

FACTORS CONSTRAINING BUSINESS PRODUCTIVITY IN THE DIGITAL ERA: EMPIRICAL RESEARCH AT HERTFORDSHIRE IN UK AND LESSONS FOR HUNG YEN PROVINCE IN VIETNAM

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Abstract

Productivity is a vital issue in businesses today. In the digital era, the economic, social, and technological environment is continuously changing. It is essential to find out what motivates and limits productivity. Hung Yen, **Hung Yen**, one of Hanoi's nearby provinces, enjoys spillover benefits from the capital city's development. However, Hung Yen has to face many difficult challenges from geographical location, infrastructure, and a shortage of high-quality human resources (people who tend to work and develop careers in the capital). Hertfordshire is a county adjacent to London, and suffers much the same challenges as Hung Yen, graduate skills mobility and productivity gaps in the STEM skilled sectors. The correlation in business development issues between Hertfordshire and London is similar to the one between Hung Yen and Hanoi, in growth, hard-to-fill skills vacancies and productivity. In recent years, Hertfordshire has made numerous achievements in economic development, and improved productivity growth. Therefore, the authors conducted an experimental study focusing on SMEs in Hertfordshire and influencing productivity factors. We have drawn lessons and empirically evaluated the ability to apply these to foster improvements in business productivity of SMEs located in the Hung Yen province.

Keywords: productivity, constraints, digital era, Hung Yen, Hertfordshire

1. Introduction

1.1 Productivity in the digital era (Giang)

Productivity is a measure of the efficiency of a manufacturing process (Dat T.T, Thanh T.T et al., 2019) which is calculated by the outputs amount generated by the inputs such as labors, materials, capital, assets..The basic principle of maximizing productivity of the firm is maximizing outputs in minimizing inputs amount. Outputs of the firm can be measure by total production and business value, value added or volume of goods produced. To assess the firm productivity, we can use total factor productivity or labor productivity as indicators. In this paper, we choose total factor productivity as it brings more general reflection to evaluate the effectiveness of a firm.

The 21st century shift from the industrial revolution to a new economic domination of information technology (Windsor A., 2020). In this “digital era”, digital technologies play a prominent role in shaping up and regulating the behaviors, performances, standards..of the societies, communities, organizations, and individuals (Liyanage J.P., 2012). In the world, the digital era started during the 1980s with the Digital Revolution and is ongoing. In Vietnam, personal computers appeared at the same period, and then developped in 1990s and 2000s, marked the strong development of digital economy, the definition attached to digital age, continue until now. The Government of Vietnam has established a quite completed legal framework to promote the development of digital technology in all the area: electronic government, e-commerce platform development, digital finance, digital bank, online tax, promote innovation and digital ecosystem, implementing digital initiatives in many sectors such as agriculture, health, national defense..Vietnam is assessed to be one of the fastest growing country in digital technology development. According to The World Bank, the number of Vietnamese

citizen using internet and mobiphone is among the top countries in South East Asia (2019). Besides it, Vietnam's information technology and e-commerce sector, digital financial services are well-developed in recent years (Dat T.T, Thanh T.T et al., 2019).

In the digital era, applying digital technology can help enterprises enhance the effectiveness, reduce costs, rationalize labor demand, strengthen innovative activities to better capture opportunities, reshape the business model, changes the barriers for the intergration, improve transparency, and then, increase firm productivity (Mc Kinsey, 2018). In the "Annual economic report of 2019: improving labor productivity in digital economy", in doing the literature review of many researches in more than 20 years until now, Dat T.T, Thanh T.T et al (2019) also showed a positive influence of digital technology to total factor productivity (TFP).

Vietnam is a country with a young, dynamic population that is diligent to learn, research and apply science and technology, also situates in the region with the most rapid digital economic development and having a very fast technology innovation speed. TFP of Vietnam has increased in recent years, which contribute significantly to GDP growth of the country.

Table 1: TFP growth rate and contribution to Vietnam's GDP from 2011-2017

Unit: %

	GDP Growth rate	Capital growth rate	Labor growth rate	TFP Growth rate	Contribution to GDP growth		
					Capital increase	Labor increase	TFP increase
2011	6.24	9.26	2.66	0.85	60.6	25.4	14.0
2012	5.25	7.24	2.13	1.06	54.7	24.7	20.7
2013	5.42	6.77	1.53	1.71	50.9	16.9	32.2
2014	5.98	6.84	1.03	2.15	54.2	9.2	36.6
2015	6.68	7.15	0.18	3.10	51.3	1.5	47.3
2016	6.21	7.45	0.84	2.16	57.3	7.3	35.5
2017	6.81	7.70	0.75	2.63	54.7	5.8	39.5

Source: Vietnam Productivity Report 2017, Vietnam Productivity Institute, 2020

1.2 Local issues for enterprises in Hertfordshire addressing productivity challenges (Christopher)

Over the last twenty years the focus of the UK government's economic policy has been on improving UK growth and productivity (Department for Business Innovation and Skills 2016). At a national level the SME community represents over 99.9 % of all businesses in the UK. The UK government's focus before Covid19 and after is and will be on increasing the productivity of SME's to both improve UK economic growth and employment opportunities (Love and Roper 2013). This same body of research suggests that these businesses also recognize the importance of investing in skills, R&D and general capital assets. Effective supply-side and demand-side policies by the local eco-system both supports the enterprises's innovation and export growth aspirations. What is less-known at the local level is the particular eco-system characteristics that most influence the enterprises's future innovation activities, potential turnover growth and improved productivity. Hence, the importance of more research investigating this linkage, and particularly at the regional level (e.g. Hertfordshire) (Department for Business Energy & Industrial Strategy 2019).

Regionally there are 61,765 enterprises in the Hertfordshire Local Enterprise Partnership area, breaking down into micro-enterprises (56,115), small-enterprises (4,540), medium-enterprise (865), and large enterprises (245) (NOMIS 2017). The Hertfordshire Economic Outlook report of 2018, makes more references to the overall picture of enterprise, innovation and the broader industries (Hertfordshire LEP 2019).

1.3 Productivity issues of enterprises in Hung Yen (Hương)

Vietnam is composed of 63 provinces and five centrally-governed cities. The Vietnamese government divides the country into three key economic zones (KEZs) (the Northern Key Economic Zone, the Central Key Economic Zone, and the Southern Key Economic Zone). The Northern KEZ covers seven cities and provinces, including Hanoi, Hai Phong, Bac Ninh, Hai Duong, Hung Yen, Vinh Phuc, and Quang Ninh. The region accounts for more than 32% of the country's GDP, with the total land area of 15.755 km² and a population of 16 billion people, 32%. The area has seen significant development in the past five to ten years. The GRDP growth of Northern KEZs from 2011 to 2017 always equal to or greater than the annual GDP growth of Vietnam (Asia Perspective, 2019). Bac Ninh, Hai Duong, and Hanoi are the highest performing provinces, attracting FDI capital in the industrial and manufacturing sector. In the future, according to the strategy of the Vietnamese government, the Northern KEZ needs to take the lead in scientific and technological innovation and development (VGP News, 2019).

In this research, the authors chose Hung Yen to become the typical case for Hanoi nearby provinces to investigate the research problems. According to the Vietnamese Enterprises White Paper (2020), there are 5404 enterprises (2654 in micro size, 2066 small, 375 medium, and 309 large size companies) doing business in Hung Yen by 2018. These enterprises earned 322801 billion VND in 2018 and increased by 114.8 % compared to 2017 (GSO, 2020). The number of micro and small business accounts for the majority of business in Hung Yen. However, the 75% of revenue comes from large companies. Regarding the classification by capital, private business is the most common type in Hung Yen and has earned the most revenue.

Table 2: Statistics of enterprises in Hung Yen

Type of enterprise	Number of enterprises			Net revenue (billion VND)		
	Average 2011-2015	2017	2018	Average 2011-2015	2017	2018
Classification by size						
<i>Micro</i>	1164	2161	2654	2259	3787	4893
<i>Small</i>	962	1863	2066	16502	32754	39381
<i>Medium</i>	208	346	375	16328	33302	37057
<i>Large</i>	179	290	309	69775	211414	241471
Classification by capital						
<i>State</i>	14	8	8	3739	782	553
<i>Private</i>	2330	4394	5138	74779	217042	245544
<i>FDI</i>	169	258	258	26346	63433	76704
Total	2513	4660	5404	104864	281258	322801

Source: (GSO, 2020).

In recent years, Hung Yen is one of the provinces that attracted large numbers of foreign investment enterprises to industrial areas such as Pho Noi A, Thang Long II, Pho Noi Textile and Garment, and Minh Duc industrial zone. The Provincial Competitiveness Index of Hung Yen increases gradually from 2013 to 2019. That shows the efforts of Hung Yen governors to facilitate the business development of enterprises.

Table 3: The Provincial Competitiveness Index of Hung Yen from 2013 to 2019

Year	2013	2014	2015	2016	2017	2018	2019
PCI	53.91	55.14	55.1	57.01	59.09	60.66	63.6
PCI Ranking	53	51	56	50	56	58	55

Source: (PCI Vietnam, 2020)

Located adjacent to the capital city, Hung Yen and other Hanoi's nearby provinces have enjoyed spillover benefits from the development of the capital. However, they have to face many challenges from geographical location, infrastructure, and a shortage of high-quality human resources (people who tend to work and develop careers in the capital). The government pointed out the weakness of the region: (i) agricultural production remains scattered; (ii) industrial production has mainly expanded horizontally and focused on natural resources exploitation; (iii) high-tech industries, auxiliary industries, logistics, and high-quality services have not developed incommensurately with the region's potential (VGP News, 2019).

1.4 Research questions (Huong)

As depicted in the above sections, recently, especially in the digital era, Hung Yen and other Hanoi's nearby provinces are facing many challenges in fostering their productivity. Therefore, our research focuses on defining the critical factors encouraging and/ or constraining the business productivity of these Hanoi adjacent provinces in general and Hung Yen in particular. To this end, our research paper raised and researched the answers for the following research questions:

- What are the factors constraining business productivity in the digital era, especially of capital city nearby provinces?
- How do the enterprises in Hertfordshire perceive and evaluate these factors? Solutions to manage these constraints and improve productivity?
- What are the lessons learned for enterprises in Hung Yen province?

2. Research methodology (Giang + Huong)

2.1.1 Literature review (Giang)

Productivity is critical to enterprises, which can lead to increase profits, potentially higher wages for workforce and enhance the competitiveness of the enterprises. There are many factors influence firm productivity, in which we can divide in 2 groups: external and internal factors. External factors can be the economic environment, the market situation, government and local regulations. Internal factors including workforce, capital, management, technology. Among these, there are number of factors that, when they get the positive changes, will create a positive effect to enhance productivity. And inverse, negative changes can make constraint to firm's productivity. In digital era, factors constraining firm productivity may have some adjustments. With the development of science and technology, innovation is the leading factor that influences firm productivity. An empirical research from Lee D.(2016) on the role of R&D in the productivity growth of Korean industries found that R&D play an important role in fostering productivity growth, and the productivity impact of R&D is stronger in more advance industries (industries that are close to the technology frontier) and during

economic downturns. The same with UK, R&D is important for both innovation and productivity, while knowledge spillovers are more important than R&D for firm productivity (Audretsch B.D., Belitski M., 2020). Beside innovation and R&D, workforce skills and manager skills also influence firm productivity. Workforce skills, number of labor, and capital intensity are the main factors influencing labor productivity, therefore influence on the firm productivity (Dat T.T, Thanh T.T et al., 2019). Some of the top competencies in the digital era are lifelong learning, personal attitude, teamwork, dependability, and IT foundations (Sidoo V. et al., 2019). To strengthen the necessary skills for employee in the digital era, training is one of the most important parts of an organization's overall strategy. Needs of training arise due to advancement in technology, need for improving performance or as part of professional development (Min A.S, Mansor N., Anvari R., 2014). Manager skills, ability and characteristics (such as competency, communication skills, personality traits) can improve employees' mental health and enhance productivity (Kuroda S., Yamamoto I., 2018). According to Guzman V.E. et al.(2020), leadership is essential to successfully promote a culture of innovation. Leaders assume a crucial role in the paradigm shift towards Industry 4.0. The four leadership skill groups are necessary in the transition process towards Industry 4.0 including: cognitive skills, interpersonal skills, business skills and strategic skills. Hoffman J.M, Mehra S., (1999) showed that the lack of top management support as well as lack of a leadership-based process-oriented environment can discourage success in productivity promotion of the organization. Business constrains is one of the other factors that may constrain total factor productivity of the enterprise, which including regulations and policies of the government and local authorities, for example tax policies, insurances or labor policies, or policies on business registration. Management time invested in political ties weakens the positive relationship between organizational innovation and productivity (Li C., 2020). Besides it, complicated public administrative procedures may incur unnecessary costs, and high tax and insurance rates can create the financial difficulties for businesses. And indirectly, these financial constrains have significant implication on firm productivity growth. Financial constrained firms have lower revenue than unconstrained firms (Amos S., Zanhouo K.D, 2019). Tax rate, for example with export companies, export tax rebate can smooth financial constraints through increasing cash flow, substituting working capital, financing fixed assets investment and R&D investments, and can lead to increase firm productivity (Zhang D., 2019). If the government can provide supports, it would help to increase firm productivity. However these effects may vary by country. In Chinese mixed market, empirical evidences show that enterprises with government support increase R&D and thus improve their productivity (Wu A., 2017). Nevertheless, in Vietnam, there is no evidence of linkage between financial supports from the government and firm productivity. Access to financial support improves technological progress and growth in firm scale but have a negative impact on improvement in technical efficiency (Vu Q., Tran Q.T., 2020). Based on the researches reviewed, we have defined the 4 main factors that may constrain firm productivity: (1) Innovation and technology through product/service launches; (2) Workforce skills gaps; (3) Leadership and management constraints; and (4) Business constrains. The effects of these factors are now mainly studied on a national scale. These factors should be physically tested at the local level to see if they really influence to the firm productivity in the digital era and suggest solution to promote the productivity and performance of local businesses.

2.1.2 Questionnaire survey enterprises in Hertfordshire (Giang revised)

The questionnaire has been designed for businesses in Hertfordshire (UK) with over 435 enterprises responding. Almost respondents are SMEs (more than 90%). Locally, the University of Hertfordshire (UoH) plays an important role alongside other anchor institutions in supporting small firms at both the regional, national and international levels. Through this, and working with the likes of other supporting agencies such as Hertfordshire Local Enterprise Partnership, Hertfordshire Growth Hub, and other bodies that UoH can play its part in building successful local communities and economies (UK Commission for Employment and Skills (UKCES) 2015). The survey focuses on seven primary sectors in Hertfordshire: manufacturing & advanced engineering; life sciences & pharmaceuticals; professional, financial & technical services; information, communications & technology services; construction & the built environment; arts, entertainment & recreation services; high-end logistics and retail, which are the sectors that have most influence on digital transformation in the regional economy.

Twenty-four key questions were designed to help understand fully the challenges and issues of productivity, by investigating the driving factors constraining local productivity and growth of small enterprises, defining innovative activities of the community, as well as exploring their upcoming business plan strategies of the local business community.

Besides Hertfordshire, with the same objective, we also conducted in-depth interviews with 10 enterprises in Hung Yen province (Vietnam). Among those 10 enterprises, 50% are manufacturing and advanced engineering. The rests are in Construction, Real Estate, Information and Technology, Logistics and Retail, Financial Services. 40% were large-sized businesses, 40% are SMEs and 20% are small size and micro businesses. All the 10 enterprises work in Vietnam for more than 8 years. The questionnaires were a little shorter than those surveyed in Hertfordshire, but detailed explanation is required in some questions. Data obtained from the survey results in Hertfordshire is the basis for the team to provide solutions suggested for improving firm productivity in Hung Yen province.

3. Findings and discussions

3.1 Business growth of surveyed enterprises

In 2018, about 90% of enterprises surveyed having the same or increase in turnover. Even more than 25% enterprises have the increase of 10% or more. 2018 can be considered as a good year for local enterprises in Hertfordshire. With 435 enterprises in the seven primary sectors in Hertfordshire surveyed, which experiencing over 10% growth of SMEs in Hertfordshire in 2018, we wanted to understand the factors behind this good performance.

Same tendency as Hertfordshire, with the research year of 2019, all of the 10 enterprises surveyed in Hung Yen experienced an increase in turnover (50% having from 5-10% of turnover increase and 50% having more than 10% increase of turnover). Half of them having export activities.

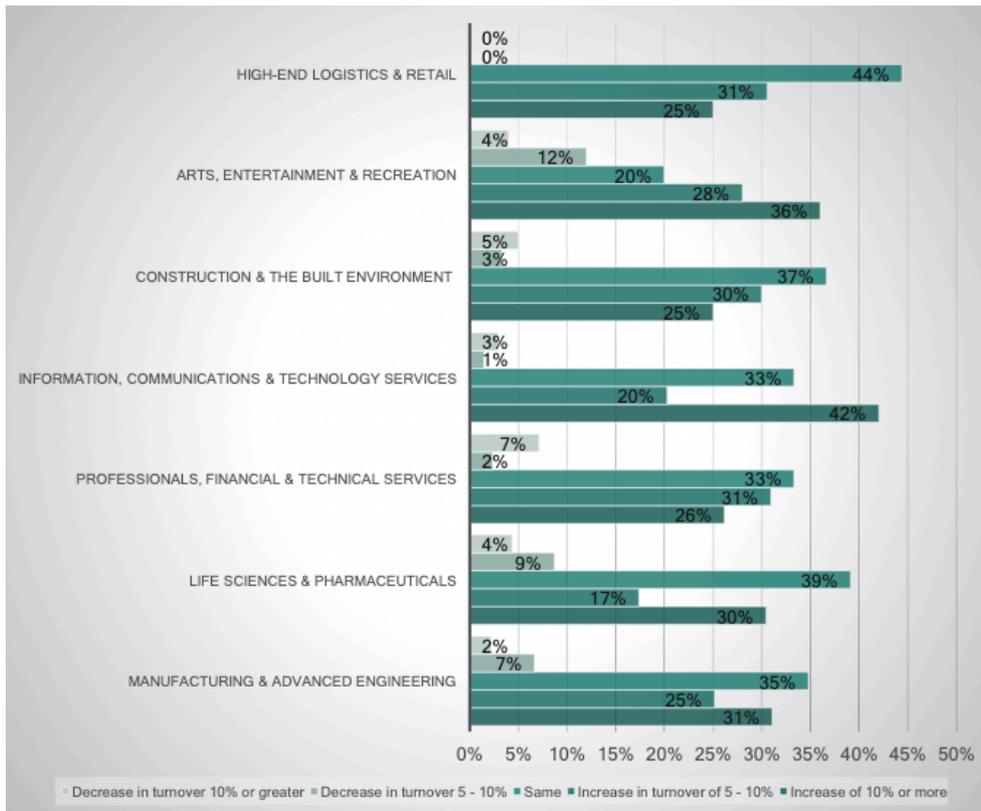


Fig. 1: Growth rate of enterprises in Hertfordshire in 2018

3.2 Perception and evaluation of enterprises in Hertfordshire and Hung Yen about factors constraining their productivity

In this section, we synthesize responses of enterprises in Hertfordshire and Hung Yen to analyze 4 main constraints to firm productivity: (1) Innovation and technology through product/service launches; (2) Workforce skills gaps; (3) Leadership and management constraints; and (4) Business constrains.

3.2.1 Driving Technology & Innovation through Product/Service Launches – **Hương**

In the Hertfordshire business community, the number one important factor driving their current and perceived future performance was their ability to launch new products into the marketplace.

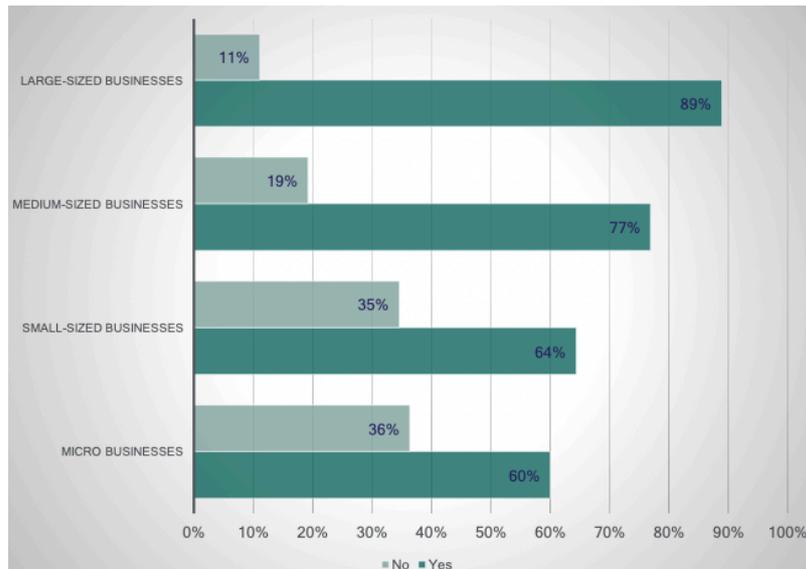


Fig. 2: Introduction of new products/services in the last three years (2017-19)

The above figure shows the importance that Hertfordshire enterprises place on delivering new goods, services and processes to help maintain their competitiveness, sustainability, future growth, increased productivity and turnover. Clearly some sectors see the need to create, develop and deliver goods/services that are new to the world, being driven by the latest primary and secondary technologies, see figure 3.0 below. Nationally, the proportion of SME's that have introduced new or significantly improved goods, services or processes have dropped over the last five years, more so for the micro- and small-enterprises (Department for Business Energy & Industrial Strategy 2018a). Suggesting that these small enterprises are struggling to resource these developments, either because of lack of relevantly skilled staff and/or the leaders/managers skills in directing and guiding this activity. Those sectors that are struggling (construction and the built environment; Information, communications and technology services; life sciences and the pharmaceuticals, manufacturing and advanced engineering) the most are also witnessing an increased 'unfilled higher skilled vacancies' challenge.

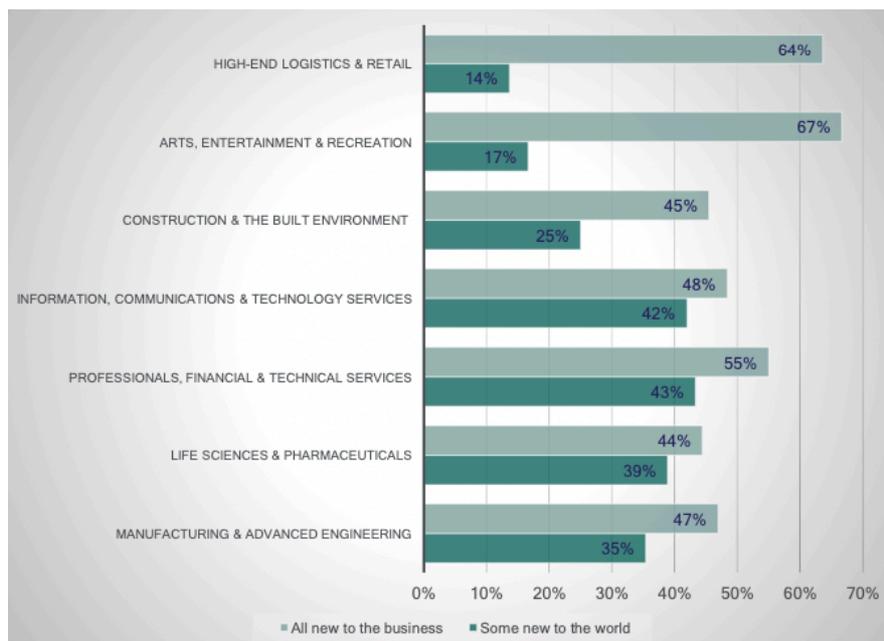


Fig. 3: Hertfordshire Enterprises' Innovation Activity

For Hertfordshire enterprises that export to the EU (36%) over 74% of these have introduced a new or significantly improved product/service in the last three years to both help increase turnover and improve productivity. For those Hertfordshire enterprises not exporting (64 %) this drops to 62%. For those Hertfordshire enterprises that exhibited turnover growth in the last 12 months (50%) over 71% of these had introduced a new product/service in the last 3 years. For those predicting turnover growth in the next 12 months (54%) the introduction of a new product/service over the last 3 years increases to 74%. Both of these facts above supports the national picture of evidence that enterprises that both expose themselves to export markets and have significant innovative activities are more likely to have higher growth and productivity than those enterprises that don't (Love and Roper 2013). In Hung Yen, 100% of surveyed enterprises have introduced any new or significantly improved goods/services/processes in the last three years. There are 60% of respondents asserted that their innovations have at least some new to the market, and 40% of respondents answered that their innovations just new to the business. Most of companies in Hung Yen appreciated the impact of the following related innovation activities: (i) External R&D, (ii) Acquisition of external knowledge, (iii) Changes in product, service, or process design, and (iv) Market research with the proportion of enterprises evaluate the impact from medium to high are 55.6%, 60%, 70%, and 80% respectively. The budget for research and development of new goods, services, or processes is a critical factor to drive innovation, especially in the digitalization era, when the cost to install and implement digital technology is extremely high. According to our survey in Hung Yen, all companies doing business in the field of Manufacturing and Advanced Engineering and the field of Information, Communications, and Technology Services have invested their turnover in R&D activities with the proportion of 0-4% (66.7% of Manufacturing enterprises) or more than 4% (33.3% of Manufacturing enterprises and all of IT companies). However, according to the project to support Hung Yen Youth startups (2018), most micro, small and new/ startup companies in Hung Yen are slow in implementing new technologies in their businesses to innovate products and services, increase their competitiveness, and enhance business efficiency. The two most important reasons are (i) they are facing difficulties in accessing to loans and other financial support from the government and (ii) the lack of management and technical skills of staff and managers (Hung Yen Provincial Youth Union, 2018).

3.2.2 Broader Issues of Workforce Skills Gaps – Huong

In 2017, the influential 'Employer Skills Survey 2017' suggested that over 20% of UK employers have unfilled vacancies, an increase year on year over the last five years (Department for Business Innovation & Skills 2015). The UK as a whole faces a digital skills crisis, where up to 12.6 million of the adult population lack even the basic digital skills (House of Commons 2018). It is estimated that this digital skills gap is costing the UK economy over £63 billion in lost additional productivity. In the Hertfordshire small enterprise sector, the picture painted is varied and worrying, see figure 4 below. In Hertfordshire the difficulties in recruiting appropriately skilled staff are more acute in the small (35 %) and medium-sized (32 %) enterprises.

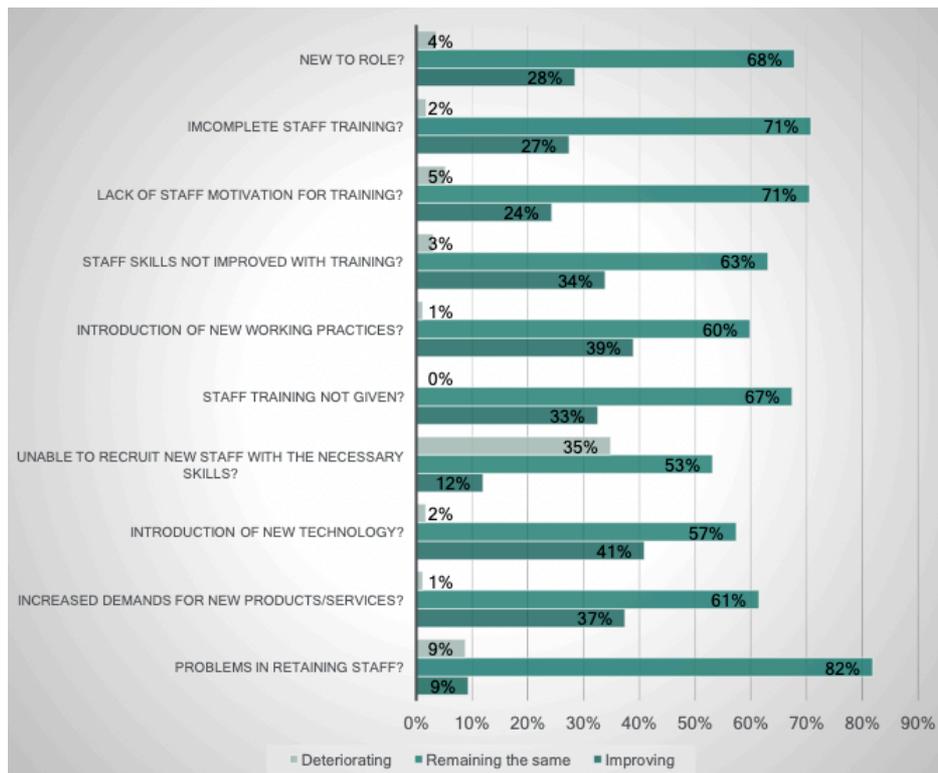


Fig. 4: Hertfordshire Small-enterprises Workforce Skills Gaps

According to our survey, 90% of respondents asserted that “Lack of skilled labour” is one of the factors constraining their business turnover/growth and productivity in this digital era. In which 50% of interviewees evaluated the impact as medium, high and very high. One of our informants stated that: “The biggest hindrance to firm productivity is the lack of highly skilled workers because they are directly involved in the value creation process for the company”. 80% of surveyed companies have increased their number of employees in 2019. However, 90% of companies worried about the high labour cost is constraining their business growth and productivity in this digital era. 70% of surveyed companies evaluated performance of their managers in organizing and motivating the staff at medium or poor level. The same number is for the ability to delegate work/responsibility to others. Decision making, organizing resources and coordinating tasks, and developing new goods, services or processes that are superior to the competition are the three skills even got the grade “very poor”. Most of the respondents considered that the most common reasons for MANAGER's skills gaps are as follows:

- (i) Increased demands for new products/services (30% of companies stated that the problems remaining the same, even deteriorating in 2019)
- (ii) Introduction of new technology (50% of companies stated that the problems remaining the same, even deteriorating in 2019)
- (iii) Problems in retaining managers (75% of companies stated that the problems remaining the same, even deteriorating in 2019)
- (iv) Unable to recruit new managers with the necessary skills (87.5% of companies stated that the problems remaining the same, even deteriorating in 2019)

The above problems are also the common reasons for STAFF's skills gaps in Hung Yen. Besides that, new to role and incomplete staff training are also significant factors leading to skills gaps.

3.2.3 Leadership and Management Constraints – Giang revised

The UK government can of course do its bit to encourage leadership and management training through initiatives/incentives, and other funding streams that employers can access. However, it's the employer that needs to engage and be the driving force behind improvements in leadership and management, by (Department for Business Innovation & Skills 2015):

- Critically looking at their current leadership practices – key to good management practices and SME performance are their entrepreneurship and leadership skills (Department for Business Innovation & Skills 2015b);
- Being prepared to make changes, even if that means diverting resources away from other activities. On average one in three Hertfordshire enterprises perceive their leaders and managers to be either poor or just average in their performance, significantly so (42%) in the area of developing new goods, services or improved processes, see figure 5 below.

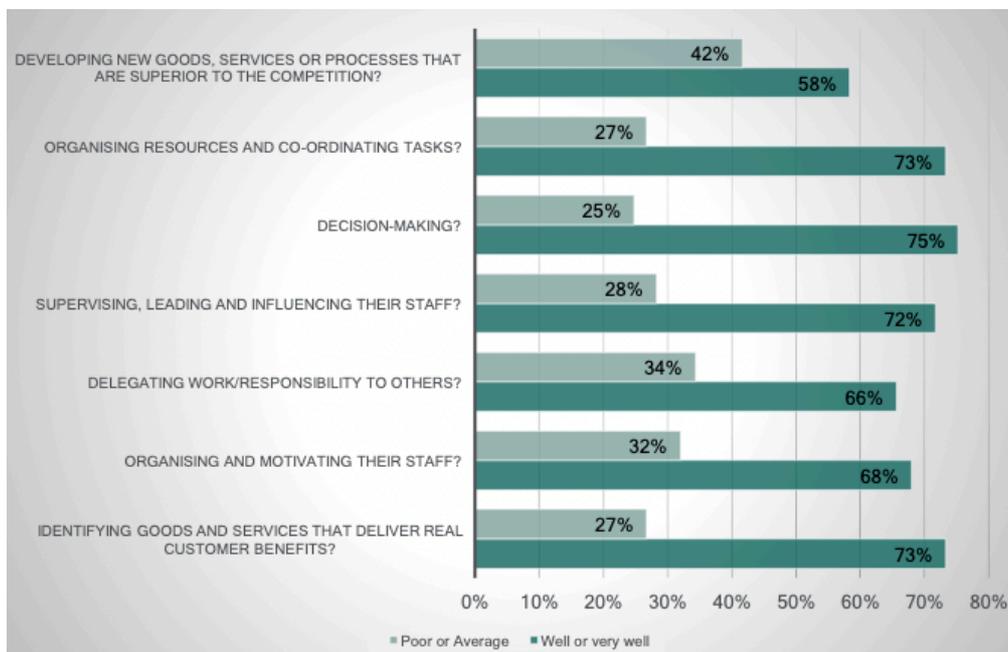


Fig. 5: Hertfordshire enterprises' perception of their leaders and managers performance

Related to the 10 companies surveyed in Hung Yen province, only 1 of them having problem with manager's skills gap, which can constrain the productivity of the company. This company is in the field of Information and Technology, which requires the managers to have very good and updated knowledge on new products and services, introduction of new technology. Not all the managers of the company can update the new tendency and new technology application. For them, in the digital age, it is quite difficult to retain the good managers as many others competitors are willing to pay higher salary for high-level managers. And because of the budget capacity, to recruit the new good skills managers is also one obstacle of the company. Nevertheless, others 9 companies interviewed do not have to face with this situation, even in half of them, the managers' skills have been improved a lot.

In overall, managers' performance is assessed in average level. 5 companies evaluate that their managers have good decision-making skills, while 3 companies consider that it is lower than average. These 5 companies (50%) also highly appreciate the skills of the managers in developing new products and services and identifying goods and services that deliver real customer benefits in order to enhance competitiveness of the companies. However, 4 others assess that their managers do not

have such of those skills. Related to HR management, 40% of the companies assess that their managers is good in organising and motivating the staffs, having the skills of supervising, leading and influencing the staffs, delegating works and having responsibility to others, having capabilities of organising resources and co-ordinating tasks. Other 40% evaluate the above contents at an average level, while 20% rated at poor level, which are the companies in construction and real-estate industries. In 2018, these 2 industries had a growth rate in 2018 of 8.02%, higher than the GDP growth rate of the country at 7.08%. 2019 is also a year of development of the 2 industries, when the demand for housing and office buildings has increased 19%. However, worker and staff management in these sectors are more difficult, as human resource structure is complicated, the number of employees is large (both the 2 companies interviewed have more than 300 employees) and often fluctuate. In the digital age, using of technology in personnel management in other industries is much easier than in construction and real estate industries as the sites spread out in many locations. This constrain thus of course influences the management and motivation the employees of the companies' managers. The 60% of poor and average level of the enterprises interviewed in Hung Yen is much higher than the rates of only from 25% to 42% of Hertfordshire. Under the perception of their staffs, the managers of enterprises in Hertfordshire have better skills both in HR management and business management. This issue may affect to the productivity of Hung Yen companies. To fill in the skill gap of the managers, both the 10 companies interviewed in Hung Yen stated that they have training plans for managers, as well as budget prepared for the next coming year (2020).

3.2.4 Business constraints – Giang revised

National research still shows that SME's, in particular' cite the following as the principal business constraints on their business growth and productivity (ERC UK 2019): Competition in the marketplace (51% and rising); Regulations and red tape (46% and rising); Taxation (VAT, PAYE etc.) (41% and rising); UK's exit from the EU (27% and rising); Obtaining finance (18% and rising). Locally in Hertfordshire, SMEs see accessing local business support, access to finance and the high-speed IT infrastructure as most detrimental to their long-term improvement in productivity and growth, see figure 6. Below.

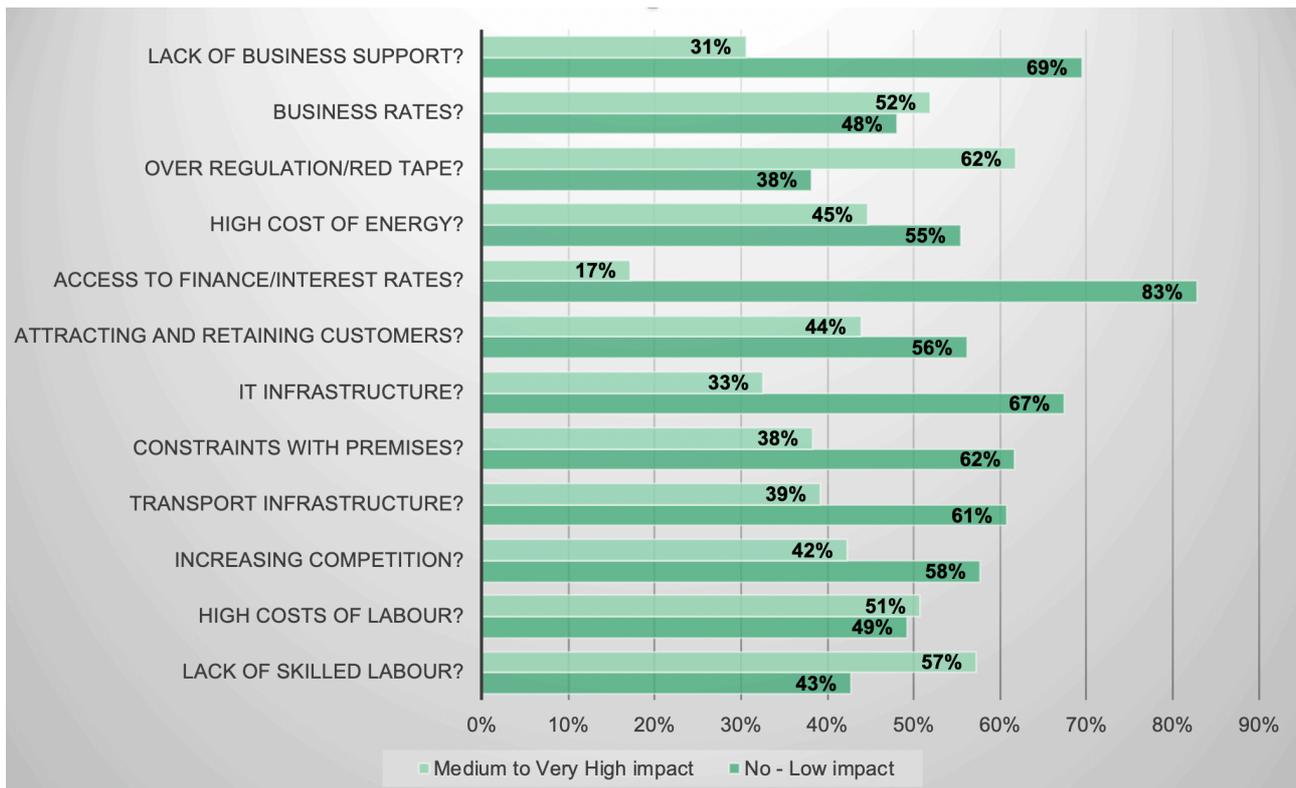


Fig. 6: Hertfordshire small enterprise perception of factors impacting on productivity and growth

Yet with all of these business constraints Hertfordshire enterprises are still predicting strong growth in the coming year, particularly in manufacturing & advanced engineering (56%), construction & the built environment (55%), information/communications & technology services (62%), and life sciences & the pharmaceutical (47%) sectors. In the services industries, arts/entertainment and recreation and high-end logistics & retail are also predicting strong growth (64% and 56%) respectively.

Hung Yen is a province that have just a little progress in PCI ranking, and among 11 Red-river delta provinces, the province is in the lowest position (11th) and rank in 55th position in the total of 63 provinces. There are still many business constrains in Hung Yen, such as market entry costs, time costs, proactivity of provincial authorities, business support services, law and order. The marks of some sub-indices as transparency, unofficial fees, policy bias even increase but still low compared to other provinces and to the total average of the 63 provinces.

Table 4: PCI ranking and business constrain' factors of Hung Yen from 2015 to 2019

Unit: 10-point scale

Year	2015	2016	2017	2018	2019
Market entry costs	8.21	8.24	7.35	7.5	6.18
Transparency	4.88	5.68	5.62	5.5	5.98
Time costs	6.08	5.71	5.25	6.82	5.85
Unofficial fees	4.61	5.21	4.21	4.69	6.33
Policy bias	4.21	4.85	4.83	5.54	6.83
Proactivity of provincial authorities	4.2	5	4.5	6.19	5.95
Business support services	5.18	5.23	6.38	6.41	6.17

Law and order	5.87	5.58	5.37	6.29	6.08
PCI (100-point scale)	55.1	57.01	59.09	60.66	63.6
Ranking (in total 63 provinces)	56	50	56	58	55

Source: PCI 2019 report

PCI report 2019 has been done with the survey of thousands enterprises in the whole countries, and with the case of Hung Yen, this result reflect the reality of the local enterprises' difficulties. For the 10 companies interviewed in Hung Yen, 8 companies (80%) assess that there is an increase in competition among enterprises, however, the companies got from medium to very high impacts because of the administrative procedures are too many (90%), lack of business support from the government and local authorities (80%), difficult to access to finance resources and preferential interest rates (60%), and 90% have problems with high tax rate. It shows that almost the companies interviewed having issues with business constrains impacted to the productivity of their companies. Even 3 among them have stated that over regulations, administrative procedures and red-tape is the factor the most affects company's productivity in the digital age, as it directly influences to company's daily activities.

3.3 Solutions to manage these constraints and improve the productivity of enterprise in capital nearby provinces in the digital era (Huong)

From above findings, we suggested the solutions to drive longer-term productivity for enterprises in Hertfordshire and Hung Yen as follows:

Regarding the business side, enterprises should have **business strategy and plan to:**

- (i) improve their activities in driving up the introduction of new goods/services, on a regular basis, will prove their abilities to compete in both domestic and overseas markets;
- (ii) foster market research to understanding their continuously changing market and develop business strategies that increase the effectiveness of their new goods/service launches;
- (iii) push activities of export, e-commerce, and application of digital technologies;
- (iv) take part in business networks to learn best practices from their productive and scale-up enterprise neighbours;
- (v) pay attention to attract, train, and retain skilled labour (both of managers and staff) through improving compensation policy and working environment;
- (vi) collaborate with university, vocational school, and research institutions to strengthen their human resource and enhance R&D effectiveness.

Regarding government side, national and regional governors can support firms through:

- (i) providing sufficient support and advice. In Hertfordshire and Hung Yen, employers that are young and growing search for information on employment, financial and other regulation-based needs, presumably to strengthen their business model and overall business sustainability. As these enterprises mature then they increasingly seek, and prioritise, on marketing and market research information needs, better to help fuel their sales pipelines. Figure 6 shows enterprises' information needs by business age. Table 5 shows the evaluation results of business support services of provincial government in Hung Yen which fluctuated year by year and depict quite low level of governmental support ability.

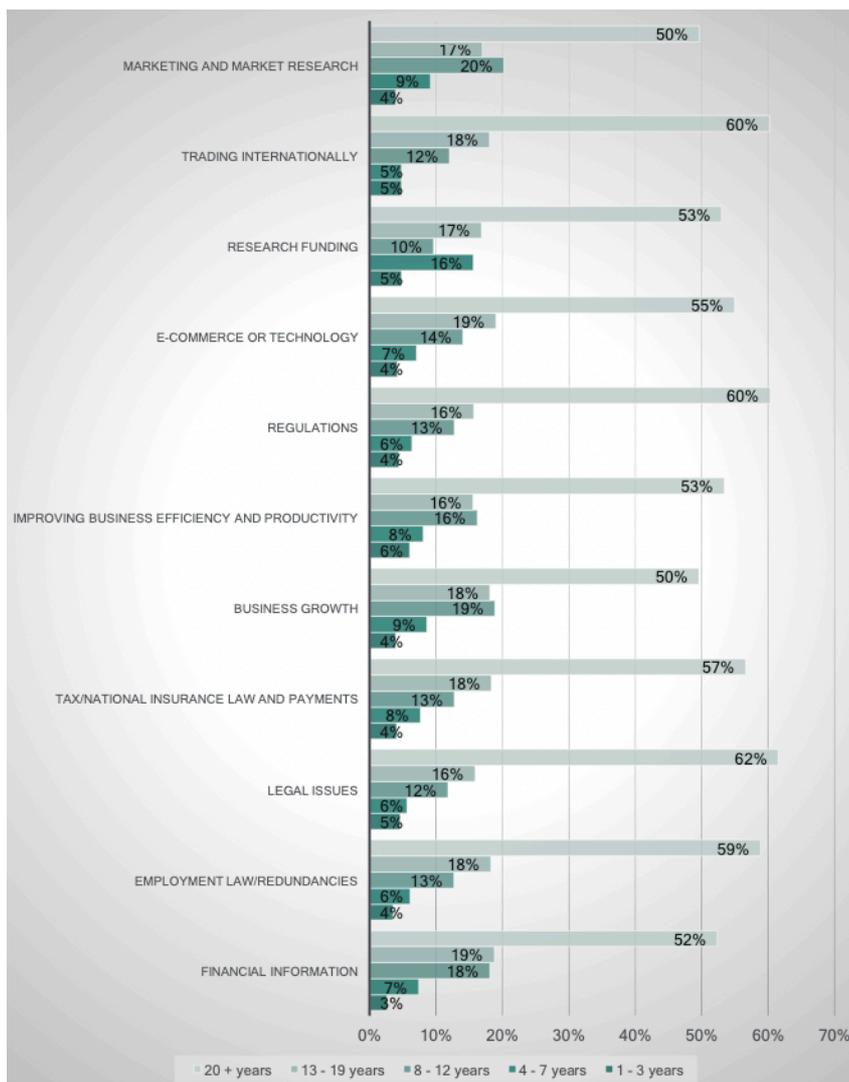


Fig. 7: Hertfordshire enterprises' information needs by business age

Table 5: Evaluation of business support services of provincial government in Hung Yen

Year	2013	2014	2015	2016	2017	2018	2019
Business support services	5.34	5.51	5.18	5.23	6.38	6.41	6.17

Source: (PCI Vietnam, 2020)

- (ii) improving quality of vocational training, while at the same disseminating industry promotion policies and providing rural businesses with consultancy in the fields of market development and brand building.
- (iii) simplifying administrative procedures and regulations and eliminating red-tape, bribery evils.

4. Conclusion (Giang + Christopher)

National and local government policy is to have an inter-connected strategy on strategic development, therefore the need to have a long-term outlook, integrate key factors that influence productivity, and then marry this to national strategies (Network 2019). What we present here is identifying the local SME community key factors influencing productivity, firstly Hertfordshire just outside London, and then the business community outside Hanoi, Vietnam.

The Hertfordshire Productivity study findings have revealed some interesting insights and perspectives of the Hertfordshire SME community, particularly around their activities in driving increased turnover, growth and improved productivity:

- Hertfordshire SMEs are experiencing steady growth, across the sector more than 56 % have increased turnover by more 5 % or more. In sector terms the strongest sectors are arts/entertainment and recreation (56 %), manufacturing and advanced engineering (55 %), and information/communications and technology (55 %). The weaker sectors for growth in turnover in the past year were life sciences and the pharmaceuticals (35 %), and professional/financial and technical services (35 %);
- As a consequence of Hertfordshire enterprises' growth above, they are increasingly confident to increase employment levels, nearly 47 % predicting recruiting new staff in the next year (2019-20);
- Not surprisingly it is the micro- and small-enterprises who have fewer new goods/services being launched each year compared to medium-enterprises. The STEM skilled sectors (e.g. manufacturing and advanced engineering, life sciences and the pharmaceutical, etc.) have the highest incidence of goods/service launches per year. It is these STEM skilled sectors that more frequently launch new-to-the-world goods/services;
- Hertfordshire SMEs that deliver goods, relying on a high STEM skilled workforce, also recognize the high impact of internal R&D (47 %), and the linked importance of external knowledge acquisition. As a contrast between manufacturing and advanced engineering and professional/financial and technical services, manufacturing are twice as likely to have internal R&D functions than other SMEs, they are also 50% less likely to use external knowledge to help their goods development;
- Hertfordshire micro- and small-enterprises identify the challenge of retaining staff (82 %) as having a significant impact on both increasing turnover and on overall productivity, 10 % reporting a continuing worsening of this situation;
- Hertfordshire SMEs reported a worsening of their leaders and managers (19 – 21 %) ability to cope with introducing new technology, and the increased demand for new goods/services;
- Hertfordshire life sciences and the pharmaceuticals enterprises cite three highest impact constraints are being over-regulation/red tape (50 %), attracting and retaining customer/clients (45 %), and increasing competition (50 %);

Hertfordshire SMEs' business plans are dominated by the focus on skills gaps and up-skilling their workforce. Key to their future success: turnover, growth and improved productivity; is the ability to recruit and hold on to the right workers;

Hertfordshire SMEs' business plans identified the importance of increasing capital investment and investing in increasing the workforce's and leader/managers skills and its linkage to improved

productivity. National studies suggest a degree of skepticism about enterprises level of commitment to improving productivity (Centre for Innovation and Productivity 2018), but our findings suggest differently;

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