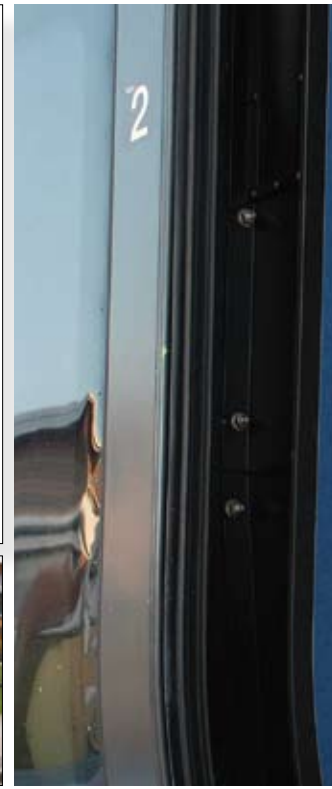
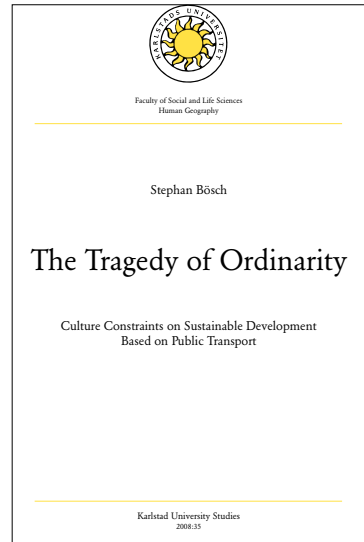




TRAVEL RESEARCH RESULTS

FINAL R3 REPORT
AUTUMN 2010





THE OUTCOME:

INCREASED KNOWLEDGE ON ALL

It all started six years ago when the owner of the company specified the overall corporate aim as being to serve as a tool for regional development and to contribute towards sustainable development within the county. As far as Värmlandstrafik is concerned, it was a question of increasing the customer benefit and quality so that public transport attracted more passengers. But how could this be achieved?

The idea of involving doctoral candidates from industry in line with the model applied within the private sector gradually emerged. Following support from the County Administrative Board, Vägverket (the Swedish Road Administration) and Karlstad University, a five-year research project was initiated a year later, and four doctoral candidates with different areas of industrial research were employed by Värmlandstrafik.

Even though work on the project underwent many twists and turns, both positive and negative, Per Magnus Bengtsson can today cite a series of positive results. He concludes that the project has more than fulfilled its expectations.

“Since the project first started, the company’s market share has increased by between 40 and 45 per cent, which is in itself an indication that we have succeeded in contributing towards more sustainable development. More passengers now share the opinion that we offer an attractive range of transport options,” he says.

Per Magnus Bengtsson identifies a number of important milestones during the course of the project.

“The first was when we held training courses for all our personnel on the company’s new tasks, and what it would mean in terms of changes. It meant that everyone within the company became aware of the project and involved in the change management activities. The quality management system and process identification of our work, which resulted in the establishment of goals and values for the activities, were of course important milestones. Another milestone that is worth mentioning is last year’s procurement of rail traffic. It was an indication of the fact that we were ready to accept the service concession as a form of contract. We now share a common assignment with the operators, Tågkompaniet, that incorporates risk sharing and joint regular and systematic quality management work



for continued development.”

The contribution of the research personnel has been important in a number of respects, both as input for the managerial work as well as for Värmlandstrafik’s personnel. According to Per Magnus Bengtsson, the project has entailed a major increase in knowledge throughout the entire organisation.

“The researchers have definitely played an important role. Even though the company’s change management work has been directed by the management, they have received encouragement and support from the work of the doctoral candidates. As far as the personnel are concerned, the presence of the candidates in the everyday work of the company has been of value in itself. Knowledge is transferred in everyday discussions. Nowadays, we discuss things more in terms of processes, and everyone is aware of what our main tasks are.”

In December, if everything goes according to plan, Värmlandstrafik will know whether the joint quality development work has paid off. Then work commenced on certification in accordance with ISO 9001 and 14001.

“I regard this certification as being final confirmation that we are



LEVELS

a more mature organisation and that we are now working with ongoing improvements. It represents a kind of examination for the company and for R3.”

At the same time, the R3 Project comes to an end. But then a new journey will hopefully begin. Plans are already under way together with SAMOT at Karlstad University to start a new doctoral candidate project with the working title of Service Innovation Team, says Lars Bull, Managing Director of Värmlandstrafik. It could use SAMOT as a knowledge platform, unlike the R3 Project where Värmlandstrafik has played this role.

A larger group of doctoral candidates (between six and ten individuals) would be involved and stationed in roughly the same number of different companies, all linked with the public transport sector.

Two conclusions that can be drawn from the R3 Project are that it is no easy matter keeping together a group of young, well-educated people for five years, which in turn means that a project like this is a major financial risk for one company to bear on its own, says Lars Bull.

The idea behind the Service Innovation Team is for the doctoral candidates to work shorter periods for the companies and help solve defined problem areas. When the group comes together, it is in itself a Service Innovation Team.

“The idea too is to try and set up service innovation teams within those companies that employ a doctoral candidate, so that with the aid of the candidates and their tutors it is possible to initiate a systematic innovative process”, says Lars Bull.

As a third project component, Lars Bull talks about creating cross-border innovative teams that examine the potential for joint development work across sector boundaries.

“For example, the matching of public transport with industrial design or IT could serve to increase the rate of development,” concludes Lars Bull.

These are plans that are in their early stages. But it is clearly apparent that Värmlandstrafik has acquired the taste for working in close collaboration with science, and that this interest will continue to grow. This is something that Per Magnus Bengtsson and Lars Bull hope other companies within the public transport sector will be inspired by. ■

3 on R3

How have you experienced the R3 Project?

Bo Jonsson, Unit Manager for Regional Development, County Administrative Board, Värmland

“I have followed the R3 Project from the point of view of a financier in the Steering Group – more as an observer than as someone involved in the steering of the project.”

What is your opinion of R3?

“The County Administrative Board has always considered it as being an interesting project. And this is particularly the case from the point of view of regional development. Good public transport contributes to regional expansion, among other things by creating opportunities to recruit personnel who live in other towns or cities. Also, it is a project that has helped to shed light on Värmland, and not least the research being conducted at Karlstad University.”



“A project that has helped to shed light on Värmland”

Bo Jonsson,
County Administrative Board, Värmland

Hanne Carlen, Financial Manager, Värmlandstrafik



“Good for the company to appear in different public transport contexts”

Hanne Carlen,
Värmlandstrafik

“Without R3, our quality management work would not have been as it is today. It has no doubt been important in other respects too, but as far as I’m concerned it is Åsa’s quality management work that has been most visible.”

What has the project given in terms of the everyday work at Värmlandstrafik?

“Everyone at Värmlandstrafik has been involved in the quality improvement work, especially now when we are due to become certified.”

Can you think of any other positive effects of R3?

“The project has helped to make sure Värmlandstrafik appears more often in the media. It is, of course, good for the company to appear in different public transport contexts. It helps to give us a good reputation.”

Einar Tufvesson, Swedish Transport Administration

“I have experienced it as an interesting and instructive project. I believe that it is both brave and wise of Värmlandstrafik to have allowed research and development work to be integrated in the day-to-day work of the company. One thing we have learnt is that projects of this type are long-term in nature and must be given time. I have experienced the project as being a cultural journey when it comes to the approach adopted.”

What can the sector learn from the project?

“That it is possible to change people’s attitudes to an organisation from being a school bus company that provides transport services into being a driving force for regional growth. Public transport in itself has no intrinsic value – it is only when it creates work, a better environment and makes people’s everyday lives easier that it takes on any real importance.”



“The project – a cultural journey when it comes to the approach adopted”

Einar Tufvesson,
Swedish Transport Administration

**16 December 2005**

Employed as one of four doctoral candidates at Värmlandstrafik.

Spring 2006

Literature studies result in the decision to focus on process orientation and the involvement of all employees.

Autumn 2006

Trained the management group in quality development, specifically process orientation.

Autumn 2006/ Spring 2007

Interviewed personnel at Värmlandstrafik and Nobina. The results were used to improve the company's relations and to set common goals.

Autumn 2007/Spring 2008

All personnel at Värmlandstrafik trained in process identification.

Autumn 2008/Spring 2009

Management trained in the self-evaluation model Språngbrådan (Springboard). The model was included in the procurement documents for the service concession.

Åsa Rönnbäck is on the last lap of her journey.

She will soon hold the title of Doctor.

During the course of her R3 journey, she has experienced both her own development and that of a company.

JOURNEY TO A DOCTORATE

Almost exactly five years have passed since systems specialist Åsa Rönnbäck was employed at Värmlandstrafik. Recently, she submitted her dissertation entitled "Co-creation of Value in Public Transportation - A Quality Management Perspective", consisting of six articles.

It is easy to understand that the past year has been very busy. Åsa has written no fewer than three articles since 2009.

The first article describes the entire action research project chronologically, and covers all aspects of the project, i.e. both research studies and how the results have been used to develop Värmlandstrafik. The second article, entitled "Including quality in the public procurement process of services", describes the procurement process that led up to the service concession, a process that Åsa was involved in on various levels since it was the quality aspect that determined which tenderer Värmlandstrafik chose to continue working with. The third article describes how the so-called quality profile within Värmlandstrafik has been developed and transformed over the course of time.

"The term quality profile refers to a graphical image of how the various quality principles – leadership, process orientation, customer orientation, full employee participation, the basing of decisions on facts and constant improvements – display different levels of quality maturity over the course of time," explains Åsa.

On 26 November, she defends her dissertation at Chalmers Institute of Technology, after which she will be a fully qualified doctor. Of the four candidates initially employed on the R3 Project, Åsa is the only one to have fully completed the work and taken her doctor's degree, something that she is extremely grateful for.

"It has given me so much in terms of personal development, new knowledge and experience. Also, I was given an extremely friendly reception and a positive response from the entire sector, not least from the personnel within Värmlandstrafik – both managers and staff."

Åsa's area of research, "Quality in Procured Network Organisations" has made its mark in Värmlandstrafik's organisation. The attitude that quality pays off has gained acceptance, and quality

management work is today high on the agenda, both in the work conducted on a daily basis at Värmlandstrafik as well as in the work together with operators.

"It has been my intention all the time to increase the knowledge of quality and operational development among the managers and staff within Värmlandstrafik and to demonstrate the importance of good business relations with PTA operators."

Part of the work has been to increase the influence of personnel and transport companies. Åsa therefore chose at an early stage to train staff in quality development and, more specifically, process orientation. They in turn trained their colleagues and in this way all the personnel within the company acquired new knowledge in the areas of quality and operational development. Åsa summarises this as being her most important contribution to Värmlandstrafik.

"People grow by having to take responsibility, and it was my idea that by allowing the personnel themselves to train their colleagues they would in turn take a greater responsibility for the quality development work. It is the managers and staff of Värmlandstrafik who have themselves developed their competence and thereby developed the company."

Åsa regards this training as being an important milestone in her research.

"Another important development was when Värmlandstrafik and Nobina initiated their annual seminars to improve their common processes and relations as such, and a third important milestone was when the quality factor was integrated into the procurement process and Värmlandstrafik began evaluating its tenderers not only on the



Åsa Rönnbäck

"Dared to try a new approach"

A year ago, Värmlandstrafik procured a rail transport service concession – a form of co-operation unique among Sweden's public transport operators.

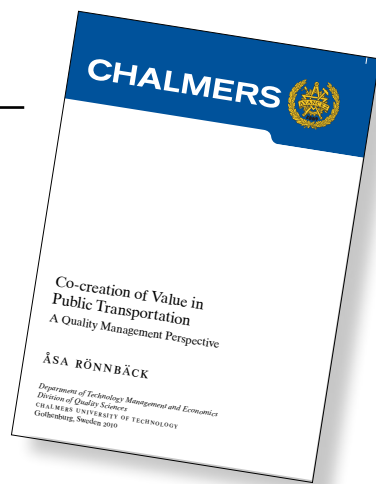
"The fact that we took this step and dared to try a new approach is an example of developed thinking, and a result of the quality improvement work conducted within the R3 Project," says Lars Bull.

As part of the work being carried out by Värmlandstrafik to double public transport, the company began – in connection with a new train service procurement – to look at forms of agreement that could lead to increased travel. The choice fell to the service concession concept, which means briefly that the operator takes a greater bus-

iness risk but at the same time has the chance to make money on increased travel volumes.

"One of the ingredients of the doubling work is to come up with a business model that also encourages the operator to increase the number of passengers. The interesting thing about the service concession model is that it is always commercial from the operator's point of view, regardless of how society decides to subsidise the operations," says Lars Bull.

Svenska Tågkompaniet AB was awarded the contract, and began operating on Värmland's tracks in December 2009. One interesting factor for Värmlandstrafik, both before the choice of partner and after the contract had been signed, has been the quality aspect. After a number of years' work on quality development, both internally



Autumn 2010

Submission of the dissertation entitled "Co-creation of Value in Public Transportation - A Quality Management Perspective", consisting of six articles.

basis of lowest price but also on how the tenderers work with quality."

Värmlandstrafik is a company undergoing change, which Åsa has been learning about since 2005. She has noted how the role of the staff has been strengthened, that the company has a more professional relationship with its transport companies and that there is in general a greater insight into and knowledge of the company's own operations.

"The company is now working more systematically, following up, evaluating and constantly improving its operations. In my experience, there is less of an "extinguishing fires" mentality and more of a deliberate, goal-oriented approach. It should, however, be pointed out that this "extinguishing fires" mentality is not entirely negative. It is a good thing for there to be a certain amount of flexibility in an organisation, which I feel Värmlandstrafik has."

Having her research work linked to one company for such a long period of time has entailed both challenges and advantages.

"As a researcher, I have for a long time been making proposals for how the work should continue, been involved in all phases of the work and have also established good relations with the people concerned. This makes it more difficult to adopt a critical attitude to the process," says Åsa.

At the same time, she describes this as being a strength.

"By building up a relationship with managers and staff over a period of five years, it creates a sense of trust which makes it possible to use the research results to develop business activities. As an action researcher, you are also given the opportunity to develop not only your theoretical knowledge but also your practical sides. For me it is "the best of two worlds."

What will happen after your work on the R3 Project comes to an end?

"On 1 January 2011, I start working as a senior researcher within 'Sustainable transports' at the Victoria Institute, Gothenburg. In my new job I will continue with action research in the transport sector. My co-operation with Värmlandstrafik will also continue." ■

within the company and externally in co-operation with operators, it was only natural that the attitude to quality work should be shared by the operator. Today, Tågkompaniet and Värmlandstrafik work together on self-evaluations, customer surveys and quality ratio follow-up. According to Lars, it is particularly important to concentrate on the quality ratios, in this case departure on time, clean and tidy vehicles, safe and secure travel, friendly and professional reception by the staff and correct information on travel disruptions.

"Together, they either strengthen Värmlandstrafik's trademark or undermine it," he concludes.

During the autumn, a similar type of contract has been entered into for one of bus contractor Nobina's routes. According to Lars, it could well be a second step on the way towards a major change. ■



Bo Enquist,
Professor SAMOT

Bo Enquist on the R3 Project:

"A project that has made its mark"

Would you like to describe how you have been involved in R3.

"Above all, I have been involved in the project steering group in which we followed the work of the industrial doctoral candidates. I was also a member of Åsa Rönnbäck's tutorial committee."

Do you remember what sort of expectations there were when the R3 Project first started?

"The expectations with respect to the project were to establish a new tradition within public transport, and that the research work would come closer to reality. It wasn't enough to make a scientific contribution – we felt it was also important to contribute to the practical side of the work."

Have these expectations been fulfilled?

"Definitely. Even though things may have happened with the doctoral candidates who were first employed, the project has been successful in a number of respects. It has been a learning process, not only for the candidates but for the entire Värmlandstrafik organisation. The project has triggered the management group to maintain a high rate of innovation which has led, among other things, to the development of quality systems and service concessions. In addition, I feel that the entire company has undergone a significant cultural change. Värmlandstrafik has developed into a modern transport company that is now more professional than it was before the project. A project like this makes its mark."

A lot has happened on the way. Some of the doctoral candidates left, for example. How do you feel Värmlandstrafik handled this situation?

"In a project as long as this, you have to be able to adapt to the situations that come up. If you see things are going wrong in connection with the doctoral candidates, as they did on a couple of occasions in the R3 Project, you have to be able to compensate in other ways. And Värmlandstrafik managed to do so. For example when Niclas Krüger was brought in to work briefly on prices and products – even though he had by then already been awarded his doctorate. I think they succeeded in taking advantage of the energy in the project in a number of ways."

Has Värmlandstrafik in its turn affected your work on SAMOT?

"SAMOT is a 10-year project divided into four stages. In the first two stages we have co-operated with various partners. Now when I look back on the different phases of the work, it is clear that Värmlandstrafik has made the largest single contribution among the partners."

What do you hope will happen after R3?

"Värmlandstrafik and SAMOT are looking at a continuation. A new doctoral candidate project with knowledge platforms here at the university. Each of the researchers would be stationed individually at different companies linked in some way with public transport. If there is no continuation of the project, the results achieved by the doctoral candidates in the R3 Project will simply be forgotten. This would be a major failure."

"Now it is important to take advantage of the knowledge that has been developed so that it is reproduced, and more people can benefit from it." ■



"The new Hammarö services cannot fail to be a major success. The trunk routes are characterised by regular timetables, which in essential respects complement each other and lead to a high service frequency" says Stephan Bösch.

STEPHAN'S IDEAS WERE IMPORTANT FOR A NEW TRANSPORT SCHEME

When Värmlandstrafik developed a new organisation for bus transport on Hammarö, the ideas of former R3 doctoral candidate Stephan Bösch were very important.

"We have really benefited from Stephan's work in connection with the co-ordination of feeder services, school bus services and "dial-a-bus" services," says Sören Ohlsson, Head of the Bus Division at Värmlandstrafik.

Stephan Bösch was employed as a doctoral candidate on the R3 Project for just over three years. His research area was route structure for sustainable regional development. Among other aspects, he helped to find out more about how public transport is valued in Sweden.

As an example of how this is reflected within the company today, Stephan himself describes the company's new website and associated forum. It serves as a meeting place with people who travel on Värmlandstrafik and has been used effectively for gathering views both before and after the Hammarö services were launched.

"The new website is extremely informative at the same time as the forum makes it possible to gauge public opinion," says Stephan.

Stephan is very positive concerning the way the new transport system is organised.

"The new Hammarö services cannot fail to be a major success. The trunk routes are characterised by regular timetables, which in essential respects complement each other and lead to a high service frequency. It was, of course, necessary to prioritise the most popular routes, but this will lead to a system of public transport that is more effective and attracts more passengers," adds Stephen.

It comes as no surprise that Stephan appreciates the way in which Hammarö's transport services are organised. Many of his own ideas on co-ordinated traffic have weighed heavily in Värmlandstrafik's work on developing the new transport system for Hammarö, System 900. The co-ordination of feeder services, school bus services and "dial-a-bus" services is a good example.

"The first service in the morning is a feeder bus that connects up with the trunk route. Then, the same bus is used to take primary and secondary school pupils to school. During the morning and after lunch there are vehicles available for dial-a-bus services, before it is time to take the schoolchildren home again. And the day finishes with a feeder bus that collects passengers from the trunk route service," says Sören Ohlsson.

Effective transport on the lines illustrated in the example above and increased passenger volumes were two of the objectives in re-

organising the Hammarö services.

"We wanted to take comprehensive steps that would substantially increase the use of public transport. We ended up by adjusting the route alignments to suit the main transport corridors and creating a timetable that offered an attractive service frequency."

Ideas that are fully in line with Stephan's beliefs will have a positive impact within the foreseeable future. He is not only impressed by the Hammarö services – he can also see how the rest of the system is developing in the right direction. Stephan emphasises the importance of an organisation based on regular timetables and well-adapted feeder services as a complement.

"It is not without a certain pride that I see the development taking place within the company since it is precisely this development that I have myself promoted during my period with Värmlandstrafik," he says.

Since 2008, Stephan has been working for the consulting firm Trivektor Traffic AB in Lund. He has been primarily concerned with issues relating to sustainable passenger transport and with more clear-cut questions regarding public transport and its development.

How has your work on the R3 Project affected your career?

"Looking back on things, the R3 Project was the right way to go. Without R3 as a springboard, I would probably never have had the opportunity to work with the questions I am most interested in. I am very grateful for this. Through R3 I have gained the tools I need in order to be a success in the sector." ■



Stephan Bösch



Värmlandstrafik works with both short- and long-term strategies when it comes to prices and products.

“MY KNOWLEDGE HAS DEFINITELY BEEN APPLIED IN THE PROCESS”

Niclas Krüger was employed in January 2009 to work on prices and products at Värmlandstrafik. At the same time, he was able to develop his research on transport demand and to conduct a number of minor surveys. He has now left Värmlandstrafik but continues to act as a sounding board in the company's pricing activities.

How have you and Värmlandstrafik worked with short- and long-term strategies, for example prices and products in new ticket systems?

“I worked with price and product issues by supporting my conclusions on research evidence and at the same time considering Värmlandstrafik's requirements and preconditions. Much of the international research concerns transportation in metropolitan areas. Concrete efforts devoted to converting theoretical concepts into a new price strategy have been made at regular meetings of the price and product group.”

How has your theoretical knowledge been applied?

“My knowledge has definitely been applied in the process. To begin with, some of my ideas were questioned by the others, but after a while they were mostly accepted. In our work on prices, psychological aspects surfaced regarding how to set prices in practice, which forced me to turn my attention to this type of research.”

Which ideas and proposals have you launched?

“I don't want to take credit for what has been achieved within the price and product group. A lot of people are involved. But I have tried to point out that differentiated prices are important for increasing travel volumes and revenue. It is possible, in principle, to combine high capacity utilisation with high revenue levels, which could be regarded as being contradictory. You have to work with different prices for different customer groups.”

One particularly important factor is price sensitivity, which determines whether Värmlandstrafik should raise or lower its prices in order to increase travel and revenue. Niclas has also pointed out the importance of good statistics for making decisions on prices and capacity.

“Then I have also come up with ideas and hopefully also contributed to other people's ideas during discussions round the coffee table and in other contexts. One concrete proposal was the price structure that was introduced at the end of the year when fares were no longer collected in cash on the buses operated by Värmlandstrafik.”

How can Värmlandstrafik use price as an instrument in its work?

“In my opinion, price should be used as an active means of control in our steering, for example, of revenue and demand. Sometimes, it could be justified to redirect the demand by lowering ticket prices at certain times of the day. Congestion decreases, travel times are

reduced and customer benefit increases.”

At the same time, the price of a ticket must always be viewed in relation to and compared with alternative means of transport and the service that the customer receives. An active price management may also create opportunities for introducing new products, for example extra service and fast direct commuter services that can be financed by charging for the increased benefit they generate.

“The price instrument is part of the overall picture and there must be common thinking on the subject, since the price structure depends on production (timetables, route alignment and capacity) and the market (trademark, distribution, communication and the actual structure of the service). It is important to take price sensitivity into account in order to create an effective price structure. Different customer groups have differences in their willingness to pay, and different levels of sensitivity when prices are changed.”

Niclas Krüger feels that the personal meetings he has had and all the knowledge he has encountered within the organisation have been a positive feature of the work.

“A useful complement to my theoretical knowledge. It has been very stimulating to work on concrete problems and to solve them. It has made me realise that the work I do actually has an effect, which can sometimes be difficult to see when I am involved in research work.”

According to Lars Bull this was precisely one of the reasons behind the R3 Project. The theories of research staff were to be combined with the practical work carried out by the company.

Not all the ideas from people such as Niclas have yet been put into effect, but the discussions have had an influence on both thinking and decision-making.

Karin Haglund has worked at Värmlandstrafik for 20 years and, as a public relations officer, is responsible for price and product matters. She too is positive about the process that was initiated when Niclas Krüger started working on prices.

“His knowledge has contributed much to our discussions, in exactly the same way as I know he has benefited from our practical experience.” ■



Niclas Krüger

R3 is a research project that has been conducted in co-operation between Värmlandstrafik AB, Swedish Transport Administration, the County Administrative Board in Värmland, Karlstad University and Nobina AB.

The project started in 2005 and was completed in December 2010.

ORGANISATION

The project was directed by a steering group comprising representatives of the co-operating parties.

Lars Bull, Värmlandstrafik, Chairman

Einar Tufvesson, Swedish Transport Administration

Bo Jonsson, County Administrative Board in Värmland

Bo Enquist, Centre for Service Research, CTF at Karlstad University

Lukas Bernspång, Nobina

Per Magnus Bengtsson, Värmlandstrafik, Secretary

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