

**KNOWLEDGE LEAKAGE IN THE CONTEXT OF STAFF OUTFLOW
– THE CASE OF SMALL HOTELS IN SOUTHERN POLAND**

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ABSTRACT

Paper explores the phenomenon of knowledge leakage in small family owned hotel business units. Empirical research was carried out in 2014 on a sample consisting of 53 family own hotels operating in Malopolska region of Poland. The findings from this study indicate that knowledge protection initiatives are not absent in small family owned hotels. Examined small family owned hotels have a relative awareness of the problem of knowledge leakage and knowledge implications of staff outflow. Obtained results confirm that those small firms are more engaged in knowledge protection activity when experiencing higher levels of staff outflow. Most commonly used mechanisms belong to operational and supporting technology areas of knowledge protection. Research findings confirm that examined hotels address the problem of high staff outflow with a more intensive use of mechanisms across all defined areas of knowledge protection. Paper contributes substantially to research advancement in the field of knowledge management in tourism industry by providing primary data concerning knowledge leakage routes together with deployment of knowledge protection measures by hotel business units.

Keywords – knowledge, knowledge leakage, tourism, hotels, Poland, employee turnover

INTRODUCTION

The problem of transferring knowledge embodied in people and embedded in systems of an organisation (Horvath, 2000; Gamble & Blackwell, 2001) has received a substantial scholarly attention. Regardless of the extant literature on knowledge exchange and dissemination, management scholarship only to a limited extent address the critical issue of knowledge leakage (Mohamed et al., 2006; Parker, 2012). Authors tend to focus on raw data and information loss through failures of information systems applications, while scarcely explore the risk of losing highly processed and contextualized knowledge assets through various social and relational interfaces. There is an apparent paucity of scholarly works referred to knowledge leakage.

Given that both knowledge loss and gain are more likely to occur when knowledge is articulated and conveyed, knowledge leakage is considered for the most part in the context of movement of people within organizational structures or beyond firm's boundaries. Thus, the dynamic and competitive hotel industry appears particularly appropriate for studying the issue of knowledge loss due to its labor intensity and high staff turnover. According to studies employee turnover rate in hospitality industry range between 60% and 300% (Yang, Wan & Fu, 2012). Scholars highlight the inevitable, hardly predictable and to large extent voluntary character of employee turnover, hence this phenomenon is widely recognized as an inherent feature of hotel business (Milman 2003; Chalkiti & Sigala, 2010; Ladkin, 2011; Marcouiller & Xia 2008; Decelle 2006; Baum 2007). Nevertheless, despite the fact that labour turnover in the hotel industry has been a subject of extensive studies (e.g. Deery & Jago, 2002; Davidson, Timo & Wang, 2009; Guilding, Lamminmaki & McManus, 2014) the resulting state of art offers negligible insights with respect to the risk of knowledge loss and knowledge protection practices in hotel industry (Hjalager, 2010). The study of the literature on knowledge

management in tourism reveals a strong imbalance in presented discussions that has privileged the problem of knowledge acquisition (Kopera, Najda-Janoszka & Wszendybyl-Skulska, 2014) at the expense of its important counterpart, which is knowledge loss. Moreover, despite the fact that tourism sector is dominated by small and medium sized enterprises, research on knowledge management in tourism industry is predominantly centered on large, chain units (Hallin & Marnburg, 2008). It has been argued that knowledge retention and sharing practices are hardly applicable to small hotels (Chalkiti & Sigala, 2010; Yang et al., 2012). Therefore, in order to address existing research gap the focus of this study was to explore:

- staff outflow as the main channel of knowledge loss in small family owned hotels, and
- approaches implemented by small family owned hotels to effectively protect valuable knowledge assets.

The empirical evidence was collected through surveys carried out in 2014 among small family owned hotels operating in Malopolska region of Poland. The study is a part of a larger project “Dynamics and determinants of the process of appropriating value from projects implemented in the inter-organizational networks” financed by National Science Centre of Poland (NCN) on the basis of the decision number-2013/11/D/HS4/03965.

This paper is organized as follows. The next section introduces a theoretical background of the study by reviewing the literature on prior work and research advances in the area of knowledge transfer and staff turnover in hospitality industry. This is followed by a description of research methodology. Next paragraphs embrace evaluation and discussion of obtained results focused on occurrence of knowledge loss and deployment of knowledge protection measures in examined family owned hotels. Finally, the last section of the paper contains concluding comments and implications.

LITERATURE REVIEW

According to a vast body of research on strategic management a baseline for firm's survival and growth is represented by knowledge (Teece, 2009; Grant 1996), which is defined as "a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information (...) [that] originates and is applied in the minds of knowers "(Davenport & Prusak, 1998, p. 5). The main assumption of the knowledge-based view, which emerged on the theoretical grounding of resource-based view (RBV), holds that firm specific knowledge is the only asset with the real potential to effectively meet all requirements for competitive advantage sustainability (Botha, Kourie, & Snyman, 2008). Studies in knowledge management distinguish between tacit and explicit knowledge (Nelson & Winter 1982; Nonaka, 1991). Tacit knowledge is defined as intuitive, difficult to express, rooted in context, developed and shared through experience (Davenport & Prusak, 1998), whereas explicit knowledge by being codified is in its essence susceptible to replication (Droege & Hoobler, 2003). Nevertheless, the dominant discourse tends to focus on the process of knowledge codification as it is argued that knowledge management pattern for achieving competitive advantage requires tacit knowledge to be articulated, shared and extensively utilised (Marshall & Sapsed, 2000). As pointed out by Teece, "if knowledge is highly tacit, it indicates that the phenomenon is not well understood" (Teece, 2002:18).

Given that "a fundamental part in knowledge management is to spread and make knowledge accessible and usable within or between chosen organisations" (Paulin & Suneson, 2012: 81), the problem of sharing and transferring knowledge embodied in people and embedded in systems of an organization (Horvath, 2000; Gamble & Blackwell, 2001) has received an immense attention in extant research (Casimir, Lee & Loon, 2012). The relevance

of the knowledge exchange process for the discussion on knowledge leakage is that both knowledge loss and gain are more likely to occur when knowledge is articulated and conveyed. Knowledge leakage is defined as “deliberate or accidental loss of knowledge to unauthorized personnel within or outside of an organizational boundary” (Annansingh, 2004, after: Annansingh, 2012, p. 271). Accidental leakage occurs by accident. It is usually caused by a human error arising from a careless, imprudent behavior of employees and/or a lack of a clear definition of confidential parts of organizational knowledge. Conversely, intentional leakage involves purposeful action undertaken by employees aiming at exposing critical knowledge of the firm to other parties (Ritala, Olander, Michailova & Husted, 2015). Although intentional leakage is commonly associated with a hostile motivation, it is argued that firms may expose certain knowledge also for strategic purposes, e.g. implementing open innovation model (Chesbrough, 2003), creating promotional buzz in the markets (Ritala et al., 2015), or abandoning outdated and faulty practices (Eisenhardt & Martin, 2000; de Holan & Phillips, 2004). Nevertheless, such strategic motivation for knowledge leakage is beyond the scope of this study. Investigation is focused on harmful knowledge leakage driven by the loss of human knowledge source.

Extant literature only to a limited extent addresses the critical issue of knowledge leakage (Mohamed et al., 2006; Parker, 2012; Ritala et al., 2015). Moreover, to the best of our knowledge there is no study that has directly addressed the problem of knowledge leakage in tourism industry. Despite the shortage of a thorough inquiry of the problem, various scholars indicate the significance of knowledge leakage in the strategic context (Teece, 2002; Ahmad et al., 2012). Given that firm’s competitive advantage derives increasingly from knowledge intensive resources, the consequences of accidental or malicious disclosure of that sensitive knowledge to competitors could be devastating to a firm by leading to erosion of its competitive advantage or by even threatening the survival of the firm (Nonaka & Teece,

2001; Alvarez & Barney, 2001). Such perspective is of particular importance while considering the tourism industry characterized by prevailing free-rider attitude (Najda-Janoszka & Kopera, 2014; Najda-Janoszka, 2013).

A review of an extant literature on knowledge management allowed for identification of the main drivers of knowledge leakage in organizations. Authors point at ineffective organizational routines and inadequate memory systems (de Holan & Philips, 2004; Ahmad et al., 2014), alliances and outsourcing that enhance cross-organizational knowledge circulation (Hamel, 1991; Ahmad et al., 2014), staff turnover due to retirement, resignation, restructurization, alternative work arrangements (Parise, Cross & Davenport, 2006; Mohamed et al., 2006; Urbancova & Linhartova, 2011). Unlike disclosure of raw data and information (Ahmad et al., 2014), knowledge leakage is considered for the most part in the context of movement of people within organizational structures or beyond firm's boundaries. From the strategic point of view employees departing their job positions raise the risk associated with disclosure and loss of (Parise et al., 2006; Daghfous, Belkhodja & Angell, 2013):

- subject matter expertise (know-how, know-what),
- critical relationship structure for sourcing and disseminating information (know-who),
- organizational memory of decision and behavioral patterns practiced in a firm (know-why).

Accordingly studies in knowledge management and information security management suggest various organizational and information technology-based mechanisms that can be used in order to provide protection against knowledge loss (DeSouza & Vanapalli, 2005; Hurmelinna-Laukkanen & Puumalainen, 2007; Urbancova & Linhartova, 2011; Annansingh, 2012). Discussed mechanisms vary substantially in terms of scope and comprehensiveness, as they range from passwords, encryption techniques, non-disclosure agreements, to procedures, guidelines and trainings. Given that available studies tend to focus on selected groups of

mechanisms, they provide only a partial picture of the problem (Ahmad et al., 2012). Therefore, in order to contribute to development of a more consolidated framework for leakage mitigation, our study is based on a synthetic approach recently proposed by Ahmad et al. (2012) that categorizes abovementioned mechanisms according to four main knowledge protection areas:

- strategic-level management initiatives – involve actions focused on the development and implementation of firm-wide procedures and guidelines to protect sensitive knowledge,
- operational-level knowledge protection processes – embrace processes implemented in accordance to strategic guidelines and affecting the frequency and direction of knowledge and information flows.
- supporting technology infrastructure – involves actions directed toward identification, configuration and deployment of technologies that enable authentication and control of access to sensitive knowledge and information.
- legal structures – embrace instruments that provide knowledge protection enforceable by law.

Problem of knowledge leakage and its mitigation is of particular importance for firms operating in knowledge-based industries. A growing number of scholars emphasize that hospitality industry can be categorized as knowledge-intensive (Empson, 2001; Pizam, 2007; Halin & Marnburg, 2008; Wszendybyl-Skulska, 2012), given that firms operating in the industry are primarily concerned with the use of specialist knowledge in order to continuously create customized solutions to individual customers' needs (Empson, 2001). The specific nature of hotel business implicates that it is not the technical but the human dimension that mostly affect customers satisfaction and hotel overall performance (Borkowski & Wszendybył, 2007). However, hospitality industry is also characterized by a high staff turnover driven by extremely irregular demand patterns (Deery & Jago 2002; Nickson 2007;

Ladkin 2011). According to a number of authors staff turnover in hotel industry is a quite peculiar phenomenon, since it reaches a significantly higher rate comparing to other industries of the global economy (Ladkin, 2011; Marcouiller & Xia 2008; Decelle 2006; Baum 2007), as well as for most part it occurs voluntarily (Milman 2003; Baum 2007) and in a hardly predictable manner (Milman 2003; Chalkiti & Sigala, 2010). The literature provides a rather unfavorable picture of the hospitality labor market, pointing at a relatively large proportion of unskilled occupations (Nickson 2007; Marcouiller, Kwang-Koo & Deller 2004; ILO 2001) coupled by relatively low wages (Marcouiller & Xia 2008; Yunis 2009; ILO 2001), dominance of seasonal and temporal work arrangements (Nickson 2007; Baum 2007; Yunis 2009; Marcouiller et al. 2004; ILO 2001), and ease of generic skills transition across a wide range of establishments (Nickson 2007; Baum 2007). Shaw and Williams (1994) underline that tourism labor market consists of only a small group of core, permanent workers in managerial positions, yet a large, dominant group of peripheral and low-paid employees. Accordingly, research findings on staff turnover in hospitality industry in Australia and Poland confirmed that the highest staff turnover rate concerns the operational level (reception, kitchen and restaurant) while it is less common for managerial and administrative positions (Ratajczyk, 2014; Tourism & Transport Forum of Australia 2006).

Reports and studies indicating persistence of high staff turnover in hospitality industry triggered further research centered on consequences of high rates of employee mobility. Given that staff turnover embraces both inflow and outflow of employees and the issue of knowledge loss refers directly to the latter component, we do not discuss positive implications of staff inflow referring to opportunities for knowledge enhancement. The impact of staff outflow has been discussed in terms of its financial and non-monetary consequences as well as private and social implications (Chalkiti & Sigala 2010; Urbancova & Linhartova 2011), at different levels of analysis – industry, enterprise, individual employee (Beer, Rogerson &

Rogerson 2014). Nevertheless, empirical studies tend to concentrate on calculated financial burdens (cost of recruitment, trainings) leaving intangible implications to a large extent marginalised (Davidson, Timo & Wang, 2010; Chalkiti & Sigala 2010). As pointed out by Treleaven and Sykes (2005) in client services, such as hospitality, outflow of a knowledgeable workforce means loss of critical personal knowledge developed not as much through professional training as through learning-by-doing experience. Hence, such loss “may not merely influence important activities with clients, but also greatly affect the competence of the organization to give efficient services in various conditions” (Mohamed et al., 2006:4). Although an extant literature on tourism management recognizes knowledge implications of staff outflow, those dimensions are scarcely supported by empirical evidence and a thorough investigation (Chalkiti & Sigala 2010). Thus, management approaches discussed in the tourism management literature are primarily concerned with the staff rather than knowledge retention strategies (Chalkiti & Sigala 2010).

A few available studies on knowledge management in tourism industry confirm that hotel managers usually are not aware of the risk of knowledge loss resulting from staff outflow (Davidson et al., 2010; Chalkiti & Sigala 2010) and the problem of knowledge protection and continuity remains neglected or substantially undervalued (Chalkiti & Sigala 2010). Thus, on the one hand it has been claimed that hospitality possesses characteristics of a knowledge based industry, yet on the other hand it has been argued that a vast majority of firms operating in the industry fail to implement knowledge management philosophy into their business activity (Pizam, 2007). However, those empirical studies are focused on large, chain units, despite the fact that hospitality industry is dominated by small and family owned enterprises (Hallin & Marnburg, 2008). The rationale for defining such a narrow scope of research refers to the argument that knowledge retention and sharing practices are hardly applicable to small hotels (Chalkiti & Sigala, 2010; Yang et al., 2012). Indeed,

implementation of knowledge management strategy by small family owned hotels appears quite challenging given the resource constraints, knowledge concentration among few organizational members (owners) and overwhelming focus on current tasks execution at the expense of strategic issues (Durst & Wilhelm, 2012). However, although research on knowledge management in small and medium sized enterprises and family firms operating outside the hospitality industry is also scarce (Chirico, 2008; Durst & Evaradsson, 2012), it provides useful insights supporting further exploration of the issue. Available studies clearly confirm a lack of properly implemented knowledge management strategies, yet indicate that small firms use a variety of instruments enabling knowledge to be acquired, developed, shared and preserved (uit Beijerse, 2000; Desouza & Awazu, 2006; Hutchinson & Quintas, 2008). It suggests that the knowledge retention issue is not absent in small firms, yet implemented approaches appear to be less advanced compared to large businesses (Durst & Wilhelm, 2012). Thus, it provides reasonable grounds for investigating knowledge protection practices of small family owned hotels in the context of high staff outflow.

In the line with abovementioned argumentation base on an extant literature on the subject matter we have formulated following three hypothesis to be verified through empirical testing:

H1. Given the costly consequences of staff turnover, it is expected that small family owned hotels experiencing higher levels of staff outflow are more engaged in knowledge protection activity.

H2. Given that in small family owned firms knowledge tend to be concentrated among a few organization members, it is expected that knowledge protection activities implemented by small family owned hotels are focused predominantly on codification of individual expertise.

H3. Given that management in small firms tend to be focused on execution of current tasks, it is expected that small family owned hotels are less inclined to use strategic-level knowledge protection mechanisms.

RESEARCH METHODOLOGY

Research sample was defined on the regional level – family own hotels operating in Malopolska region of Poland. In Poland tourism is one of few sectors with a dominant share of firms run as family own business and Malopolska is a region with one of the highest percentage of family firms – 4th place out of 16 regions of Poland (PARP 2009). Moreover, according to the Central Register of Hospitality Facilities managed by the Ministry of Sport and Tourism of the Republic of Poland Malopolska has the highest number of hotels¹ in Poland (330 – December 2014) as it is a top-ranked region according to tourist attractiveness index (Bednarczyk & Najda-Janoszka, 2014). Data were collected from a sample compiled from the member list provided by the Gremium – Malopolska Chamber of Hoteliers, a voluntarily formed self-government organization which brings together family own hotels, guesthouses, and restaurants operating in Malopolska region.

Given the lack of widely acknowledged definition of family firms and paucity of related statistical data, for the purpose of the research the database of the Chamber was filtered according to the level of involvement of family members in ownership and management positions in analyzed hotels (Sciascia & Mazzola 2008). Moreover, in order to fill the research gap concerning exploration of knowledge management issues among small tourism

¹ According to the Act on Tourism Services, of 29 August 1997 (Dz. U. of 2004, No. 223, item 2268, as amended) hotels are defined as facility located mainly within the confines of the city, having at its disposal at least 10 rooms, of which most of the places in single or double rooms, providing a wide range of services connected with the stay of guests. Depending on the furnishings and the range of provided services five categories of hotels are distinguished: the highest category – 5 stars, the lowest – 1 star.

enterprises, firms were sampled according to the level of employment (less than 50 employees) and the total yearly turnover (less than EUR 10 million). Thus, the sample included only those small hotel businesses, in which family members hold more than 50 percent of the shares and maintain key management positions.

In order to collect information a diagnostic survey method was applied. A questionnaire was used as a research tool to acquire managerial opinions on investigated issues concerning knowledge leakage. The scope of the variables that were measured was defined on the basis of results of exploratory study on innovation barriers and knowledge protection modes used by small tourism businesses in Southern Poland (2010-2013)², analysis of working conditions and employment trends in tourism industry discussed in the contemporary literature (Ladkin, 2011; Baum, 2007; Wszendybyl-Skulska, 2012) and on the basis of a critical analysis of the literature on the knowledge protection aspects (Davidson et al., 2010; Chalkiti & Sigala 2010). Table 1 presents knowledge protection mechanisms chosen for empirical verification and ordered along strategic, operational, technological and legal dimensions. The research tool included questions asking respondents to rank the available answers based on their perceptions about the frequency of the occurrence of asked issues (e.g. 5 – very often, 1 – hardly ever) and about their importance (e.g. 5 – very strong, 1 – very weak). The collected findings are presented by calculating the average scores of the indicated frequency and importance.

² Research project no. N 115 321339 financed by the Ministry of Science and Higher Education in Poland and carried out in years 2010–2013 by the research team of Department of Management in Tourism at the Jagiellonian University lead by Professor M. Bednarczyk.

Table 1. Investigated knowledge protection mechanisms

Knowledge protection area (Ahmad et al., 2012)	Mechanisms included in the research
Strategic level	<ol style="list-style-type: none"> 1. Procedures and guidelines for protecting sensitive knowledge (Liebeskind, 1996; Gold, Malhorta & Segars, 2001) 2. Raising employee awareness through training on confidentiality and knowledge protection aspects (Hurmelinna-Laukkanen & Puumalainen, 2007)
Operational level	<ol style="list-style-type: none"> 3. Restricting access to sensitive knowledge for newly hired employees (DeSouza & Vanapalli, 2005) 4. Maintaining tacit form of knowledge (Shelton, 2001; Hurmelinna-Laukkanen & Puumalainen, 2007; Mohamed et. al., 2006) 5. Codification of sensitive knowledge by introducing procedures, standards, databases (Hurmelinna-Laukkanen & Puumalainen, 2007; Urbancova & Linhartova, 2011; Durst & Wilhelm, 2012)
Supporting information technology infrastructure	<ol style="list-style-type: none"> 6. Implementing information technology solutions (e.g. passwords, access control, firewalls, etc.) (Annansingh, 2012)
Formal instruments of knowledge protection	<ol style="list-style-type: none"> 7. Non-disclosure agreements with employees (Najda-Janoszka & Kopera, 2014)

Empirical research was carried out in period between July 2014 and October 2014 in the southern region of Poland - Malopolska (NUTS 2). A structured questionnaire was send electronically to 85 small family owned hotels operating in Malopolska Region to be completed by the owners/top management. The research effort, that included a follow up e-mail and phone calls, yielded a total of 53 usable questionnaires. Resulting frequencies were sufficient for carrying out analysis and reasoning in line with methodological assumptions of the research project, yet due to the regional definition of the study population, obtained findings did not provide a clear indication to formulate national or international level generalizations. Collected data were analysed with the aid of the Statistica version 10. A combination of descriptive statistics (frequencies, median scores) and inferential statistics (Chi-square and Spearman correlations tests) were used.

RESULTS

Hotels included in the research sample exhibit a rather strong dependency on individual knowledge and experience in all three defined areas of business activity (Table 2). Given the common observation of high levels of labor turnover in hospitality industry investigated firms were asked to indicate the main routes through which employees leave their current job positions. According to obtained results it is a very rare situation for a hotel to provide an enduring employment. Working in a hotel till retirement appears more as an exception than a norm. The main route through which employees leave their current job positions is a departure from a current employer's structures. Employees searching for new job opportunities tend to stay within the hotel industry borders. Nevertheless, obtained frequencies for internal job mobility and outflow to other hotels exhibit rather marginal differences both reaching an average level.

Table 2. Descriptive statistics

Variable	Mean	SD
<i>Organizational dependency on individual expertise</i>		
Finances	3.9	0.93
Marketing & Sales	3.9	0.80
Administration	3.8	0.81
<i>Main routes for leaving current jobs positions</i>		
New job position within the hotels' structure	3.1	1.09
New job position outside the hotel but within the hospitality industry	3.6	0.91
New job position outside the hotel and hospitality industry	2.9	0.98
Retirement	2.3	1.19
<i>Main channels of knowledge leakage</i>		
Employees currently on their job positions	2.3	1.11
Employees that left the hotel	3.1	1.44
Information systems	2.6	1.02
Outsourcing	2.2	1.03
<i>Means implemented for protection against knowledge leakage</i>		
Procedures and guidelines for knowledge protection	3.0	1.14
Trainings on confidentiality and knowledge protection	3.2	1.12
Restricted access to knowledge for newly hired	3.3	1.07

Maintaining tacit form of knowledge	3.1	1.10
Codification of sensitive knowledge	4.0	0.90
IT solutions	3.9	0.89
Non-disclosure agreements with employees	3.6	1.12

According to obtained results former employees represent the main channel of knowledge loss for investigated hotels. Employees currently on their job positions together with implemented information technology (IT) systems are hardly visible on the map of undesirable knowledge transfers. In order to protect sensitive knowledge from leakage examined hotels implement strategic, operational, technological and legal measures. Collected data indicate substantial differences in the intensity of their use. Strategic level initiatives are the least frequently used protection mechanisms. Introducing procedures and guidelines for sensitive knowledge protection is not a common practice among hotels surveyed. Similarly, examined hotels exhibit a rather modest engagement in educating employees about confidentiality and knowledge protection aspects. Hence, observed reluctance to implement mechanisms belonging to the strategic dimension has provided support for Hypothesis 3. At the operational level protective initiatives are focused predominantly on codification of sensitive knowledge. Given that it is also the most frequently used mechanism in the sample, it suggests that findings are consistent with Hypothesis 2. It is a less common practice to intentionally maintain a tacit form of knowledge in the hands of its owner, while aiming at protecting the critical knowledge from a harmful loss. Examined hotels also less frequently decide to restrict access to sensitive knowledge to newly hired employees. Obtained findings in the technology-based area of protection indicate that hotels rather often use information technology infrastructure to support critical knowledge protection. Reaching for non-disclosure agreements in order to preserve confidentiality is an observed, yet not a common practice.

Table 3. Chi-square and Spearman correlations

Knowledge protection mechanisms	Departure to other hotels as the main route for leaving current job position		Departure from hospitality industry as the main route for leaving current job position		Former employees as the main channel of knowledge leakage	
	Chi2	R	Chi2	R	Chi2	R
1. Procedures and guidelines for knowledge protection	32.35**	0.44**	14.41	0.05	19.09	0.19
2. Trainings on confidentiality and knowledge protection	34.52**	0.51**	9.44	0.01	25.06*	0.43**
3. Restricted access to knowledge for newly hired	22.86*	0.19	23.15**	0.34*	36.60**	0.26*
4. Maintaining tacit form of knowledge	25.39*	0.42**	9.66	0.26	17.91	0.26
5. Codification of sensitive knowledge	21.86*	0.31*	11.32	0.14	35.81**	0.38*
6. IT solutions	36.57**	0.13	12.64	0.04	16.95	0.07
7. Non-disclosure agreements with employees	25.35*	0.29*	13.34	0.13	22.65	0.09

• $p < 0.05$

** $p < 0.01$

Further Pearson's chi-square and Spearman correlation tests were applied to verify whether hotels experiencing high levels of staff outflow are more engaged in knowledge protection activity (Table 3). According to obtained results those two spheres are correlated. Hence, we found confirmation supporting Hypothesis 1, as the higher the staff outflow, the more intensive usage of examined mechanisms across all defined areas of knowledge protection. It is also important to note that results of correlation tests indicate that hotels facing high levels of staff outflow decide to enhance both the tacitness and codification of knowledge. Thus, it suggest that the Hypothesis 2 is only partially confirmed. Nevertheless, identified statistically significant and moderately strong correlations refer only to the outflow of staff to other hotels. When departing employees leave also hospitality industry, it does not have a significant impact on the knowledge protection practices of examined hotels.

Further, according to obtained test results, examined hotels that more precisely recognize former employees as the main channel of knowledge leakage, tend to put more effort in organizing trainings on confidentiality and knowledge protection issues, codifying critical knowledge and restricting access to that knowledge for newly recruited staff.

DISCUSSION

Obtained findings support theoretical assumptions concerning hotel business as people intensive industry (Wszendybył-Skulska, 2012). In line with arguments provided in the literature in examined small family owned hotels knowledge tend to be centred among a few organizational members (Wong & Aspinwall, 2004; Durst & Wilhelm, 2012). The situation, where most knowledge instead of being shared and stored resides in a tacit form in the heads of owners and few key employees raises substantial challenges for effective knowledge management implementation (Wong & Aspinwall, 2005). Although examined hotels declare an active engagement in codification of sensitive knowledge, knowledge centrality remains high. Undoubtedly, observed tendency to focus on implementing knowledge protection mechanisms at operational and technological levels without necessary support from guidelines and procedures developed at a strategic level limits the effectiveness of the effort. This operational inclination corresponds with arguments suggesting that small firms deploy a rather mechanistic approach to knowledge development and protection as it complements a strong bias towards current-task performance (Hofer & Charan, 1984; Hutchinson & Quintas, 2008). Nevertheless, according to obtained findings persistence of knowledge centrality is also affected by the way examined hotels respond to the problem of staff outflow. The fact that employees quit and attempt to work outside the hospitality industry does not raise concerns of knowledge loss. The situation is dramatically different when hotels lose

employees to competition. Hotels that experience higher numbers of employees leaving current job positions to work in other hotels, are much more engaged in initiatives aiming at both preserving and translating tacit knowledge into understandable forms. Thus, given the observed knowledge centrality it suggests that substantial parts of sensitive knowledge are purposefully kept tacit within a small group of owners and key employees, while codification refers to a less strategic knowledge and information that underlie day-to-day operations. Such reluctance towards codification of critical knowledge can in large extent be affected by the specificity of the hospitality industry. As emphasized by Hjalager (2002) hospitality is a highly competitive industry characterized by a fast diffusion of knowledge, and a relatively common free-rider behavior. A number of studies confirm the prevalence of competitive over cooperative attitudes and practices (e.g. Sundbo, Orfila-Sintes & Sørensen, 2007; Najda-Janoszka, 2013). Thus, given that the departing staff includes predominantly temporary workers that are to work for competitors, there are little incentives to consider equipping those employees with easily transferable forms of strategic knowledge. On the other hand, high levels of staff turnover imply the need for in fact continuous trainings for newly recruited employees. Through operational knowledge codification the time of employee induction can be substantially reduced. Given that hospitality business is greatly affected by a temporal phenomenon of seasonality (Lee, Bergin-Seers, Galloway, O'Mahony & McMurray, 2008), temporal work arrangements are inevitable and it is a critical task for hotels to ensure that processes can be learnt quickly allowing newly hired staff to achieve expected levels of productivity in shortest possible time (Baum, 2007).

Research findings suggest that examined hotels aiming at protecting their sensitive knowledge rely heavily on the use of IT solutions. An overview of the whole spectrum of implemented mechanisms indicate an evident imbalance towards technical solutions at the expense of initiatives concerning organizational culture and education. As emphasized in the

literature, this limited engagement in the strategic area of knowledge protection together with a dominance of conventional, routinized practices for information storage through IT applications, can have a detrimental effect on a strategic potential of hotels surveyed, since relational and contextualized aspects of generated knowledge are to large extent marginalized (Peroune, 2007). Relying on externally developed standards and systems for knowledge management raises the risk that certain peculiarities of business operations and intertwined information flows might be misinterpreted or even not captured at all. Given the wide spectrum of communication channels and interfaces used in hospitality industry, managing the risk of knowledge leakage requires not only IT solutions, but more importantly managerial initiatives influencing the behavior of employees, their attitudes and risk awareness (Kopera et al., 2014). Accordingly, obtained results of correlation tests bring a more promising view in this context, as examined hotels address the problem of high staff outflow with a more intensive use of mechanisms across all defined areas of knowledge protection. Most importantly, the strongest correlations found refer to protection mechanisms defined at the strategic level. Research findings reveal that examined small family owned hotels have a relative awareness of the problem of knowledge leakage and knowledge implications of staff outflow. Thus, despite the data presented in descriptive statistics, the logic that underlies observed practices corresponds to the theoretical recommendations of extant literature on knowledge protection and retention. It is undoubtedly a sound support for undertaking further exploration directed towards that emerging strategic-level knowledge protection activity.

CONCLUSIONS

The findings from this study indicate that knowledge protection initiatives are not absent in small family owned hotels. Examined small family owned hotels have a relative

awareness of the problem of knowledge leakage and knowledge implications of staff outflow. Most commonly used mechanisms belong to operational and supporting technology areas of knowledge protection. Examined hotels exhibit a strong disposition toward knowledge codification and simultaneously and to large extend purposively maintain a strong dependency on individual expertise in all key areas of performed business activity. On the one hand research findings suggest operational focus in a knowledge protection activity, on the other hand we found that examined hotels address the problem of high staff outflow with a more intensive use of mechanisms across all defined areas of knowledge protection. Thus, despite the data presented in descriptive statistics, the logic that underlies observed practices corresponds to the theoretical recommendations of extant literature on knowledge protection and retention. Undoubtedly, implemented solutions are less advanced than those developed by large, chain hotels, yet in the light of the findings presented in this study it should not be regarded as a sufficient rationale for focusing on knowledge management practices only in large hotel corporations.

Nevertheless, it needs be noted that findings were collected from a relatively small sample, even though it was representative for a selected region. Hence future research should be focused on validation of discussed outcomes on a larger, national-level data set, in order to eliminate an eventual regional bias. Moreover, future studies could aim at a more in-depth investigation of strategic-level knowledge protection activity of small hotels.

REFERENCES

- Alvarez, S. A. & Barney J. B. 2001. How entrepreneurial firms can benefit from alliances with large partners. *The Academy of Management Executive*, 15: 139-148.
- Ahmad, A., Bosua, R., & Scheepers, R. 2014. Protecting organizational competitive advantage: A knowledge leakage perspective. *Computers & Security*, 42: 27-49.

- Annansingh, F. 2012. Exploring the Risks of Knowledge Leakage: An Information Systems Case Study Approach. In H.T. Hou (ed.), *New Research on Knowledge Management Models and Methods*: 269-286, InTech Available from: <http://www.intechopen.com/books/new-research-on-knowledge-management-models-and-methods/exploring-the-risks-of-knowledge-leakage-an-information-systems-case-study-approach-> (assessed 14 May 2014).
- Baum, T. 2007. Human resources in tourism: Still waiting for change. *Tourism Management*, 28(6): 1383-1399.
- Beer, A., Rogerson, Ch. & Rogerson J. 2014. Decent Work in the South African Tourism Industry: Evidence from Tourist Guides. *Urban Forum*, 25(1): 89-103.
- Bednarczyk, M., & Najda-Janoszka, M. (eds). 2014. *Innowacje w turystyce. Regionalna przestrzeń współpracy w Makroregionie Południowym Polski*. Warszawa: CeDeWu.
- Borkowski, S., & Wszendybył, E. 2007. *Jakość i efektywność usług hotelarskich*. Warszawa: PWN.
- Botha, A., Kourie, D., & Snyman, R. 2008. *Coping with continuous change in the business environment: Knowledge management and knowledge management technology*. Oxford: Chandos Publishing.
- Casimir, G., Lee, K., & Loon, M. 2012. Knowledge sharing: influences of trust, commitment and cost. *Journal of Knowledge Management*, 16(5): 740-753.
- Chalkiti, K. ,& Sigala, M. 2010. Staff turnover in the Greek tourism industry. *International Journal of Contemporary Hospitality Management*, 22(3): 335-359.
- Chesbrough, H. 2003. *Open innovation: The new imperative for creating and profiting from technology*. Boston: Harvard Business School Press.
- Chirico, F. 2008. Knowledge accumulation in family firms. *International Small Business Journal*, 26: 433-62.
- Daghfous, A., Belkhodja, O., & Angell, L.C. 2013. Understanding and managing knowledge loss. *Journal of Knowledge Management*, 17(5): 639-660.
- Davenport, T.H. & Prusak, L. 1998. *Working Knowledge: How Organizations Manage What They Know*. Cambridge: Harvard Business School Press.
- Davidson, C. G. M., Timo, N., & Wang, Y. 2010. How much does labor turnover cost? A case study of Australian four and five-star Hotels. *International Journal of Contemporary Hospitality Management*, 22(4): 451-466.
- Decelle, X. 2006. A dynamic conceptual approach to innovation in tourism. In: OECD, *Innovation and Growth in Tourism*: 85-106, Paris: OECD.
- Deery, M. & Jago, L. 2002. The core and the periphery: an examination of the flexible workforce model in the hotel industry. *Hospitality Management*, 21(4): 339-51.

- DeSouza, K. C. & Awazu, Y. 2006. Knowledge management at SMEs: five peculiarities. *Journal of Knowledge Management*, 10(1): 32-43.
- DeSouza, K. C. & Vanapalli, G. K. 2005. Securing knowledge in organizations: lessons from the defence and intelligence sectors. *International Journal of Information Management*, 3(1):1-7.
- Droege, S. B. & Hoobler, J. M. 2003. Employee Turnover And Tacit Knowledge Diffusion: A Network Perspective. *Journal of Managerial Issues*, 15(1): 50-64.
- Durst, S. & Edvardsson, I. R. 2012. Knowledge management in SMEs: A literature review. *Journal of Knowledge Management*, 16: 879–903.
- Durst, S., & Wilhelm, S. 2012. Knowledge management and succession planning in SMEs. *Journal of Knowledge Management*, 16(4): 637-649.
- Eisenhardt, K. M. & Martin, J. A. 2000. Dynamic capabilities: what are they?. *Strategic Management Journal*, 21: 1105-1121.
- Empson, L. 2001. Introduction: Knowledge Management in professional service firms. *Human Relations*, 54(7): 811-817.
- Gamble, P. R., & Blackwell, J. 2001. *Knowledge Management. A state of the art guide*. London: Kogan Page.
- Gold, A. H., Malhorta, A., & Segars, A.H. 2001. Knowledge Management: An Organizational Capabilities Perspective. *Journal of Management Information Systems*, 18(1): 185-214.
- Guilding, C., Lamminmaki, D., & McManus, L. 2014. Staff turnover costs: In search of accountability. *International Journal of Hospitality Management*, 36: 231-243.
- Grant, R. M. 1996. Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17: 109-122.
- ILO. (2001). *Human resources development, employment and globalization in the hotel, catering and tourism sector*. Geneva: ILO.
- Hallin, C. & Marnburg, E. 2008. Knowledge Management in the Hospitality Industry: A review of empirical research. *Tourism Management*, 29: 366-381.
- Hjalager, A.M. 2002. Repairing innovation defectiveness in tourism. *Tourism Management*, 23(5): 465-474.
- Hjalager, A. M. 2010. A Review of innovation research in tourism. *Tourism Management*, 31 (1): 1-12.
- Hofer, C. W. & Charan, R. 1984. The transition to professional management: mission impossible?. *American Journal of Small Business*, 9(1): 1-11.

- de Holan, P. M & Phillips, N. 2004. Organizational forgetting as strategy. *Strategic Organization*, 2(4): 423-433.
- Horvath, J.A. 2000. Working with Tacit Knowledge. In: J. W. Cortada & J. A. Woods (eds). *The Knowledge Management Yearbook 2000-2001*: 34-51, Butterworth-Heinemann.
- Hurmelinna-Laukkanen, P., & Puumalainen, K. 2007. Formation of the appropriate regime: Strategic and Practical considerations. *Innovation: management, policy and practice*, 9: 2-13.
- Hutchinson, V., & Quintas, P. 2008. Do SMEs do knowledge management? Or simply manage what they know? . *International Small Business Journal*, 26(2): 131-154.
- Kopera S., Najda-Janoszka, M., & Wszendybył-Skulska, E. 2014. Kanał YouTube jako przykład wykorzystania mediów społecznościowych w procesie transferu wiedzy do biznesu turystycznego, *Folia Turistica*, 32: 55-72.
- Ladkin, A. 2011. Exploring tourism labor. *Annals of Tourism Research*, 38(3):. 1135-1155.
- Lee, C., Bergin-Seers, S., Galloway, G., O'Mahony, B., & McMurray, A. 2008. *Seasonality in the tourism industry: Impacts and strategies*. The CRC for Sustainable Tourism Pty Ltd. Website at [http://coastaltourismacademy.co.uk/uploads/CRC_Queensland_2008_Seasonality_in_the_tourism_industry_\(2\).pdf](http://coastaltourismacademy.co.uk/uploads/CRC_Queensland_2008_Seasonality_in_the_tourism_industry_(2).pdf) . Assessed 14.04.2015.
- Liebeskind, J.P. 1996. Knowledge, strategy, and the theory of the firm. *Strategic Management Journal*, 17: 93-107.
- Marcouiller, D. W. & Xia, X. 2008. Distribution of income from tourism-sensitive employment. *Tourism Economics*, 14(3): 545-565.
- Marcouiller, D. W., Kwang-Koo K., & Deller S. C. 2004. Natural Amenities, Tourism and Income Distribution, *Annals of Tourism Research*, 31 (4): 1031-1050.
- Marshall, N., & Sapsed, J. 2000. *The Limits of Disembodied Knowledge: Challenges of Inter-Project Learning in the Production of Complex Products and Systems*. Paper presented at the conference, Knowledge Management: Concepts and Controversies, Warwick University, 10-11 February.
- Milman, A. 2003. Hourly employee retention in small and medium attractions: the Central Florida example. *Hospitality Management*, 22(1): 17-35.
- Mohamed, S., Mynors, D., Grantham, A., Walsh, K., & Chan, P. 2006. *Understanding One Aspect of the Knowledge Leakage Concept: People*. Article presented at European and Mediterranean Conference on Information Systems (EMCIS), July 6-7 2006, Costa Blanca, Alicante, Spain.
- Najda-Janoszka, M. 2013. Innovative Activity of Small Tourist Enterprises – Cooperation with Local Institutional Partners. *Journal of Entrepreneurship, Management and Innovation*, 9(1):. 17-32.

- Najda-Janoszka, M. & Kopera S. 2014. Exploring Barriers to Innovation in Tourism Industry – The Case of Southern Region of Poland. *Procedia – Social and Behavioral Sciences*, 110: 190-201.
- Nelson R. R., & Winter, S. G. 1982. *An Evolutionary Theory of Economic Change*, Bellknap: Cambridge Mass.
- Nickson, D. 2007. *Human resource management for the hospitality and tourism industries*. Oxford: Butterworth-Heinemann.
- Nonaka, I. & Teece, D. J. 2001. *Managing Industrial Knowledge: Creation, Transfer and Utilization*. London: Sage Publications.
- Parise, S., Cross, R. & Davenport, T. H. 2006. Strategies for Preventing a Knowledge-Loss Crisis. *Sloan Management Review*, 47(4): 31-38.
- Parker, H. 2012. Knowledge acquisition and leakage in inter-firm relationships involving new technology-based firms. *Management Decision*, 50(9):1618-1633.
- PARP, 2009. *Badanie firm rodzinnych. Raport końcowy*. Warszawa: PARP.
- Paulin, D. & Suneson K. 2012. Knowledge Transfer, Knowledge Sharing and Knowledge Barriers – Three Blurry Terms in KM. *Electronic Journal of Knowledge Management*, 10(1): 81-91, available online at www.ejkm.com
- Peroune, D. L. 2007. Tacit knowledge in the workplace: the facilitating role of peer relationships. *Journal of European Industrial Training*, 31(4): 244-258.
- Pizam, A. 2007. Does the Hospitality Industry possess the characteristics of a knowledgebased industry? *Hospitality Management*, 26: 759-763.
- Ratajczyk M. 2014. Personel wciąż za mało doceniany czynnik in: *Raport 2014. Rynek hotelarski w Polsce*: 14-18, Warszawa: Brog Marketing.
- Ritala, P., Olander, H., Michailova, S., & Husted, K. 2015. Knowledge sharing, knowledge leaking and relative innovation performance: An empirical study. *Technovation*, 35: 22-31.
- Sciascia, S. & Mazzola, P. 2008. Family Involvement in Ownership and Management: Exploring Nonlinear Effects on Performance. *Family Business Review*, 21(4): 331-345.
- Shaw, G. & Williams, A. M. 1994. *Critical issues in tourism: A geographical perspective*. Oxford: Blackwell Publishing
- Shelton, R. 2001. Helping a small business owner to share knowledge. *Human Resource Development International*, 4(4): 429-450.
- Sundbo, J., Orfila-Sintes, F., & Sørensen, F. 2007. The innovative behavior of tourism firms – Comparative studies of Denmark and Spain. *Research Policy*, 36 (1): 88-106;

- Teece, D. J. 2002. *Managing Intellectual Capital: Organizational, Strategic, and Policy Dimensions*, New York: Oxford University Press.
- Tourism & Transport Forum of Australia 2006. *Labour turnover and costs in the Australian accommodation industry*. Retrieved from <http://www.ttf.org.au/Content/labourturnover1106.aspx> (assessed 10 December 2014).
- Treleaven, L. & Sykes, C. 2005. Loss of organizational knowledge. From supporting clients to serving head office. *Journal of Organizational Change*, 18(4): 353-368.
- Uit Beijerse, R. P. 2000. Knowledge management in small and medium-sized companies: knowledge management for entrepreneurs. *Journal of Knowledge Management*, 4(2): 162-79.
- Urbancova, H. & Linhartova, L. 2011. Staff Turnover as a Possible Threat to Knowledge Loss. *Journal of Competitiveness*, 3: 84-98.
- Wszendybył-Skulska, E. 2012. *Human Capital in Hotel Industry*. Warszawa: CeDeWu.
- Wong, K. Y. & Aspinwall, E. 2005. An empirical study of the important factors for knowledge-management adoption in the SME sector. *Journal of Knowledge Management*, 9: 64-82.
- Yang J., Wan C. S., & Fu Y. J. 2012. Qualitative examination of employee turnover and retention strategies in international tourist hotels in Taiwan. *International Journal of Hospitality Management*, 31(3): 837-848