'the answer'. G2 firms appreciate and support the intellectual effort required to make CI succeed. They focus their information gathering efforts on competitors, customers, suppliers, patents and scientific articles (if relevant). They also consult with, and commission reports from, industry and sector experts, conduct competitor research internally, welcome both written and verbal evidence from verified sources.

The manufacturing sector was roughly 60/40 in favour of G1, with services being slightly less dominant towards G1. Somewhat worryingly, the trend towards G1 dominance is more notable as the turnover of the firm increases. One would expect for this to be the opposite in that as firms increase in size, their requirement to be more competitive increases concurrently. It is precisely at these stages in transition from micro to small and from small to medium, that greater effort in CI practice should be encouraged. It is possible to hypothesise that the larger firms are more likely to exhibit market follower characteristics as described by Wunker, (2012), rather than first-mover or innovator behaviour (Cleff & Rennings, 2012; Guimaraes, 2011). This may be due to their product range which exhibits commodity characteristics and are simply following the general direction of travel of a market. As such, they believe all they need to do is to monitor competitor offerings and read secondary data driven market reports. Turkish SMEs are also ignoring the contribution which their own employees can make to their competitiveness. When asked how much competitive information their organization obtained from its own employees, a staggering 83% said that they either did not know, that none was obtained, or only a low or moderate amount was obtained (G1). Just 17% declared that they garnered a high amount of competitive information from their employees, thus exhibiting Hunter Gatherer behaviour.

When asked to state their firm's position regarding training and preparing their employees about what information they should look for before they go to trade shows, exhibitions, conventions and other public events the results were more even. 55% stated that they did this 'often' or 'always', with 45% stating they either 'never', only 'occasionally' or did not know whether the firm engaged in this activity. Whilst this shows a tendency towards G2 behaviour, it should also be recognised that this type of activity still relies on the more general aspects of information gathering, albeit it relatively cheap and quick to obtain.

A similar picture was revealed when asked whether they briefed their employees on what they should not talk about to competing firms. 31% said they either 'did not know', 'never' or 'occasionally' took this precaution to protect their sensitive information (G1) whilst 69% stated that they either did this 'often' or 'always' (G2).

In attempting to reconcile these findings, it is quite likely that whilst the individual questions produced accurate answers as to where information was gathered, once asked to indicate a level of agreement with an overarching statement, a degree of wishful thinking may have entered the minds of the respondents. Without the ability to seek proof of prior training and preparation of employees when attending events, the answers were perhaps a greater reflection of a desired rather than a current state. The results however, show that the firms in this sample lean significantly towards the actions of an *Easy Gatherer (G1)*.

Location

The responses to this batch of questions were allocated to two major categories which identified where the firm's CI activity was centred: L1 (Ad-Hoc Location) and L2 (Designated Location). The results and analysis by variable for this strand of the typology are shown in Table 5.

Table 5. Location of CI Activity

	Count		***% (rounded)***	
Sector	**L1**	**L2**	**L1**	**L2**
Manufacturing	79	7	92	8
Services	53	5	91	9
Turnover	**L1**	**L2**	**L1**	**L2**
< €2 Million	59	6	91	9
< €10 Million	57	3	95	5
< €50 Million	16	3	84	16
Number of Employees	**L1**	**L2**	**L1**	**L2**
< 10	20	3	87	13
< 50	67	5	93	7
< 250	45	4	92	8
Int. Contribution to T/O	**L1**	**L2**	**L1**	**L2**
< 10%	39	4	91	9
< 25%	18	1	95	5
< 50%	20	2	91	9
< 75%	9	0	100	0
> 75%	15	1	94	6
Don't know	31	4	89	11
Local vs Global Markets	**L1**	**L2**	**L1**	**L2**
Local	43	6	88	12
Local and Global	76	4	95	5
Global	13	2	87	13

The results from this strand were overwhelmingly in favour of an *Ad-Hoc Location (L1)* which is not surprising given the Task-Driven Attitudes and Easy Gathering verdicts of prior sections. Without a designated location for CI practice, it is unlikely that the mind-set will develop, or that the benefits be identified.

Technology Support

The responses to this batch of questions were allocated to four major categories which identified the level of technology support deployed by the firm in pursuit of CI practice. These were: TS1 (Simple Technology Support), TS2 (Average Technology Support), TS3 (Advanced Technology Support) and TS4 (High Technology Support). The results and analysis by variable for this strand of the typology are shown in Table 6.

Table 6. Level of Technology Support Deployed in CI Practice

	Count				***% (rounded)***			
Sector	**TS1**	**TS2**	**TS3**	**TS4**	**TS1**	**TS2**	**TS3**	**TS4**
Manufacturing	82	2	2	0	96	2	2	0
Services	55	1	2	0	95	2	3	0
Turnover	**TS1**	**TS2**	**TS3**	**TS4**	**TS1**	**TS2**	**TS3**	**TS4**
< €2 Million	63	1	1	0	98	1	1	0
< €10 Million	56	2	2	0	94	3	3	0
< €50 Million	18	0	1	0	95	0	5	0
Number of Employees	**TS1**	**TS2**	**TS3**	**TS4**	**TS1**	**TS2**	**TS3**	**TS4**
< 10	22	1	0	0	96	4	0	0
< 50	70	1	1	0	98	1	1	0
< 250	45	1	3	0	92	2	6	0
Int. Contribution to T/O	**TS1**	**TS2**	**TS3**	**TS4**	**TS1**	**TS2**	**TS3**	**TS4**
< 10%	39	2	2	0	90	5	5	0
< 25%	18	0	1	0	95	0	5	0
< 50%	21	0	1	0	96	0	4	0
< 75%	9	0	0	0	100	0	0	0
> 75%	16	0	0	0	100	0	0	0
Don't know	34	1	0	0	97	3	0	0
Local vs Global Markets	**TS1**	**TS2**	**TS3**	**TS4**	**TS1**	**TS2**	**TS3**	**TS4**
Local	46	0	3	0	94	0	6	0
Local and Global	76	3	1	0	95	4	1	0
Global	15	0	0	0	100	0	0	0

The somewhat worrying result from this data is the dominance of TS1 characteristics, in one case, 100% and very close to that figure in every other variable. There is a smattering of TS2 and TS3 returns but these are insignificant in number. What is significant is the total absence of any TS4 classifications which suggest either complete ignorance of the availability of such systems, a conscious decision not to adopt such a system on cost or lack of expertise grounds, or a wilful disregard for the benefits for such systems.

In addressing the over-arching approach control questions, 88% of respondents said that they used common, freely available tools for web searching (TS1), just 5% used full versions of meta-search engines and specialist databases (TS2), 6% used software which permitted the collection, analysis and dissemination automatically (TS3) with just 1% saying they used software support based on semantics. This latter response is contrary to the data derived from earlier questions which sought answers to direct questions. As such, we believe those answers are more likely to be an accurate reflection of reality than the wishful thinking which may have been evident by the 1% reading for TS4 in the control questions. The results from

this strand is overwhelmingly in favour of an *Simple Technology Support (TS1).*

IT Systems

The responses to this batch of questions were allocated to six major categories which identified the level of IT Systems deployed in Pursuit of CI practice. They were: Dismissive IT System (ITS1), Sceptic IT System (ITS2), Standardised IT System (ITS3), Hosted IT System (ITS4), Tailored IT System (ITS5) and Bespoke IT System (ITS6). The results and analysis by variable for this strand of the typology are shown in Table 7.

Table 7. IT Systems Deployment in Pursuit of CI Practice

	Count						% (rounded)					
Sector	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**
Manufacturing	57	5	5	1	0	18	66	6	6	1	0	21
Services	34	2	2	2	0	18	60	3	3	3	0	31
Turnover	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**
< €2 Million	43	2	3	1	0	16	66	3	5	2	0	25
< €10 Million	38	3	3	2	0	14	64	5	5	3	0	23
< €50 Million	10	2	1	0	0	6	53	10	5	0	0	32
Number of Employees	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**
< 10	16	0	1	1	0	5	70	0	4	4	0	22
< 50	48	2	3	1	0	18	67	3	4	2	0	25
< 250	27	5	3	1	0	13	55	10	6	2	0	27
Int. Contribution to T/O	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**
< 10%	28	3	1	1	0	10	66	7	2	2	0	23
< 25%	10	2	1	1	0	5	53	11	5	5	0	26
< 50%	14	2	1	0	0	5	64	9	4	0	0	23
< 75%	5	0	0	0	0	4	56	0	0	0	0	44
> 75%	11	0	2	0	0	3	69	0	12	0	0	19
Don't know	23	0	2	1	0	9	66	0	5	3	0	26
Local vs Global Markets	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**	**ITS1**	**ITS2**	**ITS3**	**ITS4**	**ITS5**	**ITS6**
Local	34	2	1	0	0	12	69	4	2	0	0	25
Local and Global	49	4	3	2	0	22	61	5	4	2	0	28
Global	8	1	3	1	0	2	53	7	20	7	0	13

The first thing to notice in this data set is the relatively small percentage figures for ITS2, ITS3 and ITS4 with a complete absence of any ITS5 responses. The results for both manufacturing and services are polarised between ITS1 and ITS6, as are the combined results by turnover, number of employees and by international contribution to turnover. There is an increase in the number of firms with both a local and global market, adopting an ITS6 strategy but it is hardly significant. A small number of global market firms report an ITS3 approach but again, the low count does not provide significance. Answers to the over-arching control questions do not necessarily support the high figures for ITS6 but do give credence to the returns for ITS1.

A total of 63% stated that they did not use any IT systems to manage competitive information and they relied on memories and the good will of staff to share what they learned (ITS1), 5% stated that they didn't really trust computers and that they preferred to stick with traditional methods by using paper records (ITS2), 5% had bought a standardised system which they felt suited their needs.

Just 2% said that they had purchased a standardised system, hosted by a third party vendor for which they paid a fee (ITS4), no firm stated that they had installed a tailored system for exclusive use, hosted by a third party vendor (ITS5), with 25% declaring that they had designed their own system in-house, to suit their own unique needs.

The results from this strand, whilst showing good response for Bespoke IT Systems (ITS), the derived data, supported by answers to the control questions, shows a significant leaning towards firms opting, either by a conscious decision not to engage, ignorance or lack of expertise, for a *Dismissive IT System (ITS1)*.

User

The responses to this batch of questions were allocated to four major categories of competitive intelligence user profiles, U1 (Joneses), U2 (Knee-Jerk), U3 (Tactical) and U4 (Strategic). The results and analysis by variable for this strand of the typology are shown in Table 8.

Table 8. User Category on How CI Output is Deployed

	Count				***% (rounded)***			
Sector	**U1**	**U2**	**U3**	**U4**	**U1**	**U2**	**U3**	**U4**
Manufacturing	17	18	21	30	20	21	24	35
Services	12	13	15	18	21	22	26	31
Turnover	**U1**	**U2**	**U3**	**U4**	**U1**	**U2**	**U3**	**U4**
< €2 Million	14	14	18	19	21	21	29	29
< €10 Million	12	14	14	20	20	23	23	34
< €50 Million	3	3	4	9	16	16	21	47
Number of Employees	**U1**	**U2**	**U3**	**U4**	**U1**	**U2**	**U3**	**U4**
< 10	4	8	5	6	17	35	22	26
< 50	17	12	19	24	24	17	26	33
< 250	8	11	12	18	16	22	25	37
Int. Contribution to T/O	**U1**	**U2**	**U3**	**U4**	**U1**	**U2**	**U3**	**U4**
< 10%	6	10	12	15	14	23	28	35
< 25%	4	2	7	6	21	10	37	32
< 50%	3	4	5	10	14	18	23	45
< 75%	2	3	1	3	23	33	11	33
> 75%	4	4	5	3	25	25	31	19
Don't know	10	8	6	11	29	23	17	31
Local vs Global Markets	**U1**	**U2**	**U3**	**U4**	**U1**	**U2**	**U3**	**U4**
Local	8	13	12	16	16	26	25	33
Local and Global	18	15	19	28	22	19	24	35
Global	3	3	5	4	20	20	33	27

On examining the data it is hard to reconcile the U4 descriptor with the number of firms which have declared this to be their modus operandi: 35% manufacturing and 31% services. Given the relatively immature and unsophisticated verdict of Easy Gathering (G1), Task-Driven Attitude (A2), Ad-Hoc Location (L1), Simple Technology Support (TS1) and a Dismissive IT System (ITS1), it is quite difficult to understand how this could translate into a Strategic User (U4) category. What is evident though, is that if this is indeed a true reflection of what the firms think they are doing, they are clearly carrying out this task with inadequate, incomplete and largely publicly available, secondary data, within an overarching day-to-day problem solving attitude. Even 29% firms falling within the < €2 Million turnover category believe that they are using CI output at the strategic level although there is an equal figure given for the more likely allocation of Tactical User. The increase in the prevalence of U4 as a function of turnover is of particular interest, especially when viewed with the decline in U1 and U2. From this, it could be inferred that companies exhibit more U4 and less U2 or U3 characteristics as their turnover increases.

As the number of employees increases, U2 also decreases but this is matched by an increase in U4.

The micro firms with <10 employees are firmly rooted in the U2 category.

The over-arching, control question revealed a more balanced state of affairs with 24% stating that they used competitive information but didn't seem to retain any knowledge from that for the next time (U1), just 6% agreeing that they have acted on data obtained too quickly in the past which has not always worked out for the best (U2), 44% stating that they used competitive information primarily for price change and promotional decisions (U3) and 26% who thought they were operating at the highest level by using competitive information to help build scenarios and answer "what if" type questions (U4).

In assessing behaviour related to contribution of international trade to turnover, and the firms view of their market, this is a confused result which is potentially an illustration of random selection having been made in answering these questions. This further reinforces the suspicion of mis-guided confidence, or a degree of wishful thinking by respondents in trying to reconcile reality. The answers given to prior sections discussed here would seem to fit that hypothesis. For the purposes of this discussion however, the evidence would seem to suggest a relatively equal split between *Tactical (U3) and Strategic Users (U4)*. This comes with a health warning though, as it is essential to pay heed to the findings of other categories. This would suggest that the returns for this section should be regarded as delusional at worst, or 'wishful thinking' at best.

Barriers to Effective CI Practice, IS and IT Adoption

This section was left open for respondents to reveal their true feelings. No pre-set options were offered but by employing the capabilities of the well-respected qualitative analysis software, NVivo, four main themes emerged.

The most commonly cited reasons for poor engagement with CI and IT adoption was *outdated, misleading, hard to find data*. Some respondents lamented the lack of information on company websites, not knowing where to look for information, insufficient externally produced sector reports, not being able to distinguish between quality and useless information. This epitomises a weak approach which focuses on secondary data only and makes no attempt to create or identify unique information from its own knowledge base. Given the overwhelming prominence of easy gathering (G1) practices identified within this sample, it is not surprising that their perception of quality is skewed.

The second largest category was *inadequate financial resources*. This confirms the task driven attitude (A1), simple technology support (TS1) and dismissive IT system (ITS1) verdicts presented earlier. No organisational learning is happening within these firms and they lurch from one crisis to another, re-inventing the wheel and eschewing the development of an in-house capability. For SMEs this needs not be an all-singing, all-dancing dedicated CI unit or a bespoke IT system, rather the nurturing of a volunteer employee who wish to take on the task of developing CI practice from the ground up. This is how CI develops in most firms, large or small, but particular in SMEs facing budget and resource constraints (Huggins & Weir, 2012). To sit back and continually complain that there are insufficient funds to even think about CI is a convenient excuse, rather than a valid reason for inaction. The question which owner managers must address is not *"what will it cost the business now if we engage with CI and technology support?"*, but *"what might the cost be for the future of the business if we do not?"*. This tends to focus the mind somewhat.

The third major grouping was *insufficient expertise in CI/poor quality staff*. These are all problems which can easily be solved by recruiting the right type of staff who are willing to engage with the firm's long-term goals and also have an interest in developing intelligence-based competitive advantage for the firm. It is easy to think of this sample as being predominantly from the micro segment. A review of Table 2 however, shows that the majority fall into the small and medium categories, producing between €10 and €50 million turnover, employing between 10 and 250 staff, deriving a significant percentage of their turnover from international activities and carrying out their business in either local and global or purely global markets. These are not one or two person hairdressing salons or sandwich bars. They are fully fledged, commercial entities, operating in

seriously competitive sectors such as construction, energy, consumer goods, healthcare, high technology, manufacturing, information technology, packaging, textiles, marine, chemical processing, publishing industry, electronics and veterinary pharmacy. To cite lack of experience and poor quality of staff would again, seem to be an excuse for inaction rather than a genuine reason for non-engagement. Insufficient expertise in CI or the lack of understanding of how IT and IS can support CI practice is purely a knowledge gap within the current set-up of a firm. It can be solved by either a training programme for a wiling employee or the hiring of one who already has that skill set.

The final, and perhaps most revealing category of perceived barriers cited was *managerial ignorance of CI and narrow-mindedness*. Respondents complained that CI was not seen as a systematic need, data was not consolidated or shared, there was poor communication or simple laziness on the part of owner-managers. These are more deep rooted issues of managerial style and culture which cannot be solved quite so easily. It is perhaps indicative of the commonly seen symptom of owner/manager ego-centrism (Waylyshyn, 2012; White et al., 2012), bordering on arrogance, of immunity from anything which will derail the firm. It is precisely this type of firm which would benefit the most from the systematic adoption of CI practice and some, not necessarily high level, investment in IT and IS support to secure a less haphazard approach to business. That said, if the attitude is so entrenched, it is perhaps impossible to alter without a sea-change of personnel at the top of the firm. What can be confidently predicted is that those within the firm who have identified the need for CI, IT and IS adoption but have yet to see any hint of implementation, will move on and take their interest and skills elsewhere, most likely to a competitor.

Conclusions

The overwhelming conclusion which can be drawn from this sample of Turkish SMEs is that they are not innovators, they are, at best, followers. No investment is being made into future competitiveness with the focus being a reliance on the memory of a few people with no attention being paid to how that knowledge is retained by the firm. An active approach to CI, IS and IT seeks to secure that intangible asset of knowledge for future use. This helps to protect the firm against the consequences of a particularly knowledgeable individual leaving or retiring, or worse, a team of skilled specialists taking their expertise to a known competitor or a new entrant. At some point, firms which rely solely on memory and people for competitive advantage rather than processes and procedures will realise that without the latter, the former can, and probably will, walk out of the door and most likely join the staff of a competitor. Succession planning is not about who will have who's office when they retire, it is about ensuring that knowledge obtained by the firm, stays in the firm, for all time.

The task-driven attitude means that these firms are only concerned about short term results and output. They are not pro-active, have little idea what is going on around them and are far from future driven. Little evidence exists which would suggest there is any realisation of the need to invest in physical, human or technological resources to inform or increase competitive behaviour. This is difficult to reconcile given the current and increasingly worsening, turbulent nature of western economies. This is precisely the time when firms should be making such investments in order to prepare for the future. It can be summed up by one of the comments in the free text section of the survey which recorded *"all the answers given above are for the period before the [economic] crisis. Now we, including all the competitors, are in a huge mess"*. This is what happens with a dismissive, immune, laissez-faire attitude and no real intent to stay competitive.

Each of these strands are connected. If improvements can be implemented in one, there will be improvements in another. A change in attitude leads to better gathering, better gathering leads to a known location and better co-ordination. Better co-ordination informs the specification and needs from technology support which in turn enables the most appropriate IT systems to be deployed in pursuit of CI excellence. This leads to better and more appropriate use of derived information by the firm in its decision-making process. It also identifies knowledge gaps which in turn drives intelligence needs analyses and prevents the firm from using analytical tools incorrectly.

Finally, with all of the above in place, the firm can benefit from a stronger and more skilled use of the intelligence it obtains which leads directly to the attainment of the most desirable feature any firm could wish to hold exclusively, that of Intelligence-Based Competitive Advantage (IBCA©).

The role of national SME business support networks are ideally placed to kick-start such a programme , not only in Turkey but elsewhere across Europe. The highly regarded Chamber of Commerce & Industry programmes of accelerating CI proficiency among their SME community in France (Smith et al., 2012) as well as similar programmes in Belgium (Larivet & Brouard, 2012) and Portugal (Franco et al., (2011) are exemplars which could usefully be imported to Turkey. Ultimately, the onus rests with the owner/managers of smaller firms, or the executive teams of the larger firms to address any organisational, attitudinal and managerial style issues which are preventing their firms from capitalising from this type of activity, one which is increasingly more commonplace in their larger, domestic and overseas competitors (Guimaraes, 2011; Kaya & Patton, 2011; Nair & Selover, 2012; Tsai et al, (2011).

Further Work

As a small scale exploratory study, this work satisfies the requirements of such an approach. Whilst some statistical tests were performed on this data, it very soon became clear that these would be provide further illumination beyond the descriptive statistics which are presented in this paper. Where there was any correlation it proved to be statistically insignificant and as such, discarded. That said, there is always the scope for a larger, more substantial study to be undertaken which would perhaps enable the greater use of statistical methods which might reveal greater correlation between variables than has been possible here. This might be required were there any likelihood of public funds being spent on accelerating the CI proficiency of any SME community but more importantly, any country embarking on this for the first time

That said, the evidence presented here has the potential to be regarded as base-line data for industry wide or sector specific comparative studies. The progressive nature of the typology framework would also lend itself very well to a longitudinal study which would identify at which point, and as a consequence of precisely which characteristics of attitude and behavioural changes, that an SME progresses, or regresses, from one category to another.

It is hoped that this study might inform the design of future, preferably larger-scale studies, and provide guidance for European support agencies when attempting to derive best value for money for their efforts and to identify the potential, beneficial impact for those firms receiving their services.

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